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HEADLINE REFLECTIONS
SHAPE ENERGY Call for Evidence

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SHAPE ENERGY

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1. Introduction

The SHAPE ENERGY Call for Evidence aimed to identify current understandings and future priorities for energy research from a wide range of research, policy and practitioner communities across Europe. Whilst the Call was open to anyone with an interest in energy research - including those with Science, Technology, Engineering and Mathematics (STEM) backgrounds - there was a particular focus though on hearing from those with energy-related Social Sciences and Humanities (energy-SSH) expertise.

The Call formed part of the scoping work of the _Social sciences and Humanities for Advancing Policy for European Energy_ (SHAPE ENERGY[1]) project that is aiming to develop Europe's expertise in using and applying energy-SSH. As outlined in previous reports (Foulds et al., 2017a), 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.

In exploring the existing landscape and future opportunities/challenges for utilising the insights offered by such energy-SSH disciplines, we designed a short questionnaire (i.e. the Call for Evidence) which was based on brief demographic data, and then four core open questions. These four questions related broadly to: (Q1) the relationship between energy-SSH and policy priorities; (Q2a/Q2b) how energy-SSH could be better supported and utilised; (Q3) future energy research funding priorities; and (Q4) organisations that may be interested in engaging with SHAPE ENERGY.

The purpose of this report is to present preliminary observations that have emerged from reviewing the Call for Evidence responses (n=204). As such, the reflections provided herein are not based on, for example, a complete and iterative qualitative thematic 'coding' approach (whereby themes emerge via assigning words, phrases, statements, etc. to 'codes' that are then clustered together by theme) - this is not its purpose, although such an analysis is currently intended for later on during the project. Rather, all responses were systematically examined and salient themes which were regarded as the most immediately relevant for future SHAPE ENERGY activities were pulled out. Furthermore, this report complements and sits alongside the publicly available Call for Evidence questionnaire (Foulds et al., 2017b) and all the raw responses themselves (Balint et al., 2017), which have also been provided for transparency and completeness.

This report is part of the evidence base that is steering the organisation and delivery of various SHAPE ENERGY activities. For example, between October 2017 and May 2018, SHAPE ENERGY will be running 18 multi-stakeholder workshops across 18 European cities, each of which will be grounded in arguments relating to what energy-SSH research can offer (e.g. to local policies/initiatives). In particular though, and in combination with our various other scoping activities[2], it is hoped that the reflections herein will provide inspiration for the SHAPE ENERGY Research & Innovation Agenda (RIA). The RIA will be a concise (1-2 page) vision for the future of energy-SSH across 2020-2030, and will likely include both points that recognise the existing challenges that energy-SSH is operating within, as well as the opportunities and suggested directions for the future of energy-SSH (including how it could interact with e.g. EU energy policy). The

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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   The experience of delivering, and the tangible outcomes from, other relevant scoping tasks will also inspire the content and framing of the SHAPE ENERGY Research & Innovation Agenda 2020-2030. These tasks include: an interview-based stakeholder needs assessment (Arrobbio et al., 2017); four crossing cutting theme reports on 'Energy and gender' (Anfinsen and Heidenreich, 2017), 'Energy justice' (Sari et al., 2017), 'Energy and multi-stakeholder interests' (Büscher and Sumpf, 2017) and 'Energy and the active consumer' (Fox et al., 2017); four annotated bibliographies and four online citizen debates, both based around 'Energy efficiency and using less' (Debating Europe, 2017c; Mourik et al., 2017), 'Competitive, secure, low-carbon energy supply' (Debating Europe, 2017b; Heidenreich et al., 2017), 'Energy system optimisation and smart technologies' (Debating Europe, 2017a; Sumpf et al., 2017) and 'Transport sector decarbonisation' (Buchmann et al., 2017; Debating Europe, 2017d); and the running of related events such as the SHAPE ENERGY academic workshop (Robison and Foulds, 2017) and an eceee solutions workshop (SHAPE ENERGY, 2017b).

SHAPE ENERGY consortium will seek signatories to support the RIA, which will then be submitted to the European Commission near the end of the project - this will act as a call to the Commission and thereby also hope to catalyse further action in this area. The reflections presented in this report will be directly feeding into the drafting of this RIA, and indeed the format we have chosen to present them in, as short statements, reflects this ultimate goal.

This report is structured as follows: first, we briefly detail our respondent sample and acknowledge that all the reflections that are presented in this report are intimately connected to that sample's particular cross-section of interests and practice. Second, we present each headline reflection with supporting evidence (predominantly illustrative quotations) from the Call's responses. We finish with some final thoughts on the implications of these reflections for SHAPE ENERGY and its activities moving forwards.

2. The sample

It is worth noting, for context, how exactly the Call for Evidence respondents were recruited. There were three primary routes, via:

- distributing through the SHAPE ENERGY consortium and their respective networks;
- taking paper copies to, and building written completion of the Call into the running of, certain events; and
- disseminating on social media and through SHAPE ENERGY's other externally-facing communication channels (e.g. newsletters). This included sending the Call to virtually all coordinators of FP7 / Horizon 2020 energy-related projects which ran until 2016 or beyond, as well as to other interested contacts who had already been collaborating with SHAPE ENERGY in other ways (e.g. via non-academic stakeholder interviews).

It must be acknowledged that, perhaps obviously, all our reflections are inevitably intertwined with the specific configuration of communities that are represented in the actual submitted responses. As such, we are not seeking to justify any sort of 'representativeness', nor, relatedly, are we attempting to identify ways in which 'better' samples could be attained that would get us 'closer to reality'. Indeed, we would argue that representativeness is a fallacy and that, instead, it is important to reflect upon the constructed nature of the sample and its associated responses - this is what we briefly do here, with a focus on three sample characteristics (academics; Western Europe and the UK; and gender) which we are committed to reflect upon during the project more widely.

First, the sample was dominated by academics (70.1%), with individuals from the other organisation types providing considerably fewer responses: policy (9.8%); non-governmental organisations (8.3%); industry (6.9%); citizens (2.9%); and other (2.0%). Such a dominance was perhaps inevitable given the routes through which we disseminated the Call. Further, we certainly reflected on how the Call was to be pitched in an inclusive (and enticing) way for a variety of communities, but this was not easy to do - as such, we prioritised the academic audience as other activities of ours are focused on engaging non-academics (e.g. citizen debates, stakeholder interviews). However, we were sure to emphasise at the start of the questionnaire that it was open to all and we also endeavoured to present the Call in accessible language. We also note that, within the academic responses, a wide variety of roles and levels were represented. This provided a mix of different experiences and perspectives, from PhD researchers to internationally leading academics.

Second, despite there being over 30 different countries represented through the responses, there was a clear dominance of Western Europe (e.g. France, 9.8%; the Netherlands, 8.8%; Germany, 8.2%), with the UK (31.4%) having very significant representation. Nevertheless, there were a few exceptions to this Western trend: specifically, Norway (7.2%) and Italy (7.2%) in Northern and Southern Europe respectively. Furthermore, even though Eastern European countries were not represented with high proportions of responses, the questionnaire did still achieve coverage in often un(der)represented countries such as Romania, Bulgaria, Serbia, Russia, Macedonia, Czech Republic, Turkey, etc. Whilst this Western dominance may well be linked to Anglia Ruskin University (UK) co-ordinating the Call for Evidence, this is also likely to reflect wider institutional trends and existing capacities for doing / engaging with energy-SSH research - for instance, the UK has a considerable number of energy-SSH researchers, relative to other parts of Europe (as also demonstrated by the SHAPE ENERGY online researcher database - SHAPE ENERGY (2017a)).

Third, there was an excellent balance in gender distribution - male (50.7%); female (47.8%); other (1.5%) - which is relatively rare in questionnaires such as this. There are often proportionally more males than females in academia, for instance. It is interesting to reflect on the role of gender, given how it can align with certain communities of practice/interest (Anfinsen and Heidenreich, 2017), although perhaps the wide boundaries of this Call made this less of an issue (in that numerous communities of research were included and so such differences were not apparent).

3. The headline reflections

This section represents the core of this report, and within it we detail each of the 12 headline reflections in turn (subsections 3.1. to 3.12.). We have chosen to give a prominent role to the quotations from the responses themselves, to demonstrate and evidence the grounded nature of these reflections which we hope will be a starting point for internal consortium and external discussions, particularly in the context of producing an appropriately worded RIA. It is also worth noting that the majority of these headline reflections emerged from an examination of the four core open (text-based) questions (Q1, Q2a & Q2b, Q3 and Q4 - Foulds et al., 2017b). Small amendments to text for clarity are indicated in square brackets. For a graphic representation of the most commonly used words across all the responses to these four questions, please see Figure 1 (the larger the word, the more frequently it was used).

Figure 1. Most commonly used words across the responses to all four core questions (see Appendices 7.1.-7.5. for question-by-question equivalents and for the exact wording of the questions).

Finally, we caveat this section by noting that there are many other reflections that are likely to emerge from future analysis of the Call for Evidence responses, some of which will be more/less relevant for SHAPE ENERGY, and it is for this reason that we have published all the responses in as close to raw form as possible (Balint et al., 2017).

3.1. Reflection #1: The low-carbon energy transition is a social (or, at least, a socio-technical) problem

All past, current and future energy challenges are entwined with, and indeed co-produced with, society; energy has only ever been an issue because of society's apparent 'need' for it. And, furthermore, because society's demand for energy is linked to the social organisation of people's professional and everyday lives, it is clear that achieving ambitious low-carbon aspirations will require a societal transition. Moreover, any low-carbon 'solutions' put forward will, however technological they seem on the surface, still be grounded in and depend upon specific social contexts. All these sorts of considerations were evident, both implicitly and explicitly, across the responses.

Illustrative quotations:

" Energy is ultimately intended for human use and energy policy is also determined by humans."

"To be able to solve the challenges that we are facing we need to get society involved in the solutions. Social sciences and humanities focus on energy from this point of view, taking into account people´s demands and needs, and connecting technological/scientific developments with society. "

" Demand is influenced by many factors which are studied by SSH. Consumer behaviour and decision-making processes can also be better understood with the help of SSH. Communication is an essential activity for making a policy acceptable in the eyes of people and get this support/ commitment."

"The main obstacles for a local energy transition seem to be of a social nature. "

" ...changing energy use and promoting energy saving is a matter of both technology and behaviour: without consumer's acknowledgment it's not possible to change people's [attitudes] toward energy consumption"

3.2. Reflection #2: Energy–SSH poses very different sorts of questions compared to e.g. STEM

Although there is a vast array of perspectives across energy-SSH, they do collectively all ask questions that are not covered by other academic disciplines - especially when one considers the dominant alternatives of Science, Technology, Engineering and Mathematics (STEM). In particular, energy-SSH provides the opportunity to critically explore the relationships between various social phenomena and energy (policy), as well as fundamental issues related to how energy is governed by and through various actors. Ultimately, energy-SSH provides radically different problem definitions, and methodologies, in comparison to e.g. more technical energy research.

Illustrative quotations:

" *By providing a critical approach"*

"The research provides valuable inputs for both policy definition and policy implementation. "

" *...it clarifies the societal [embeddedness] of technologies"*

"Research from social sciences and humanities can contribute to energy policy priorities by three axes: 1) Analysing localised problematics by carrying out a survey on a special topic of any kind of energy and providing these informations [sic] to help decisions makers to design adapted policies which will answer to the situation 2) Large Scale Contextualisation (History of practices around a type of energy) 3) Mediation between people - social sciences can bring very interesting tools to manage relation between the project and the people by communication or gathering points of views of consulted groups of people. "

" *Social science can fill existing gaps among polices in several ways: 1) emphasizing the significance of a bottom-up approach in managing energy transitions and helping policy makers to communicate effectively their policy initiatives with the society; 2) stimulating more inclusive decision-making processes; 3) studying the impact of non-governmental actors/ networks on the policy-making process; 4) giving insights on the public acceptance of new technologies and social barriers for their employment; 5) harmonization of policies on EU level considering the national cultural and historical differences; 6) understanding the role of both formal and informal institutions for improved energy policy realization."*

"It helps to feed in further information on the origins of Energy policy and also provide in depth analysis on how these policies may affect different stakeholders. Energy SSH can help better shape energy policies so that a wider range of stakeholder needs are taken into account. "

3.3. Reflection #3: Energy-SSH is under-utilised in directing energy policy

Energy-SSH has relatively rarely featured in the evidence base for energy policy, whether it be at local, national or international levels. Instead, the STEM disciplines have dominated the agenda, around the central idea that the roll-out of technologies represent the solution to the energy transition, albeit it with a few 'behavioural' tweaks to ensure that the potential of such technologies is achieved. Indeed, it is in this way that energy-SSH has often played a subordinate role to STEM, as part of e.g. ensuring 'public acceptance' or 'correct usage' of the latest low-carbon energy technologies.

Illustrative quotations:

> *SSH research is only marginally contributing to energy policy priorities."*

> *[The input of energy-SSH into policy is] Very limited at present."*

> *"Research across social sciences and humanities has been still rather disadvantaged by energy policy-makers although some promising social scientific advancements have been already taking place.*

> *At the moment in the area of offshore renewable energy there is limited social science and humanities research contributing to energy policy in those specific technologies. The focus is primarily on technical issues."*

> *"In my view SSH research is hardly affecting energy policy at all. Policy focuses on technological innovation and implementation, potentially accompanied by fiscal or other financial incentives for users. Occasionally, SSH research is involved (on international, national, provincial or local policy level) to provide "end of pipe" solutions to smoothen and support implementation processes.*

> *I think social science and humanities plays a subordinate role that helps to reinforce the STEM technical solutions and market-oriented approaches that dominate the EU largely by modelling technocratic interventions and assisting in targeting individualised behavioural change."*

> *"Science is transformative but despite decades of SSH research addressing this issue, science and technology R&D (in the energy sector but also more broadly) has still not become more inclusive and democratic. While SSH offers fantastic tools to co-create robust (and hence more efficient and effective) 'solutions', it remains a footnote to energy policy and research.*

3.4. Reflection #4: Energy-SSH is underfunded

As per the degree of policy influence, energy-SSH has also been relatively underfunded especially when one considers its possibilities in, for example, developing understanding and potentially even driving societal change. There was a clear thread of frustration running through many of the Call for Evidence responses, in that respondents had ideas that they wanted to progress, but found that often there were few or no funding calls available which could support that idea.

Illustrative quotations:

" *[energy-SSH] is chronically under-funded and low-prestige"*

"More calls [are needed] for funding focusing on SSH. "

" *Definitely better funding opportunities for this specific kind of research are very much needed."*

"More funding [is needed] "

" *Research funding for energy-SSH Research is minimal compared to Investments in technical Research funding. In Norway funding has increased from 3% to around 7% over the past decade, but this is still far below what is necessary to make a significant impact on policy"*

"Non-technical (behavioural, political, institutional, etc) factors currently present significant barriers to the uptake of low and zero carbon technologies. However, current EU and UK energy policy and funding programmes are very heavily focused on technological solutions. There is insufficient policy and action focused on the adoption of existing and new technologies. Where SSH is part of EU energy policy and funding programmes it typically only allows relatively small and short term projects to be completed (1-3 years). Rather than longitudinal studies that are needed to understand how systemic behaviour change can be achieved. "

" *Too much emphasis on economies and models [in funding]."*

"Funding! "

3.5. Reflection #5: Ensuring that energy–SSH expertise is appropriately represented in both the relevant project proposal assessment panels and the teams writing the funding calls is vital

Many respondents were, at times, exasperated either by the wording of funding calls not being sensitive to cutting-edge energy-SSH debates and conceptualisations (perhaps because those with energy-SSH were not involved in writing the calls), or by the review of energy-SSH project proposals being conducted by non-energy-SSH experts. It was clear that those working in, or wanting to utilise insights from, energy-SSH research felt that the situation would improve if energy-SSH expertise was better embedded in funding agencies.

Illustrative quotations:

"...funding bodies and the way a) they shape research funding calls b) they evaluate the proposals submitted for these calls, are crucial in supporting energy SSH research."

"Recruit more genuinely inter-disciplinary researchers to funders' review panels."

"...2) people with expertise in SSH must be represented in program committees, boards etc., of funding agencies. 3) evaluators must be competent in the approach of the proposed work. Too often you see energy system modellers reviewing qualitative research proposals etc."

"Current H2020 calls are terribly outdated, when you read them you think that the guys writing them do not at all follow current debates. The ideas promoted there are still: energy efficient technologies will save the world, we need to support "market uptake", stupid consumers need to get informed, "convinced", or triggered, they present a very annoying "barrier" to market penetration of "good" technologies. Markets are the solution and that's it. The world is far more difficult."

3.6. Reflection #6: Whilst it is valuable that many energy funding calls require a SSH project component, the consequence can be that SSH insights are bolted on

In line with Reflections #4 and #5, research funding opportunities continued to emerge as a clear point of feedback; funding provides the means through which the potential of energy-SSH could begin to be realised. There did seem to be some debate as to whether funding should be prioritised in terms of either (1) a mainstreaming approach, whereby SSH is required in almost every funded energy project, or (2) a focused approach, whereby energy-SSH itself receives more funding to enable greater in-depth specialisation. Regardless though, there was agreement that with the former, '(1)', there was a risk of SSH being bolted on in a subordinate manner to e.g. technical projects - something that has apparently already been happening for some time now.

Illustrative quotations:

" By strict interdisciplinary calls. The challenges ahead are too complex to be solved with one-disciplinary solutions."

"Shift in thinking around funding - at the moment SSH are primarily tacked on (often at the last minute) to existing projects and funding bids which diminishes integration and value. "

" I think two sets of approaches are needed.

- *Firstly, explicitly interdisciplinary research should be a feature of almost every large funded (e.g. H2020) project. Admittedly, this fits with the EC's current 'mainstreaming' approach, whereby energy-SSH is (ideally) expected to be a feature of all projects (or at least as many as possible). This is important as every project - however technical - still has foundations, applications, or impact relating to human dimensions of some kind. [An] issue that funders, and researchers too, must remain reflexive about is the risk of SSH being bolted on to large projects, meaning that integration is poor and multi-disciplinary (not interdisciplinary) work is actually what is funded.*

- *Secondly, explicitly energy-SSH research is needed alongside this. It is not enough to embed energy-SSH in larger (more technical) projects, mainly because disciplinary (or at least SSH) depth is needed to enable cutting-edge thinking to emerge.*

Essentially, the funding landscape is key as it provides possibilities for research. And thus, relatedly, energy-SSH funding calls should endeavour not to 'close down' its possibilities through the wording (and conceptualisation of energy problems) in the funding call[s] themselves - for too long have funding call been [dominated] by economics/ psychology wording, which actually then puts off other energy-SSH researchers from applying."

"Making sure that it is central to the shaping of projects - not yet as an add-on (see claircity.eu as an example of H2020 project where social science is central to framing i.e. really transdisciplinary not just interdisciplinary[])].

"...actual funding must exist, dedicated to SSH, so that SSH can exist on its [own] terms, not only as a subordinate add-on to engineering "

"[Suggestion to switch the dynamic around, so that STEM is subordinated by SSH:] Future calls should be centred on energy-SSH research with engineering/ technical solutions as an add on (ie the focus should be on the energy system within a social context rather than a technical fix into a social environment). "

3.7. Reflection #7: Economics traditionally receives much more attention in policy than all other energy–SSH disciplines

This was one of most frequently stated points throughout all the responses. Indeed, there were simply too many illustrative quotations to include in this subsection. Essentially, what was emphasised was that if traditional Economics approaches were mainly drawn upon, then this would lead to a perception of energy–SSH only (or mostly) conceptualising problems or solutions that take individuals as utility-maximisers who make decisions using principles of rational choice[3]. Relatedly Economics, then, also naturally leads to policies being justified on the basis of economic costs and benefits. The respondents were keen to reiterate that energy–SSH could offer much more than this alone, and that consideration of costs/benefits overlooks many fundamentally important questions in relation to energy and society.

Illustrative quotations:

"*Mainstream (neoliberal) economics dominates policy making.*"

"*Economic modeling is at the core of energy policy priorities. Very little other social science or humanities are contributing.*"

"*Very often policies are designed based upon very simplistic and often economic theories that do not very well reflect the needs, preferences and practices in the real world. Social sciences and humanities may contribute to developing policies and interventions that fit better within the real-world people live and work in.*"

"*SSH played a minimum role in the energy policy. If I analyze actual energy law in Italy the only SSH that played a role is economics.*"

"*Dominance of economics remains a problem (especially in policy).*"

"*Energy policy recommendations are dominated by social economics thinking and economists, while other perspectives and SSH disciplines are often overlooked. This gives a too narrow scope.*"

"*From my point of view, current energy policies are driven by economic interests, and are not focusing on people, their needs, health... hence the importance of the social sciences and humanities. Focus on people, not macroeconomics.*"

"*...economics (and its related rational choice assumptions) has been the main society-relevant evidence basis for energy policy, which I would suggest is because its thinking aligns well with current policy approaches and the status quo (as reliance on 'efficiency drivers' and 'market forces' allow society to continue doing what it is doing).*"

"*I have a feeling economics are quite good at contributing to [energy] policy priorities at european, national and local levels, probably because they give clear recommendations based on relatively simple numerical representations of reality. While policy makers are [beginning] to realize there is more to transforming the energy system than making it "cheap enough", I think sociology, anthropology, history etc. have a long way to go before they can claim contributing directly to policy. I think, however, that representatives from these disciplines can be very important for shaping local policies.*"

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3   See Fox et al.'s (2017) discussion of Individualised approaches within which economic approaches form a key component. Whilst that discussion is in the context of conceptualisations of individual consumers, its explanations of how such disciplines/approaches construct social order are still very relevant.

3.8. Reflection #8: Economics is a disputed SSH discipline

Many respondents interestingly made a clear distinction between Economics and SSH research. In truth, it was rarely stated explicitly that Economics may not actually be part of SSH, but numerous responses did explicitly separate them out. Nevertheless, the key point here is that Economics is the study of the economy, and thus takes the main driver of social order to be the economy - something that is likely to cause a considerable amount of debate across SSH communities.

Illustrative quotations:

If one was to include economics within the definition of SSH (which is very debatable!)...”

“Research in social sciences and humanities illuminate the areas that were previously overshadowed by economic outcomes.

In fact, I do not really work within the energy-related social sciences, but as energy economist, I am very interested in the research frameworks of those disciplines”

“They contribute with a more holistic and 'systemic' perspective focusing on the social aspects, humans and other perspectives often neglected in energy policy and in technical and economical energy research.

In my view, SSH are challenging the conventional notions of energy consumption and demand. They are highlighting the importance of social structures and constructs in the energy discourse, which is [in contrast] very much focused on economic and psychological paradigm.”

3.9. Reflection #9: The problem-focused nature of energy research can help engender interdisciplinary and multi-stakeholder approaches, where energy-SSH can play a strong role

Energy-SSH, in contrast to SSH, often adopts particular problems (e.g. related to low-carbon energy) as its starting point, rather than necessarily particular disciplinary approaches (although of course some energy-SSH does both). Many energy-SSH researchers are highly interdisciplinary, and open to embracing a variety of methods to address particular energy problems. Many of the responses stated or implied that a strength of SSH was its potential for encouraging such interdisciplinary or cross-sector working, since it is often (although not always) centrally concerned with the nuances of individual or societal interactions, or exploring collaborative constructions of challenges or solutions.

Illustrative quotations:

" *Through inter-disciplinary centres that are focused around answering questions as opposed to developing single disciplines.*"

"More focus on implementation [will support the development of energy-SSH] "

" *Through gradually developing a collaborative realistic appreciation of 'future energy requirements', allowing for individuals from separate specialist backgrounds to understand the reality of energy issues from differing disciplinary perspectives.*"

"SSH [research]...is a prerequisite for any fruitful interdisciplinary collaboration. "

"Outside academia, including in government and industry, extending right to the highest levels, there is a need to acknowledge the value of and give credit [to] more cross-disciplinary courses and qualifications. "

3.10. Reflection #10: Energy-SSH is relevant for non-academics, however the questions and language of interest will vary for different stakeholders

Whilst the majority of the headline reflections in this report focused on academic debates and concerns (in part due to the framing of the questionnaire itself), it is vital to the objectives of the SHAPE ENERGY Platform to fully recognise the many ways in which energy-SSH is regarded and experienced outside of academia. Some of the priorities respondents mentioned which fell outside of research domains were more practical in nature, for example how energy-SSH could help achieve certain outcomes, including changes in perceptions or understandings of certain issues. These priorities may also rely on different types of language (which links to our work on the SHAPE ENERGY Lexicon – Foulds and Robison (2017)), as well as how priorities of other groups (particularly policymakers) are framed. The myriad answers to Q4. (Balint et al., 2017) also illustrated the huge diversity of groups with a stake in work which explores energy challenges.

Illustrative quotations:

"Enabling us to better engage citizens in creating their own source of sustainable energy"

"As a think tank that tries to trigger change, connect people and stimulate debates, I believe it is important for us to engage with such research and introduce it to key policy makers we are working with.

It is crucial to have social sciences and humanities on board because we need a change of paradigm, which will be in humans' head; we need change of consumption, which is depending on people again; they will be the prosumers of the future etc."

"I would like to work on projects that take into account both on-site monitoring and SSH. I think SSH could provide valuable explanations about the energy data we collect on-site.

I have been a pensioner for a long time. It seems to me as a group we are large and mostly unlikely to be interested in energy research unless it has some perceivable impact on our lives."

"I would like to be able to attend different workshops and discover what has been done lately within the field of energy studies. [I come] from a developing country so evidence for policies applied in other countries may be of a good help in my research.

As I work predominantly in education, I would say it is about ensuring that education provides opportunities for lecturers and teachers to incorporate cross-disciplinary approaches to social sciences, humanities which embed energy-related issues. An example of this could be through a school energy efficiency competition that is championed by student ambassadors. The results of this competition could then be discussed as part of social science and humanity classes...."

"We have been very fortunate in studying heat and local energy at the same time it has risen up the policy agenda in our country. This has opened opportunities for our research to influence policy development that might not have been as accessible in a more established field.

In terms of different conceptualizations and understandings of energy-related definitions"

"Due to many different reasons, each discipline develop[s] along its own path. Terminology becomes more and more difficult to understand by people from other disciplines or by people from outside the academia.

3.11. Reflection #11: The notion of 'disciplines' is artificially constructed and can therefore vary considerably in how it is defined (across energy-SSH)

We note first that for non-academic respondents, the open text question that asked for respondents to provide their 'discipline(s)' may not have been relevant (and indeed it was optional). But for those for whom it was relevant, our 19 SHAPE ENERGY disciplinary categories[4] did not easily and neatly align with answers. It is true that a good proportion of responses did label their disciplines according to the more traditional and long-established disciplinary boundaries (e.g. Sociology, Economics, Psychology, Human Geography, Anthropology), but many instead provided:

- research themes and topics that did not seem to represent a distinct discipline / epistemic community (e.g. *"social behaviour", "community energy", "[assessment] in sustainable development"*);
- what we in SHAPE ENERGY initially regarded as sub-disciplines (e.g. *"System Dynamics economics", "energy economics", "ecological economics"*) and which some would bundle together;
- emerging hybrid disciplines that, in a similar vein to the more established Communication Studies, Gender Studies and Environmental Social Sciences, bring together two or more disciplines and thereby directly confront traditional disciplinary divides (e.g. *"psycho-social studies"*);
- umbrella terms for collections of multiple disciplines (e.g. *"social sciences", "behavioural sciences"*);
- almost no answer at all, perhaps due to their interdisciplinary approach (e.g. *"I research energy& [sic] sustainability from an interdisciplinary perspective. Honestly can't answer."*), or because of their struggle to fundamentally associate with disciplines (e.g. *"I don't have a disciplinary starting point...[which then does bring in a number of disciplines, but] in no particular order"*).

In relation to the last point regarding respondents being explicitly interdisciplinary, it was also not uncommon for respondents to provide a (long) list of disciplines (be they more traditional in nature or not). For example, one person listed 10 disciplines.

This all raises questions such as: How exactly is a 'discipline' defined? What scales do disciplines operate at? How do disciplines connect to one another? What does it mean to work across disciplines and be 'interdisciplinary'? How does one come to associate with one (or more) particular discipline(s)? How does a 'new' discipline emerge, take hold and ultimately become widely accepted? Can one ever be 'wrong' in identifying one's own disciplinary association(s)? And what does all this mean for projects that have the goal of interdisciplinarity at its core, such as SHAPE ENERGY?

Disciplines are artificial constructs, but it should nevertheless also be acknowledged that these sorts of discipline-related concerns are not consigned solely to energy-SSH, or indeed SSH more widely. Regardless, such a reflection has implications for policies and funding programmes that channel their efforts along and within (deemed) disciplinary boundaries.

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4   These 19 disciplines can be found on the SHAPE ENERGY online researcher database webpage (SHAPE ENERGY, 2017a).

3.12. Reflection #12: There is considerable variation in suggestions for the future development and application of energy–SSH research

As can be inferred from the discussion so far, there are numerous suggestions (and debates!) about, for instance, the boundaries and definitions of energy-SSH and how energy-SSH could/should/does contribute to policy and connect with stakeholder communities. Indeed, whilst one respondent stated that SSH needed to do better at giving politicians *"simple answers"*, the implicit message from many other respondents was that they wanted to embrace complexity and move beyond linearity. Moreover, even for those within the same energy-SSH research communities that thereby share similar points of departure (approximately similar ways in defining and conceptualising the energy problem at hand), there was still inevitable disagreement over e.g. the topics that would be investigated - and this is something that goes much deeper than SHAPE ENERGY's four intentionally broad topics[5].

This is of course nicely demonstrated by all the respondents' answers to Q3. in the Call for Evidence questionnaire (Foulds et al., 2017b; Appendix 7.4.), which asked for suggestions for EU research priorities beyond the EU Horizon 2020 framework programme (i.e. 2021 onwards). For instance, there were calls for more research on themes such as *"public acceptance"*, *"public participation"*, *"public engagement"*, *"behavior and practices"*, *"lifestyles"*, *"multi-level governance"*, *"visions"*, *"community"*, *"empowerment"*, *"equity"*, to name only a few. These themes then implicitly straddled a similarly long list of research topics, perhaps driven by more normative agendas, and these included *"sustainable cities"*, *"automation"*, *"sufficiency"*, *"decentralization"*, *"prosumers"*, *"industrial needs"*, *"infrastructure"*, *"circular economy"*, *"carbon removal"*, *"micro grids"*, to again name only a selection.

None of these suggestions are necessarily more right or more wrong than others. They merely offer insight into different constructions of (similar) research problems, thereby exposing the (sometimes stark) ontological, epistemological and methodological differences that are in play across the energy-SSH research landscape - such issues are often embraced by many SSH researchers as part of adopting a reflexive approach to one's research.

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5   SHAPE ENERGY works across four inter-related energy topics: (1) Energy efficiency and using less; (2) Competitive, secure, low-carbon energy supply; (3) Energy system optimisation and smart technologies; and (4) Transport decarbonisation. See the Call for Evidence responses (Balint et al., 2017) for a breakdown summary of how the respondents' expertise mapped onto these topics.

4. Conclusions

The purpose of this specific report is to present preliminary observations that have emerged from reviewing the Call for Evidence responses. The SHAPE ENERGY Call for Evidence was open over April to July 2017 and involved seeking input from a wide range of research, policy and practitioner communities across Europe, all of whom have an interest in (or directly work within) energy-SSH research.

The core of this report has focused on discussing and evidencing (predominantly through quotations from the Call's responses) 12 headline reflections, which are detailed in Table 1. Many of these reflections both build on and further support the existing purpose and positioning of the SHAPE ENERGY project, as well as further justifying why the European Commission regard energy-SSH as a growth area e.g. through their 2018-2019 and 2020 (Horizon 2020) energy work programmes' funding calls.

Table 1. Summary of headline reflections

No.	Headline reflection
1	The low-carbon energy transition is a social (or, at least, a socio-technical) problem
2	Energy-SSH poses very different sorts of questions compared to e.g. STEM
3	Energy-SSH is under-utilised in directing energy policy
4	Energy-SSH is underfunded
5	Ensuring that energy-SSH expertise is appropriately represented in both the relevant project proposal assessment panels and the teams writing the funding calls is vital
6	Whilst it is valuable that many energy funding calls require a SSH project component, the consequence can be that SSH insights are bolted on
7	Economics traditionally receives much more attention in policy than all other energy-SSH disciplines
8	Economics is a disputed SSH discipline
9	The problem-focused nature of energy research can help engender interdisciplinary and multi-stakeholder approaches, where energy-SSH can play a strong role
10	Energy-SSH is relevant for non-academics, however the questions and language of interest will vary for different stakeholders
11	The notion of 'disciplines' is artificially constructed and can therefore vary considerably in how it is defined (across energy-SSH)
12	There is considerable variation in suggestions for the future development and application of energy-SSH research

As per the wider intention behind the scoping activities of SHAPE ENERGY (Work Package 1), the outputs from this Call for Evidence will help to steer internal discussions within the SHAPE ENERGY consortium (which itself covers the spectrum of energy-SSH disciplines), as well as feed into how we engage with the wider energy research, policy, and other stakeholder communities (including how we frame ourselves as a Platform, our purpose and indeed energy-SSH). But perhaps most tangibly, in the short-term, the contents of Table 1 will be acting as a starting prompt for the consortium's brainstorming efforts on its Research & Innovation Agenda 2020-2030.

5. Acknowledgements

6. References

Anfinsen, M. and Heidenreich, S., 2017. *Energy & gender - a social sciences and humanities cross-cutting theme report*. Cambridge: SHAPE ENERGY.

Arrobbio, O., Sonetti, G., Balint, L., Foulds, C., Robison, R., Nikolaev, A., Dupas, S., Kovacs, K., Bentz, S., Danglade, R., Ay, U., Islambay, D. and Sari, R., 2017. *Deliverable 1.5 - Stakeholder needs assessment [confidential]*. Cambridge: SHAPE ENERGY.

Balint, L., Foulds, C. and Ward, S., 2017. *The responses - SHAPE ENERGY Call for Evidence*. Cambridge: SHAPE ENERGY.

Buchmann, K., Robison, R. and Foulds, C., 2017. *Transport sector decarbonisation - a social sciences and humanities annotated bibliography*. Cambridge: SHAPE ENERGY.

Büscher, C. and Sumpf, P., 2017. *Energy & multi-stakeholder interests - a social sciences and humanities cross-cutting theme report*. Cambridge: SHAPE ENERGY.

Debating Europe, 2017a. *Could 'Smart Houses' help drive down your energy bill?* [online]. Available at: http://www.debatingeurope.eu/2017/05/31/smart-houses-help-drive-your-energy-bill/#_. WS6adOvyiUn (Accessed 18 July 2017).

Debating Europe, 2017b. *How can we ensure cheap, clean energy for Europe?* [online]. Available at: http://www.debatingeurope.eu/2017/04/25/can-ensure-cheap-clean-energy-europe/#. WW38VYTyvIX (Accessed 18 July 2017).

Debating Europe, 2017c. *How do we get people to consume less energy?* [online]. Available at: http://www. debatingeurope.eu/2017/05/17/get-people-consume-less-energy/#_.WR6-VuvyiUk (Accessed 18 July 2017).

Debating Europe, 2017d. *Should all cars be electric by 2025?* [online]. Available at: http://www. debatingeurope.eu/2017/06/20/cars-electric-2025/#_.WUpHkOvyiUm (Accessed 18 July 2017).

Foulds, C. and Robison, R., 2017. *The SHAPE ENERGY Lexicon - interpreting energy-related social sciences and humanities terminology*. Cambridge: SHAPE ENERGY.

Foulds, C., Fox, E., Robison, R. and Balint, L., 2017a. *Editorial - four social sciences and humanities cross-cutting theme reports*. Cambridge: SHAPE ENERGY.

Foulds, C., Robison, R., Balint, L., Arrobbio, O. and Sonetti, G., 2017b. *The questionnaire - SHAPE ENERGY Call for Evidence*. Cambridge: SHAPE ENERGY.

Fox, E., Foulds, C. and Robison, R., 2017. *Energy & the active consumer - a social sciences and humanities cross-cutting theme report*. Cambridge: SHAPE ENERGY.

Heidenreich, S., Throndsen, W., Sari, R., Sonetti, G., Ryghaug, M., Kern-Gillard, T., Arrobbio, O., Mourik, R. and Nikolaev, A., 2017. *Competitive, secure, low-carbon energy supply - a social sciences and humanities annotated bibliography*. Cambridge: SHAPE ENERGY.

Mourik, R., Jeuken, Y., de Zeeuw, M., Uitdenbogerd, D., van Summeren, L., Wilhite, H., Robison, R., Heidenreich, S., Blahová, M., Pidoux, B., Kern-Gillard, T., Arrobbio, O., Sonetti, G., Throndsen, W., Fox, E., Nikolaev, A., Radulov, L., Sari, R., Sumpf, P. and Balint, L., 2017. *Energy efficiency and using less – a social sciences and humanities annotated bibliography*. Cambridge: SHAPE ENERGY.

Robison, R. and Foulds, C., 2017. *The SHAPE ENERGY academic workshop - current landscapes and future directions for European energy research*. Cambridge: SHAPE ENERGY.

Sari, R., Voyvoda, E., Lacey-Barnacle, M., Karababa, E., Topal, C. and Islambay, D., 2017. *Energy justice - a social sciences and humanities cross-cutting theme report*. Cambridge: SHAPE ENERGY.

SHAPE ENERGY, 2017a. *Researcher Database* [online]. Available at: https://shapeenergy.eu/index.php/researcher-database/ (Accessed 19 July 2017).

SHAPE ENERGY, 2017b. *SHAPE ENERGY at eceee summer study 2017* [online]. Available at: https://shapeenergy.eu/index.php/shape-energy-at-eceee-summer-study-2017/ (Accessed 18 July 2017).

Sumpf, P., Klemm, M., Throndsen, W., Büscher, C., Robison, R., Schippl, J., Foulds, C., Buchmann, K., Nikolaev, A. and Kern-Gillard, T., 2017. *Energy system optimisation and smart technologies - a social sciences and humanities annotated bibliography*. Cambridge: SHAPE ENERGY.

7. Appendices

In these appendices (Appendix 7.1.–7.5.): the larger the size of the word, the more frequently that word was used across the respective responses.
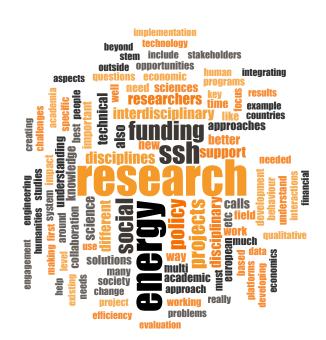
Appendix 7.1. Most commonly used words in responses to Q1.

[*'In what ways do you think research from across the Social Sciences and Humanities is contributing to energy policy priorities?'*]

Appendix 7.2. Most commonly used words in responses to Q2a.

[*'If you are working broadly within the energy–Social Sciences and Humanities: how could novel energy–SSH research be best supported?'*]

Appendix 7.3. Most commonly used words in responses to Q2b.

['*If you are not working broadly within the energy-related Social Sciences and Humanities: how would you like to engage with energy-SSH in the future and is there anything that could help with this?*']

Appendix 7.4. Most commonly used words in responses to Q3.

['*Looking beyond the EU Horizon 2020 funding programme (thus 2021 onwards), what are the main energy challenges that should be given more funding?*']

Appendix 7.5. Most commonly used words in responses to Q4.

['Are there any relevant networks, professional associations, large projects or even individuals that you think may be interested in the SHAPE ENERGY project? Please note your involvement in these, if appropriate.']

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