Social sciences and Humanities for Advancing Policy in European Energy

(SHAPE ENERGY)

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Milestone 5. Academic groups selected for research design challenge and think pieces

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Description	This document is intended to demonstrate the attainment of project Milestone 5.

1. Introduction

This document aims to verifying the attainment of SHAPE ENERGY Milestone 5 'Academic groups selected for research design challenge and think pieces'.

It shows in section 2 the list of academic groups involved in the research design challengeas well as a list of the abstracts and in section 3 the list of academic groups selected for the think pieces as well as the list of the abstracts.

2. List of academic groups involved in the think pieces

The think pieces are running under the title: *Visions for the Energy Union: Driving future energy policy through better integration of Social Sciences and Humanities.*

The call for applications is available here:
https://shapeenergy.eu/index.php/activities/think-pieces/

2.1. List of academic groups

Authors	Title
Bridge, G., Barca, S., Ozkaynak, B., Turhan, E.	Towards a Political Ecology of EU Energy Policy
Middlemiss, L., Straver, K., Pellicer-Sifres, V., Gillard, R.	Connecting the lived experience with energy poverty management: a new governance paradigm
Kerr, S., Watts, L., Brennan, R., Wright, G., Howell, R., Wynne, B.	Shaping Blue Growth: Opportunities for social studies of marine energy to shape energy policy
Genus, A., Fahy, F., Laakso, S., Iskandarova, M., Goggins, G.	Everyday Imaginaries and Everyday Practices: Learning from 'ENERGISE' about the Integration of Social Science with the EU Energy Union
Wesseling, J., Turnheim, B., Binder, C.R., Rohracher, H., Truffler, B., van Vuuren, D.	Challenges ahead: Understanding, assessing, and anticipating foreseeable societal tensions to support low-carbon transitions in European energy systems
Silvast, A., Bolton, R., Lagendijk, V., Dr Kacper Szulecki. K.	Crossing borders: SSH perspectives on European electricity integration
Hiteva, R., Weijnen, M., Ives, M.	In search of the energy nexus: techno-economic modelling, ethnographies and social interactions
Susan Bright, Juliette Sénéchal, Magdalena Habdas, Vincent Sagaert, David Weatherall,	Building Governance and energy efficiency: Mapping the inter-disciplinary challenge

Tina Fawcett, Dr. Frankie McCarthy, Sandra Passinhas	
Darby, S., Higginson, S., O'Dwyer, C., Andrade-Cabrera, C., Topouzi, M., Finn. D.	Can thermal comfort be flexible? A socio-technical question
Aberg, A., Hoffken, J., I., Lidstrom, S.	Mind the gap: energy poverty and climate justice

2.2. List of abstracts

Towards a Political Ecology of EU Energy Policy

Authors: Bridge, G., Barca, S., Ozkaynak, B., Turhan, E.

Countries covered:UK; Spain; Turkey; Sweden.

Abstract:

At the root of energy policy are fundamental questions about the sort of social and environmental futures in which people want to live, and how decisions over different energy pathways and energy futures are made. Conventional research on energy policy, however, is ill-equipped to address its fundamentally socio-political character, as questions are framed by reference to disciplinary traditions (economics, engineering, natural sciences) rather than the structure of the problem or conflict at hand.

The interdisciplinary field of political ecology has the capacity to ask different questions about energy policy because of its close attention to the distribution and effects of social power and commitment to in-depth, place-based direct observation: For whom is energy being secured? Whose voices are heard in decisions about 'clean' energy infrastructure? What vulnerabilities are created in the move towards liberalised and competitive energy markets? And to what political/geopolitical relations and subjectivities (e.g. consumer, prosumer, citizen, activist) does energy policy give rise? A political ecology of energy systems and environmental change involves not just 'adding on' social science to technical questions about resource efficiency or the design of distribution systems: it requires upstream consideration of how problems are framed, and participatory approaches that seek to co-produce knowledge with a range of stakeholders. Political ecology, then, poses a challenge to how energy policy conventionally gets done.

In this think piece we bring together three strands of work in political ecology that underline the socio-political character of energy systems to address core issues at the heart of European energy policy: on the spatial transformations associated with efforts to decarbonise energy systems and secure energy supply; on environmental histories and the politics of past energy transitions; and on environmental justice and social conflicts at the 'sharp end' of energy policy implementation.

Connecting the lived experience with energy poverty management: a new governance paradigm

Authors: Middlemiss, L., Straver, K., Pellicer-Sifres, V., Gillard, R.

Countries covered: UK; The Netherlands; Spain.

Abstract:

Energy poverty is an increasingly prominent part of the EU energy policy agenda. Concurrently, the social sciences have made significant advances in understanding energy poverty through the lived experience of those who endure it (Middlemiss and Gillard, 2015). Combining the two trends means gathering rich qualitative data on vulnerable people's daily lives, and extrapolating this into lessons for policy makers. Such a 'lived experience' perspective provides a critical lens on energy poverty policy, revealing a nuanced and complex picture of energy poverty, which is rarely reflected in policy definitions, metrics and governance. It might also offer opportunities for nations which have not yet defined this problem to approach it more constructively.

Energy poverty is a diverse experience, with people exposed to a range of vulnerabilities depending on their household context e.g. demographic, culture, geography, and infrastructure. Traditionally energy poverty has been seen as the result of low income, poor energy efficiency and high energy costs. There are other drivers associated with poverty in general (e.g. income insecurity, ill-health, poor social support network) and rapidly changing energy provisioning (e.g. decarbonisation and consumption patterns). Thus, the policy conceptualization of 'energy poverty' needs to be supplemented by a bottom-up understanding of its lived experience.

Here we bring together research experience from the UK, Spain and the Netherlands and offer recommendations for bringing rich qualitative understandings into (energy) policymaking. We demonstrate the value of using analytical approaches from political science, sociology, development studies and psychology, to build a comprehensive and context-sensitive picture of the lived experience of energy poverty, both between and within EU nation states. This work highlights the need for a flexible and cross-sector approach to policy and governance, inducing: multi-dimensional definitions, a range of indicators for measurement, an adaptive approach towards governance, and bespoke country level strategies for member states.

Shaping Blue Growth: Opportunities for social studies of marine energy to shape energy policy

Authors: Kerr, S., Watts, L., Brennan, R., Wright, G., Howell, R., Wynne, B.

Countries covered: UK; Denmark; Ireland; France.

Abstract:

Blue Growth is an EU strategy for sustainable growth in marine renewable energy and the maritime sector. Marine energy is a new form of decentralised low carbon energy, and its sites of environmental resource with their local communities are on the coast, often rural, and distant from centralised policy-makers and government. There are a therefore number of challenges to creating successful Blue Growth energy policy, which SSH research is addressing.

The International network for Social Studies of Marine Energy (ISSMER) is an interdisciplinary SSH network, established in 2012, exploring how SSH can better integrate with marine energy industry, maritime communities, and policy-makers worldwide (www.issmer-network.org).

A core ISSMER group will meet with marine energy policy-makers and stakeholders (e.g. policy consultancies, government directives, community stakeholders). We will discuss our proposals for improving SSH integration into their ongoing activities. Our aim is to use this opportunity to engage with those involved in Blue Growth policy to shape our Think Piece.

Our proposal will address the following three areas where our research suggests SSH can have an impact on Blue Growth policy:

1. Community engagement: communities involved in Blue Growth are diverse (southern versus northern Europe, coastal fishing versus urban business). How can SSH support diverse community engagement, often at the margins, in policy framing as well as response?
2. Temporal disparity: There are three disparities: between land and sea planning regimes, both of which are needed for marine energy operation; between policy-making and research horizons; between community and policy, given that community 'response-ability' is dependent on extended coordination work.
3. Empirical evidence: Which qualitative and quantitative evidence travels to policy-makers, and has an impact? Which formats (executive summaries, reports, verbal presentations, community workshops) are best for transmitting evidence? How might we identify appropriate policy-makers to engage with, and create strong collaborations?

Everyday Imaginaries and Everyday Practices: Learning from 'ENERGISE' about the Integration of Social Science with the EU Energy Union

Authors: Genus, A., Fahy, F., Laakso, S., Iskandarova, M., Goggins, G.

Countries covered:UK; Ireland; Finland.

Abstract:

This think piece has two fundamental aims: (1) to identify assumptions about the integration of social science and humanities research (SSH) with the developing EU Energy Union; (2) to account for the everyday practice of SSH-related energy policy integration with regard to the disciplines, actors, initiatives and processes involved. These aims are addressed in answering the following questions: a) what imaginaries of SSH and policy integration are at play in Horizon 2020 research funding calls relating to the EU Energy Union e.g. in terms of methodological assumptions and approaches? b) what is being asked of SSH in relation to Energy Union-related policy integration? and c) what are the implications of different social science approaches for engaging with a range of actors which might inform the research being conducted and processes through which findings are integrated with Energy Union policy making? These questions are addressed by reflecting on the Horizon 2020-funded ENERGISE (European Network for Research, Good Practice and Innovation for Sustainable Energy) project being undertaken by the authors. The project is funded within the societal challenge of secure, clean and efficient energy, which aspires to strengthen the integration of social science and the humanities with the emerging Energy Union. ENERGISE exemplifies heterogeneity with regard to researcher, disciplinary and practitioner assumptions about SSH and its integration in the Energy Union; among its researchers there is a high degree of congruence about the salience of a historically- and culturally-sensitive approach to everyday energy use practices for realizing the citizen/consumer-centric dimension of the Energy Union. The conclusion identifies priorities which need to be addressed in future Horizon 2020-funded research, centring on further probing of: alternative imaginaries of and approaches to eliciting energy policy integration of SSH findings; and the role of energy practice cultures in, and the temporality of, household energy demand.

Challenges ahead: Understanding, assessing, and anticipating foreseeable societal tensions to support low-carbon transitions in European energy systems

Authors: Wesseling, J., Turnheim, B., Binder, C.R., Rohracher, H., Truffler, B., van Vuuren, D.

Countries covered: The Netherlands; UK; Switzerland; Sweden.

Abstract:

Addressing the problems of climate change and dwindling energy resources whilst ensuring energy security calls for rapid, large-scale deployment of Renewable Energy Technologies (RETs). Such a fundamental reconfiguration of energy systems implies more than a technological challenge: it will inevitably involve adjoining shifts in the structure of energy markets, the organisations involved, the socio-cultural significance of energy, a variety of energy geographies, energy practices, and related rules and institutions. Solutions to these societal tensions remain, however, understudied.

This think piece sheds light on these societal tensions by focusing on three commonly overlooked governance challenges that are likely to inhibit large scale expansion of RET systems: 1) territorial competition among different users of space, 2) problems of societal acceptance due to environmental, social or economic impacts, 3) mismatches with existing institutions, infrastructures, and governance.

For each of these challenges we seek to develop:

- a richer *understanding* of how they are likely to play out in practice,
- more multi-dimensional *assessments* of prospective environmental, social and economic impacts associated with the proposed policy objectives,
- the appropriate tools for *anticipating* foreseeable tensions between innovation paths and their institutional requirements,
- a systematic breakdown of *transformation* requirements to overcome deficiencies in established governance arrangements.

For these purposes, and heeding the European Commission's call for more interdisciplinary and systems research, we draw on insights from relying on different systemic approaches, coming from transition studies, social-ecological systems studies, human geography and scenario modelling to analyse, assess and support the exploration of low-carbon futures. Our think piece will develop the contours of such an integrative approach, and illustrate its operationalisation via a representative empirical case (to be analysed and written up during our workshop). Through our approach, we will support robust decision-making and enable multi-stakeholder engagement on different governance levels in the transition towards a more sustainable energy system.

Crossing borders: SSH perspectives on European electricity integration

Authors: Silvast, A., Bolton, R., Lagendijk, V., Dr Kacper Szulecki. K.

Countries covered: Norway, The Netherlands, UK

Abstract:

Energy-related Social Sciences and Humanities, energy-SSH, seeks to better integrate SSH insights into energy policy making. Where policymakers expect uncontested outcomes, energy-SSH includes a whole range of disciplines, informed by various theoretical perspectives, meanings of scientific method, evidence bases, policy interactions, and definitions of the energy system.

Our think piece departs from this variety of energy-SSH research, aiming to unpack its implications for energy policy by bringing together four different SSH scholars into a conversation about their research and policy engagements. Focusing on European electricity systems integration, our projects have been funded by the EU Horizon 2020, the Norwegian Research Council, the Scottish Government, and The Netherlands Organisation for Scientific Research. Working within history, political science, sociology, and science and technology studies, our research covers unique aspects of electricity integration in different SSH disciplines - including long-term historical continuities and changes in European energy integration; the influence of political actors in the European Energy Union; the impacts of international energy integration in the management of energy systems and markets; and the building of socio-technical and material systems that underpin putative European energy infrastructures.

Taking this as our starting point, our discussion has three parts. First, we explore various notions of energy systems integration in the EU and which theoretical perspectives our disciplines bring into explaining the problems associated with it. Second, we go through the empirical evidence that our respective disciplines have gathered on energy systems integration and ask how those findings could better inform policy. Third, we recount our own experiences of what policymakers expect from energy-SSH research. In doing so, we further discuss whether the integration of different SSH disciplines actually benefits energy policy making, or conversely, whether discipline-based starting points within SSH are sometimes more effective for producing policy evidence and insights.

In search of the energy nexus: techno-economic modelling, ethnographies and social interactions

Authors: Hiteva, R., Weijnen, M., Ives, M.

Countries covered: The Netherlands, UK

Abstract:

This think piece explores the limitations and potential gains from interactions between three different types of modelling to analysing energy consumption at the national and regional scales. The more traditional approach of techno-economic modelling is considered alongside with two alternative qualitative modelling approaches: ethnographies, using shadowing, observations and interviews to model the relationships between social, and technical elements and the environment; and hybrid modelling, such as ABM[1] and Serious Gaming, that incorporate both causal and intentional relationships.

The piece builds on real examples from academic-policy engagement around NISMOD[2] and national institutions in the UK over final energy consumption projections. The discussion is focused on practical ways of combining, confronting or integrating these modelling approaches, and explores in what terms they can create complementary means and processes for understanding energy consumption. For example, how can ethnographic models inform assumptions in techno-economic modelling design; or are they so different that they can only be used in parallel with each other; and in particular sequence? Can techno-economic modelling in turn be used to help direct social science research into more cost-effective avenues of inquiry?

The limitations of the three approaches will be discussed individually, looking at what important aspects of energy consumption (such as informality) are lost in translation to policy makers. The limitations and gains obtained through interactions between the three approaches to modelling will then be explored, taking into account how much the scale at which policy engagement takes place (national or regional) shapes the means and extent of such interactions. Finally, the piece will attempt to expand on the lessons learned from the examples analysed to speculate on potentially fruitful avenues of future interdisciplinary work on energy around this theme of integrating between social and physical/technical science approaches for informing policy.

1 ABM – Agent Based Modelling

2 NISMOD- National Infrastructure Systems Model

Mindthegap:energy povertyandclimatejustice

Authors: Aberg, A., Hoffken, J., I., Lidstrom, S.

Countries covered: Sweden, The Netherlands

Abstract:

Energyandclimateareinextricablylinked.However,thediscoursessurroundingthese twoareasareoftennotcorrespondinglyintertwined.Onthecontrary,theytendtobeseparated,usedifferentjargon,andconcentrateinandarounddifferentinstitutions.Thisthinkpiecewillexploreandanalyse thisseparation,andidentifywhenandhowclimateandenergydiscoursescanandneedtobebrought closertogether.We believe thiswouldcontributetoabetterfoundationformoreintegratedandroundedpolicyefforts.

Ourtextwillfocusespeciallyontheissuesofenergypovertyandclimatejustice.Thesearecentralconcernsandconceptsineachrespective area,bothinresearch andpolicycontexts.Ourcontributionwillexploretheirrelationshiponapracticalaswellas conceptuallevel.

Inresponsetothesuggestionforinnovativeformatsinthecall,wewillstructureourtextarounda fictiveconversation betweenthreedifferentwomen,eachrepresentingadifferentcontextandsetofconcernsrelatedtoenergypovertyandclimatejustice.Thiswillincludegoingbeyondthe boundariesofEuropetoinvestigateotherplacesandcasesthatwillplayanimportantrole inthefutureofglobalclimateandenergypolicy.Wewilllookespeciallytotheglobalsouth,andillustratepractical implications ofconsideringenergypovertyandclimatejusticeintandem,orof neglectingtodoso.OuraimistoidentifyimportantlessonsforEuropeandtheEUintermsofappropriatelyrecognisingissuesrelatedtobothenergypovertyandclimatejustice,whichinturndependsonproperandthorough integrationofnaturalscienceandtechnologyperspectiveswithexpertisefromthesocialsciencesandhumanities.

Canthermalcomfortbeflexible?Asocio-technicalquestion

Authors: Darby, S., Higginson, S., O'Dwyer, C., Andrade-Cabrera, C., Topouzi, M., Finn. D.

Countries covered:UK, Ireland

Abstract:

Energypolicyhastraditionallybeeninformedbyenergymodels.However,itisincreasinglyrecognisedthatenergysystemsaresocio-technicalinnature,givingsocialsciencesanimportantroleinplanningourenergyfuture.Thisrequiresinterdisciplinaryworking,suchaswasplannedinaHorizon2020projecttodemonstratethevalueofsmartstorageheating,whichbroughttogethermodellers,socialscientists,manufacturers,engineers,softwaredesigners,networkoperatorsandtheelectricitysupplyindustry;linkingacademicsandbusinessesinIreland,GermanyandLatvia.

Unfortunately,asidefromthenormalchallengesofinterdisciplinaryworking,suchasdifferentpriorities,assumptionsandvocabularies,theprojectfacedchallengesrecruitingparticipantsandconnectingthetechnicalcomponents,whichmeantthat,earlyintheproject,therewaslittleempiricaldatarelatingtocustomeradoptionofthetechnology.Asthemodellingandthephysicaltrialstookhappenedinparallel,thesedelaysmeantthatinsufficienttrialdatawasavailabletoinformthebuildingmodellinginputsandassumptions.

Intheirturn,thesocialscientistsfocusedonactor-networkrelationships,differencesbetweentechnologiesandtheiradoptionineachcountryandunderstandingcorrelationsbetweenthedataastheyemergedlaterintheproject,developingandtestinghypothesesastheprojectunfolded.Althougheachapproach wasvaluableinitsownright,collaborativeworkbetweenmodellersandsocialscientistswaslimitedatthemodeldevelopmentstage,notleastduetothelackofasharedbodyofdata.

Inthischapter,wereflectonthedesignoftheproject,workingtogetherandhowtodealwithdata.Recommendationsinclude:allowingmoretimefortechnologyreadinesstoallowrealisticdatacollectionopportunitiesinreal-lifeconditions,involvingthesocialsciencesinprojectdesignandinallworkpackages,anddevelopingasocio-technicalapproachthatallowscustomerperceptionsandactivitiestobereflectedmoreaccuratelyinmodelsandfeedthroughintopolicy.

BuildingGovernanceandenergyefficiency:Mappingtheinter-disciplinarychallenge

Authors: SusanBright, JulietteSénéchal, MagdalenaHabdas, VincentSagaert, DavidWeatherall, TinaFawcett, Dr.FrankieMcCarthy, SandraPassinhas

Countries covered:UK, France, Poland, Belgium, Portugal

Abstract:
WeproposeaSHAPEpieceonthechallengeofinterdisciplinarySSHenergyresearchintobuildinggovernanceandtheenergytransition.Researchinthisareainvolvesbringingtogetherdisciplineshithertolargelydisengagedfromthe SSHandenergyresearchagenda,particularlypropertylaw.AsdevelopedbyBrightandWeatherall(2017)29JournalofEnvironmentalLaw203)“buildinggovernance”referstohowpropertyandassociationslaw,aswellasthearrangementsbetweenbuildingstakeholdersinrelationtodecision-making,impactonenergydemand.WeareEuropeanresearchersexploringthisissueinapartmentblocks.40%ofEuropeansliveinapartmentsand,forthesecitizens,energychoices,particularlyinregardtoenergyefficiency,areshapedbybuildinggovernance.

Thisthinkpiecewillexplorewhyitisdifficulttobringtogetherthedifferentdisciplinaryperspectivesneededtobetterunderstandthisissue.Energyresearchersandpolicy-makersareoftenawareofthecomplexitiesofbuildinggovernancebuthavelimitedunderstandingofthespecifics.Legalscholarshaveseldomengagedwithenergyissueswithinthebuiltenvironment.Propertytheoristsneedtodeveloptheoreticalperspectivesthattakeaccountofcollectivelivingandtheconcomitantresponsibilitytoothers,societyandfuturegenerations(see https://link.springer.com/article/10.1007%2Fs12053-017-9540-5).Inaddition,effectivebuildingmanagementrequiresinputfromdisciplines,suchaspsychologyandbehaviouraleconomics,thatunderstandhowgroupdecision-makingcanbeeffectivelyundertaken.

OurSHAPEpiecewillbringtogetherthesedisciplinestomapthespecificinterdisciplinarychallengesinvolvedinunderstandingbuildinggovernanceandenergy(efficiency).Thefundingwillpayforan Oxfordworkshopinvolvingtheresearcherslisted,plusinvitedparticipantsfromotherdisciplines(weaimfor apsychologistand/orsociologist).Thepaperwilldrawonourpersonalexperiencesbutalsopresentconcreterecommendationsintermsoftheoreticalframeworkstoanalysebuildinggovernanceandenergy,withaparticularviewtoensuringrelevanceforpolicymakers.