

Call for Abstracts

SHAPE ENERGY ‘Research Design Challenge’: Control, Change and Capacity-Building in Energy Systems

European and worldwide energy policy and research are largely influenced by knowledge and disciplines from Science, Technology, Engineering and Mathematics (STEM). Yet the challenges energy transitions entail concern social patterns as well, like individual or organisational behaviour and their management. These issues are covered by energy-related Social Sciences and Humanities (energy-SSH) disciplines. In fact, according to the European Commission (EC) [Horizon2020 work programme](#) on energy, knowledge from numerous fields of research is necessary to realise the ambitious goals of energy transitions concerning emissions reductions, renewable energy shares and the concomitant changes in social organisation. In what ways different energy-SSH disciplines design a research challenge related to overarching energy research problems (see next section) is the objective of this call. Ultimately, it aims at inferring consequences for multi- and interdisciplinary energy-SSH research that serves both the academic and energy policy community.

Therefore, the EU-Project ‘[SHAPE ENERGY](#)’, represented herein by the partner institution Karlsruhe Institute of Technology (KIT), Institute for Technology Assessment and Systems Analysis (ITAS), invites European SSH researchers to take part in our ‘Research Design Challenge’. This challenge contains three sub-challenges framed as social science research problems on energy relating to *control, change and capacity-building* in energy systems (see below). The Research Design Challenge is an attempt to deepen our understanding of interdisciplinarity by analysing how different social sciences and humanities disciplines research the same scientific problem. Across multiple SSH disciplines, up to 15 teams of at least 2 researchers from at least 2 European countries will be selected and **funded with up to 2.500 Euros** to foster collaboration (funded to cover travel to meet up). In the wake of current EC initiatives, applications to this call for abstracts could be, among others, appealing for researchers who plan on follow-up applications with H2020 or EU-related programmes like COST or Marie Skłodowska-Curie, for instance. We seek your application for an eventual 3.000-4.000 words paper on one of these challenges if you are researching in one of the following SSH disciplines: *Business; Communication Studies; Criminology; Demography; Development; Economics; Environmental social science; Education; Gender; History; Human geography; Law; Linguistics/languages; Philosophy; Planning (architecture); Politics; Psychology; Science/tech studies; Sociology; Social anthropology; Social innovation; Social policy; Theology.* **However we note that it is fine to include SSH disciplines from outside this list.**

The Challenge(s)

For the Research Design Challenge, we are interested in your theories, methods and approaches to an energy related research problem from your disciplinary point of view (see list above to qualify). The prerequisite is that you find at least one more partner (individual[s] from European academic institution[s]) from a different European country (**EU member states and associated countries**²) to collaborate on the challenge. The challenge itself is kept relatively general in order for many potential researches being able to connect to it. They relate to the overarching research problems of control, change and capacity-building³ in energy systems from a social science and humanities perspective. Please consider the following three sub-challenges to relate to:

Challenge A: It is argued by many STEM and energy-SSH scholars alike that future energy systems will increase in complexity, due to larger degrees of decentralisation and the growing amount of actors and technical components in the grid. Against this background, it will be a challenge for system operators and supervisors in numerous fields to *remain in control* of what happens in the system, i.e. control of technical processes (safety, security of supply, load management etc.) as well as social processes (e.g. control of market developments, control of electricity prices, control of smart grid data etc.). From your (disciplinary) point of view, how would you approach the (research and real-world) *problem of control* in future energy systems? What theories and methods would you apply to research this problem? What approaches would you suggest to act upon this problem?

Challenge B: During the current energy transitions in Europe and beyond, we see that institutional change and learning are crucial prerequisites in order to achieve a more efficient and sustainable system, i.e. changing markets with new challenger actors, learning utilities extending their portfolios, changing political subsidies policies etc. In this connection, energy-SSH discussions circle around degrees and relations of *stability and change*, given that some elements in the system must remain stable to perform system functions reliably during the transition with regard to current sustainment of operation (security of supply today, safety today, price stability today etc.). In other words, you can't change everything at once. This paradigm is often associated with the notion of (societal) experimentation, where certain islands of innovation are being tested and set variant while others remain stable to deliver familiar output, e.g. incumbent actors trying to hold on to the status quo while experimental niches try to foster innovation as quickly as possible. This balance between stability and change in the system for a transition to be

² Albania, Armenia, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Faroe Islands, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, Moldova, Montenegro, The Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, Turkey, Ukraine, the United Kingdom, and the former Yugoslav Republic of Macedonia.

³ This concept and the concomitant challenges are based on: Büscher, C. and Sumpf, P., 2015. "Trust" and "confidence" as socio-technical problems in the transformation of energy systems. *Energy, Sustainability and Society*, 5(34), pp. 1-13.

successfully implemented is a repeated point of reference for energy-SSH. From your (disciplinary) point of view, how would you approach the (research and real-world) problem of *stability and change* toward future energy systems? What theories and methods would you apply to research this problem? What approaches would you suggest to act upon this problem?

Challenge C: In the past, the energy system was said to be existing only ‘behind the power outlet’. The consumer was usually not considered an active part of the system, but rather the passive receptor of a service, or the ‘end-user’. This pattern is currently, and more so in the future, under transition along energy system innovation. ‘Prosumers’ and ‘energy citizens’, designed as active system components, are desired as roles for average consumers, helping the grid’s stability as demand-side management resources due to intermittent renewable energy sources, as well as creating new business opportunities for consumers and European economies alike. The underlying prerogative for this kind of development clearly is the *mobilisation of action capacity* (i.e. the ability to act in the face of uncertainty) among both private and commercial consumers, who are expected to more actively participate in load shifting operations to make the ‘smart grid’ work. From your (disciplinary) point of view, how would you approach the (research and real-world) problem of *capacity-building*, i.e. *fostering the actions necessary* to realise active consumer involvement? What theories and methods would you apply to research this problem? What approaches would you suggest to act upon this problem?

Concept and Formalities

As an applicant to our Research Design Challenge, we ask you to choose one of the three challenges (A, B, C above) and hand in an abstract on possible research approaches relating to this single challenge. Please consider the following specifications for your application:

1. **Please formulate a research question** at first, relating to the challenge you choose but being more specific in its scope (research object, possible geography, societal level of analysis etc.). This research question, based on one of the three research problems of either control, change, or capacity-building, should be the starting point of your abstract.
2. From that research question onwards, please try to broadly sketch out, from your disciplinary point of view, **how you would go about and research this issue?** Let’s assume you have the possibility to conduct a scientific study, an academic article, essay, workshop or related endeavour (e.g. including theoretical reflection, field work, experiments, interviews, surveys etc.)⁴ – what would you do? Please provide an abstract of no more than **600 words maximum (excluding bibliography and formal requirements below)**.
3. **There are two ways to form teams for applying to this call:** 1) Build *homogenous one discipline teams*; 2) build teams of *different (either similar or quite disparate) disciplines*. The

⁴ Authors should not feel obliged to stick to these suggestions – we are open to receiving diverse types of applications. Do not hesitate to contact us in case of uncertainties regarding eligibility.

disciplines may be from the list drawn up here (see introduction), or other SSH disciplines not mentioned here. You may self-attribute your disciplinary background, but be sure to **explicitly indicate it in your application, just like home country and institution of all applicants**. In case of heterogeneous disciplines involved in the bid (type 2 above), you can either present a *single or multi-disciplinary viewpoint* on the chosen challenge. In case of multi-disciplinary teams, we also welcome STEM applicants collaborating with SSH applicants. Important: **Please indicate a lead and co-applicant/author**, as we will only be able to fund and reimburse one institution involved in the application (see guidelines below). Please provide a provisional title of your proposal as well.

4. Finally, please provide a **rough budgetary breakdown about how you would prospectively spend the awarded money of €2.500**. Please give as much detail as possible in terms of e.g. when/where your team will meet, including other sources of funding secured where appropriate. The funding is designed to be granted for travel and subsistence purposes only, not for salaries or equipment. The maximum that will be awarded per application is €2.500, however teams should not feel obliged to try meeting this limit as any funds left over may be used for related activities e.g. open access publishing, or to bring all participating teams together to launch the collection.

Participant selection, after the Call for Abstracts being circulated across the various European SSH communities, is primarily made according to the following selection criteria:

- Matching with the three challenge outlines presented above
- Innovativeness and academic quality in approach and design
- Diversity of researchers and disciplines throughout Europe
- Overall fit in the eventual collection of 15 design challenge papers
- Realistic budgetary planning

On the basis of these criteria, abstracts will be chosen to further progress on their desired collaboration and funding. Eventually, we will ask successful applicants of this call for abstracts to hand in 3.000-4.000 words papers following up on their abstracts until early **March 2018**. Notification of acceptance or rejection of abstracts will be provided to applicants by **October 2017**. **Deadline for applications is October 6th, 2017**. Please send your application as well as questions prior to submission to Patrick Sumpf, ITAS/KIT (sumpf@kit.edu).

Indicative Timeline

6th October 2017: Deadline for abstract submission

October 2017: Review of abstracts and notification of participants

March 2018: Deadline for submission of final papers and for submission of receipts for reimbursement (one submission per team, one reimbursement per team)

April 2018: Research design challenges are published online (open access) and also submitted to the EC's strategy unit for energy research and innovation.

Contact & Questions prior to submission: sumpf@kit.edu

Further information on SHAPE ENERGY: <https://shapeenergy.eu/>

Guidelines

1. Please read the [Research Design Challenge](#) Call for Abstracts document prior to beginning your proposal and complete all sections (especially referring to specification points 1-4 above) within the given word limits.
2. The maximum that will be awarded per proposal is €2.500. This is intended to enable collaborative working through e.g. author meetings. Travel and subsistence are eligible costs, but not salaries or equipment. Monies will only be paid to the lead applicant's institution (and will be reimbursed, not paid upfront); the lead applicant's institution must arrange for distribution amongst other team members, as needed.
3. Proposals must be led by an academic researcher with a current contract of employment (which extends to at least April 2018) at an institution based in an EU member state or associated country (see footnote 2 above for complete list). Whilst this may mean that many early career researchers are ineligible to be the lead applicant, their involvement is still welcomed.
4. Proposals must have a team: of at least two researchers; covering between them a single or multiple disciplines; and based in at least two EU member states or associated countries (see footnote 2 above for complete list).
5. Abstract submissions can be submitted at any time until the final deadline, which is on Friday October 6th 2017.
6. Applicants should not incur expenditure before approval. Planned expenditure must be in line with the host institution's financial regulations and the EC's Horizon 2020 funding requirements. Best value must be ensured with any expenditure awarded as part of any successful award. The host institution will be responsible for any expenditure beyond the agreed value of any award.
7. All project expenditure must be tracked and in line with the original proposal. Any proposed changes to spend or milestones must be discussed and approved by KIT/ITAS. KIT/ITAS will request receipts or other confirmation of payment made and may withhold payment where these cannot be produced. Lead applicants must submit all original receipts for expenses incurred to KIT/ITAS by March 2018. KIT/ITAS reserve the right to withhold reimbursements for expenses deemed ineligible.
8. All successfully awarded research design challenges will be potentially published (e.g. abstracts) on the SHAPE ENERGY website. In addition, all design challenges (15 total) will finally be published online (open access) as a collection and also submitted to the EC's strategy unit for energy. Further details on this will be sent with acceptance letters. All related content may be used in SHAPE ENERGY publicity and reporting materials.
9. There is a parallel Call for Abstracts being issued by the SHAPE ENERGY Platform (concerning its [Think Pieces](#)). All prospective applicants should note that these sets of abstract submissions will be evaluated separately and thus one is free to apply to (and participate in) both collections should they so wish.



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