

Success stories in SSH - STEM collaboration

The contribution of Social Sciences and Humanities to energy research

As a cross-cutting issue of broad relevance, Social Sciences and Humanities (SSH) research was not only fully integrated into each of the priorities of **Horizon 2020**, but the effective integration of Social Sciences and Humanities will also be a principle through the programme cycle in **Horizon Europe** including clusters, missions, and partnerships.

Integrating the socio-economic dimension of grand societal problems into the design, development and implementation of research itself, and of new technologies, can help find solutions to societal issues and enhance the impact of such activities for society.

SSH can provide essential contributions to **Energy research**:

- ✓ To support the design, implementation, and evaluation of effective **policies** for energy conservation and efficiency through behavioural and economic analysis
- ✓ To realise and maximise the potential gain in **energy efficiency**, because the economic, psychological, and cultural issues that drive market and individual behaviour need to be understood
- ✓ To address questions related to the economics and **governance models** for sustainable energy systems

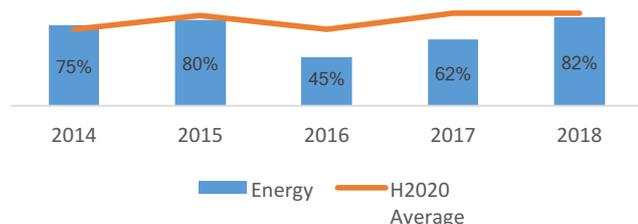
FACTS & FIGURES

Collaboration between SSH and STEM researchers in H2020 has been gradually increasing in the period 2014–18: the proportion of projects funded under SSH-flagged topics with at least one SSH partner increased from 75% to 82% while the budget going to SSH partners slightly decreased from 22% to 18%.

In terms of SSH expertise across the 88 funded projects in 2018, the most prevalent disciplines were Economics (21%), Political Science (18%) as well as Business/Marketing (16%).

Source: Monitoring reports (2014–18) on Integration of Social Sciences and Humanities in Horizon 2020 (EC)

Proportion of projects with SSH partners



SSH: Social Science and Humanities

STEM: Science, Technology, Engineering and Mathematics



SMARTEES: a success story of collaboration between SSH and STEM researchers

Interview with Christian A. Klöckner, Project coordinator of Smartees

Why did you decide to integrate SSH in your project?

For SMARTEES, it was rather the other way around. The call it is funded in is an SSH call (SSH in the Energy Transition). However, we decided to add the mathematical modelling perspective to bind the activities in the project closer to the work that is going on in the Energy Systems Modelling community.

How did the process of SSH integration go from proposal writing to project implementation?

The project started as an SSH project, but from the start there was the affinity to the modelling community due to some involved partners. As SMARTEES is an **SSH project per design which makes use of mathematical modelling**, the issues were rather not integrating SSH, but integrating modelling into the SSH framework. The main challenges in the project were defining where modelling and SSH research work well together, how they are different, developing a common understanding of what a mathematical simulation model does, and agreeing on diversity in approaches, especially between the sociological researchers in the project and the very quantitative modellers. The SSH partners developed the general theoretical framework, data input to feed the models, but also to answer other research questions not related to the modelling.

What is the added value of integrating SSH in your project and what is the contribution from SSH partners?

The project is SSH at its core, so the question is what is the added value of the mathematical models. We see that translating SSH theory and assumptions into formalised models makes it: (a) more relatable for non-SSH researchers on the outside, and (b) forces SSH researchers to be explicit about assumptions and make them verifiable, but (c) also shows the limits of simulation models.

Which are the factors that facilitate collaboration between different disciplines and which are the factors that hamper it?

A factor that certainly contributed to the good collaboration between STEM and SSH in SMARTEES is that we invited **teams of modellers and SSH researchers from the same institution**. This established a daily collaboration between the perspectives on the institutional level. Furthermore, it helped to have psychology as a discipline involved that is strongly dominated by quantitative research and thus relatively close to the mathematical modelling. On the other hand, psychology is close enough to sociology to be compatible with some of the assumptions in that discipline.

What would be your main recommendation for both researchers and EC?

Projects where SSH is (a smaller) part of a larger project dominated by, e.g. STEM, are rather common now. Less common are projects where it is the other way around. It appears that SSH researchers (once they take the leading role for proposal design) do not involve other disciplines strongly enough. I would wish for more interdisciplinary/multi-perspective projects, where SSH takes the leading role, but where other non-SSH disciplines are strongly represented.

Smartees



SMARTEES – Social Innovation Modelling Approaches to Realizing Transition to Energy Efficiency and Sustainability – is a transdisciplinary research project which aims to support the energy transition and improve policy design by developing alternative and robust policy pathways that foster citizen inclusion and take local peculiarities into account.

<https://local-social-innovation.eu/>