

# **Knowledge Management in a research consortium: What impact stories tell about tackling a contemporary societal problem such as transforming an energy system?**

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## **Background**

Mitigating climate change urges reducing greenhouse gas emissions (IEA 2020, United Nations 2015). Energy systems, energy market mechanisms and energy consumption, all have an impact on climate. As over 75 percent of the EU's greenhouse gas emissions come from producing and using energy (European Commission 2019), the European Union's Green Deal emphasizes

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increased use of renewable energy and energy efficiency and aims to be the first climate-neutral continent by 2050 (European Union 2020).

This global challenge has also been viewed as a wicked problem (see e.g. Termeer et al. 2019), and contributing to solving it calls for better integration of multidisciplinary research and engagement with non-academic stakeholders to create relevant knowledge for decision making and policy processes (Pearce et al. 2018). This critical situation challenges traditional practices of scientific research and public decision making, as stated for instance by Perkmann et al. (2013). Knowledge management (KM) provides conceptual methods and practical tools to gain shared understanding in demanding circumstances (see Huotari et al. 2019).

## **Aim and research questions**

The aim is to increase understanding of planned multidisciplinary interaction and engagement with key non-academic stakeholders for creating knowledge that is beneficial for contributing to solving a contemporary problem. The purpose is to describe, how research plans, through an interaction plan and emergent collaboration, evolved into multidisciplinary, partial solutions and related impact stories during a consortium's research and development (R&D) process.

Our preliminary research question is: How are the impact stories composed in relation to the consortium's research and interaction plans that were outlined in the funding application? This includes three sub-questions:

1. How are the structures and content of the impact stories formed?
2. How are the disciplinary research plans and the interaction plan reflected in the themes of the impact stories?
3. How do the notions of knowledge creation based on multidimensional interaction allow us to describe this R&D process aiming at contributing to solving a societal problem?

## **Methods**

An explorative, qualitative research strategy is applied. The context is the current research environment whose new funding instruments emphasize multi-disciplinary work in large consortia and interaction with society and public decision makers. In Finland, a new instrument, labelled the Strategic Research Council (SRC) at the Academy of Finland, was established in 2015 to

bring policy makers and scientists closer together. SRC “...funds high-quality research that has great societal impact. The research should seek to find concrete solutions to grand challenges that require multidisciplinary approaches. An important element of such research is active collaboration between those who produce new knowledge and those who use it.” (Academy of Finland 2020). Thus, the SRC emphasizes co-creation of new knowledge with the stakeholders and also popularization of science including active communication and use of social media to report the research process and results.

Our focus is on the BCDC Energy consortium, which was among the first consortia funded by the SCR from 2015 to 2021. It aims at enhancing social change at three levels: transforming the energy system towards increased utilization of renewable energy, developing the market and businesses towards prosumers, and enhancing households and individuals towards intelligent homes and reasonable energy behavior. The consortium is formed by the research groups from five disciplines: Energy Economics, Computer Science Engineering, Information Systems Sciences, Meteorology, and Information Studies. The key stakeholders are The Carbon Neutral Municipality Forum, Finnish Clean Energy Association, and an Advisory Board consisting of 15 private firms from the Finnish energy sector.

Our data are the consortium’s documents submitted for the SRC from 2015 to 2020 (the research plan, the interaction plan, the impact stories, the Excels on the activities). Through these documents’ content analysis, we will examine the emerging themes for reflecting them in the light of the key concepts of KM, knowledge creation and interaction theory and research. Based on this analysis, we present our preliminary findings of this explorative study.

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