FINSCAPES project begins to construct scenarios for climate analysis

Regional scenarios based on shared socioeconomic pathways

The FINSCAPES project[1] began in February 2021 with a central aim to co-create, with local experts and stakeholders, a set of integrated scenarios of future climate and socioeconomic development at regional scale in Finland. The scenarios are based on a set of global shared socioeconomic pathways (SSPs)[2]. These describe five alternative plausible global pathways of socioeconomic development that present differing challenges for climate change adaptation and mitigation (Figure 1). The SSPs are designed to support climate change research and policy development, but in order to apply them at regional scale they have to be downscaled or "extended".

FINSCAPES researchers began discussions on regional scenario development early in 2021 with representatives of the Finnish regional councils[3]. It was decided to begin the co-creation process by examining SSP-based socio-economic narratives in two regions: North Karelia county in eastern Finland and three neighbouring counties: Central Ostrobothnia, Ostrobothnia and South Ostrobothnia, in western Finland (Figure 2).

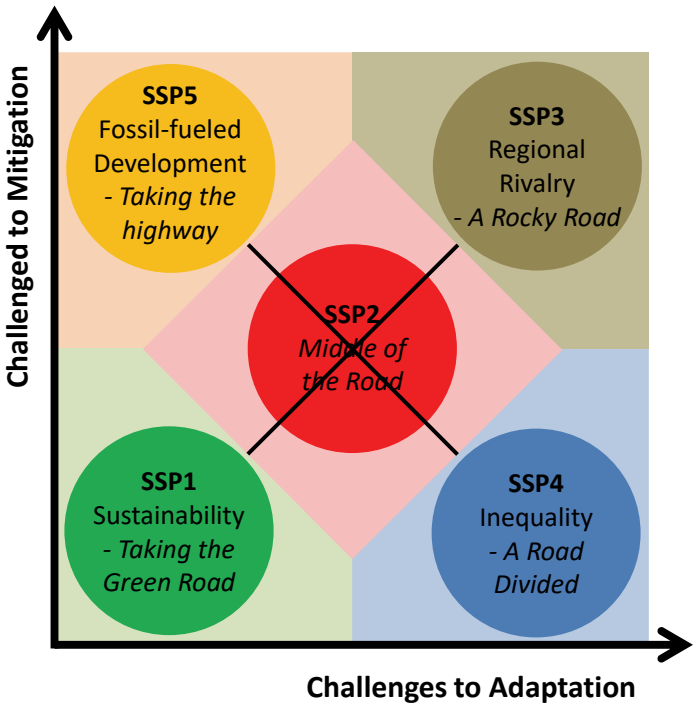

Figure 1: The five shared socioeconomic pathways (SSPs). Note that SSP2 was not considered at these workshops.

First set of workshops

Two virtual stakeholder workshops were held in February 2022, one for each region. These were originally intended as on site meetings, but had to be re-arranged due to COVID-19 restrictions. Three region-relevant systems were identified in conjunction with the regional councils for each region (Figure 2). Workshop participants

[1] Finnish scenarios for climate change research addressing policies, regions and integrated systems (FINSCAPES) is a four-year consortium project (2021-2024) financed under the Academy of Finland's Special funding for system-level research into climate change mitigation and adaptation.

[2] O'Neill et al. (2017) http://dx.doi.org/10.1016/j.gloenvcha.2015.01.004 ; Lehtonen et al. (2021) https://doi.org/10.1007/s10113-020-01734-2

[3] Climate change collaboration network of the regional councils (Maakuntien ilmastoyhteistyöverkosto in Finnish)

comprised local stakeholders with expertise associated with one or more regional systems: numbering 26 persons for North Karelia and 38 persons for the three Ostrobothnia counties.

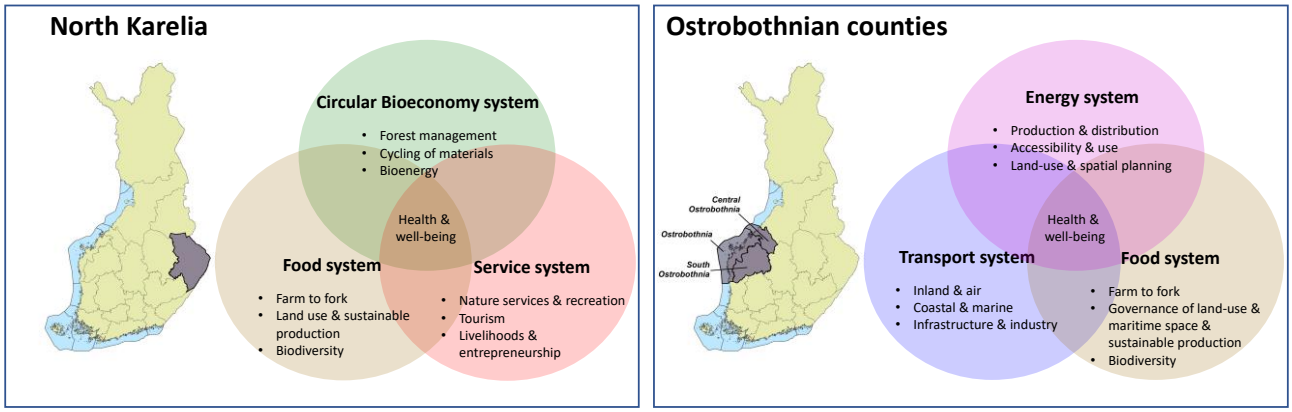

Figure 2: Systems analysed during two FINSCAPES workshops in: North Karelia (left) and three counties of Ostrobothnia (right). Health and well-being was addressed in common across all systems.

SSP interpretation

Four out of the five global SSPs were chosen for this project, positioned at the corners of Figure 1. The intermediate pathway, SSP2, was not considered, being judged as offering less insightful departures from recent and ongoing trends. Stakeholders were divided according to their expertise into small system-oriented groups with each SSP treated separately. Moderators first presented an outline of the SSP world to group participants, who were then invited to identify possibilities and challenges facing different aspects of the system (bullets in Figure 2) for that SSP. Aspects relating to health and well-being were considered in common for all systems. Finally, participants also identified priority issues they thought could be important.

Stakeholder feedback and next steps

The stakeholder responses to the workshops were largely positive and the exercise of regionalising from a global to local context was found to be challenging yet thought-provoking. Most of the critique referred to the fast-paced tempo of the workshops, leaving limited time for the stakeholders to orientate themselves with the global SSPs in relation to their region.

Based on outcomes from the workshops, SSP-based draft narratives will be developed and iterated between researchers and stakeholders. The revised narratives will then be used as one input to a second set of regional workshops in early 2023, where the goal will be to enrich the narratives and introduce regional climate information for co-producing regional SSP-based integrated scenarios.

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