

## **Projects funded in Adaptation and Resilience for Sustainable Growth (ADAPT) SRC Programme**

### **Creative Adaptation to Wicked Socio-Environmental Disruptions (WISE)**

Consortium PI: Janne Hukkinen, University of Helsinki

Consortium composition: Sakari Olli Kuikka, University of Helsinki; Paavo Järvensivu, BIOS; Turo-Kimmo Lehtonen, Tampere University; Peter Lund, Aalto University; Markku Wilenius, University of Turku

WISE aims 1) to improve decision making over wicked socio-environmental disruptions and the evaluation of decision outcomes, and 2) to build-up resilience and adaptation to wicked socio-environmental disruptions. WISE develops and tests a new national-level integrative policy mechanism, Policy Operations Room (POR), which has the capacity to design rapid, evidence-based adaptation policies to unexpected socio-environmental disruptions with multiple drivers and impacts. POR consists of war-room-like emulation exercises in which participants mimic how they would decide in a real-life disruption. POR draws on national and international experts to provide a test bed for integrating rapid and comprehensive science advice to the most complex policy challenges facing a small and transnationally exposed nation state like Finland.

<https://wiseproject.fi/en/>

### **Enhancing Adaptive Capacity for Sustainable Blue Growth (BlueAdapt)**

Consortium PI: Anna-Stiina Heiskanen, Finnish Environment Institute

Consortium composition: Markku Ollikainen, Otso Ovaskainen: University of Helsinki; Jukka Similä, University of Lapland; Niko Soininen, University of Eastern Finland; Mikael Sokero, Demos Helsinki; Laura Tuomi, Finnish Meteorological Institute



Blue treasures – rivers, lakes and marine waters – provide great potential for economic growth. Activities, like agriculture, peat and hydropower production threaten those, and climate change impacts food and energy systems creating socio-ecological risks. Curbing negative trends into opportunities like transition to new business models, calls for adaptive governance, which is agile, predictable, and science based. The project develops a science/policy-interface by integrating cutting edge ecological modelling with economic, policy and regulatory analysis. Together with firms we examine how value-creating solutions support blue growth. Analysing obstacles to adaptation and best ways the government can promote transition to sustainable blue growth, we craft regulatory strategies for the use of new information. With stakeholders we co-create solutions for sustainable growth and good ecological status of waters and compile them into Adaptive Governance Framework for Blue Economy (AGORA).

<https://blueadapt.fi/en/project-info/>

### **Novel Soil Management Practices – Key for Sustainable Bioeconomy and Climate Change Mitigation (SOMPA)**

Consortium PI: Raisa Mäkipää, Natural Resources Institute Finland

Consortium composition: Kati Berninger, Tyrsky Consulting; Kati Kulovesi, University of Eastern Finland; Maarit Raivonen, University of Helsinki, Jyri Seppälä, Finnish Environmental Institute

The Paris Agreement aims to limit global climate change by reducing greenhouse gas (GHG) emissions. Finland has a target to reduce the emissions of the agriculture and other non-emission trading sectors by 39% compared to the 2005 levels. A fraction of the emission reductions may be compensated by forest carbon sinks. Currently, peat soils of croplands and forests are largest sources of GHG emissions on land-use sector in Finland. This project will develop ecologically and economically sustainable climate change mitigation methods for forest and cropland on peat soil. We will produce new scientific knowledge on drivers for the soil CH<sub>4</sub> and CO<sub>2</sub> emissions on peat soils and on cost-efficient and ecologically sustainable means to mitigate the emissions. We will provide methods that encourage land owners to apply the



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optimal mitigation measures in practice. The methods to be developed by this consortium will help Finland to reach the emission reduction targets.

<https://www.luke.fi/sompa/en/>

### **Improving the Information Base and Optimising Service Solutions to Support Social Welfare and Healthcare Reform (IMPRO)**

Consortium PI: Tiina Laatikainen, University of Eastern Finland

Consortium composition: Harri Antikainen, University of Oulu; Pasi Fränti, Maija Toivakka: University of Eastern Finland; Mika Linna, Aalto University; Sonja Lumme, Institute for Health and Welfare

The need to improve information to develop and evaluate health and social care under the ongoing welfare and health care reform in Finland is evident. The aim of this project is by using marker conditions to develop data retrieval systems and analyses to create prototypes to further analyse the health and social care structure, access to services, care pathways, outcomes of care and costs and cost-effectiveness taking into account area level and sociodemographic aspects of clients and population. Marker conditions are selected to represent client groups with different types of common and important health problems, service use needs and patterns. The research team will analyse the situation both before and after the welfare and health care reform to observe the effects of integration. The joint municipal authority for North Karelia social and health services where the integration of services was done already 1st January 2017 is used as a pilot area for analyses.

<https://www.stnimpro.fi/impro-improved-knowledge-base-and-service-optimisation-to-support-health-and-social-services-reform/>

### **Integrated Biodiversity Conservation and Carbon Sequestration in the Changing Environment (IBC-CARBON)**

Consortium PI: Martin Forsius, Finnish Environment Institute

Consortium composition: Anna-Kaisa Kosenius, Atte Moilanen, Annikki Mäkelä: University of Helsinki; Timo Kumpula, University of Eastern Finland

Successful integration of biodiversity conservation with sustainable forest use under global changes is a major challenge for the Finnish society. Key national policies (e.g. Finnish Energy and Climate Strategy) aim at increasing the use of wood for different products and renewable energy. These aims need to be integrated and balanced with policies for biodiversity conservation. Increased biomass outtake will have far-reaching consequences for biodiversity conservation, carbon sequestration, as well as other environmental effects. The project aims at developing (i) integrated models to determine spatially optimized land-use in forest ecosystems, (ii) voluntary monetary compensation mechanisms for forest owners and (iii) informing stakeholders on adaptation options and sustainable policies and their ecological and economic boundary conditions. The project is carried out by a multidisciplinary team from the Finnish Environment Institute, and Universities of Helsinki and Eastern Finland.

<https://www.ibccarbon.fi/en-US>

### **Manufacturing 4.0 – Strategies for Technological, Economic, Educational and Social Policy Adoption (MFG 4.0)**

Consortium PI: Kari Ullakko, LUT University

Consortium composition: Mikael Collan, Heikki Handroos, Heidi Piili: LUT University; Heikki Hiilamo, University of Helsinki; Jari Kaivo-oja, University of Turku; Juhani Rautopuro, University of Jyväskylä



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Manufacturing is becoming automated and service-driven by digital platforms. Industry is changing into low-cost onsite manufacturing. This will cause drastic changes to the structure of industry and society. In this research project, we try to answer the question “how can we make sure that Finland can thrive in this change?” We not only envision a roadmap of how high-tech manufacturing will change, but also show concretely what are the key technological and societal drivers that drive this change, and explain what kind of business, educational, and societal models are needed in order to ensure that Finland and Finnish companies are able to survive and reap the most benefit from this revolutionary change. We study how automatic manufacturing of properly selected products could increase jobs and how the increased income due to automation could be used for supporting those people who will be out of jobs due to automation, thus preventing the division of society.

<http://mfg40.fi/>

