



! "Innovation policy aims for economic competitiveness and well-being
• by promoting influential research and development activity."

Policy Brief

HOW TO SUPPORT SUSTAINABILITY TRANSFORMATION WITH INNOVATION POLICY



Finland will face significant sustainability challenges in the upcoming years from climate change to an ageing population. Innovation policy can act as a significant force for promoting sustainability transformation, if it adopts new procedures that promote sustainability. We recommend the following procedures to develop innovation policy:

1. **Set solving sustainability challenges as the target of innovation policy**
2. **Recognise the sustainable competence areas of the future**
3. **Ensure the responsibility of research and innovation activity**
4. **Renew ecologically and socially damaging industries**
5. **Develop management and ensure that sustainability targets are realised in the implementation of policies.**



Traditionally, the strengthening of economic growth, productivity and national competitiveness have been seen as targets of innovation policy. Besides targets that emphasise growth, promoting sustainability has risen as a cross-cutting target of different policy fields. Finland will face significant sustainability challenges in the upcoming years. In addition to the economic basis of our society, we are challenged by issues such as climate change, loss of biodiversity, aging of the population as well as growing inequality. In Finland, environmental and social sustainability challenges have not been significantly taken into account in the targets or implementation of innovation policy.

Innovation policy can act as a significant force for promoting sustainability transformation, if it adopts new procedures. Innovation policy has risen back to the national agenda, especially with the parliamentary research, development and innovation (RDI) working group. In Finland, actors are quite unanimous in that innovation expenditure has to be increased to four percent of gross domestic product by 2030. A funding act is being planned, and it will define the annual research and development expenditure of the state to this level. The increase of the innovation policy funding by billions must be targeted in ways which promote the sustainability transformation of our society, which means a fair transformation in the limits of the carrying capacity of the environment.

	TRADITIONAL INNOVATION POLICY	INNOVATION POLICY THAT PROMOTES SUSTAINABILITY TRANSFORMATION
The role of sustainability	Sustainability targets are secondary and subordinate to economic targets	Sustainability as the target
Target	Scientific, technological and economic development	Solving environmental, social and economic challenges
Actors	Established technically and economically focused actors	Extensive cooperation between different fields of administration and stakeholders
Directivity	No stance on the contents of research and innovations	Directing RDI activity towards societal challenges; prevention of the damages of innovation activity
Object of innovation	Focus on the innovations and export industry of high technology	Aim towards system level changes that require technological and social and service innovations as well as new forms of cooperation and ways of organising.
Methods	Focus on RDI funding	Diverse policy mixes to develop the supply and demand of sustainable solutions.

DO THE FOLLOWING

Set solving sustainability challenges as the target of innovation policy

1.

Sustainability must be set as the target of innovation policy, and the objectives supporting it must be ambitious enough. In addition to global challenges, innovation policy can also be used to solve societal and regional problems.

Responding to the climate crisis, loss of biodiversity and social problems in Finland does not only require developing entirely new solutions but also utilising existing solutions. The adoption and diffusion of innovations require a comprehensive understanding of the factors that affect the change, for instance, considering legislation, different actors' roles, procedures and behaviour patterns. It is, therefore important that solutions are adapted to local needs and that end users and decision-makers participate in their development.

For instance in the Netherlands, multisectoral 'mission-based' innovation programmes have been launched that aim for, among other things, the preservation of biodiversity, first-rate elderly care and the prevention of organised crime. The programmes are based on investigations into the sustainability challenges and possible solutions, cooperation between multiple actors and utilising multiple policy procedures, such as funding, legislation and procurements.

DO THE FOLLOWING

Recognise the sustainable competence areas of the future

2.

Developing and distributing successful innovations typically require extensive cooperation between the private and public sectors. To ensure this, building ambitious innovation systems requires directing RDI investments towards projects and areas with a strong skills base and the possibility to produce solutions for the most burning issues of our time.

In selecting the fields, it is necessary to emphasise their possibilities of producing sustainable solutions for global sustainability challenges. Often this means entities which cross industry boundaries, combining technologies and services as well as ‘enabling’ technologies that are suited for diverse use. The creation of significant sustainability innovations requires the creation of a joint vision, coordination and sufficient funding.

For instance, Denmark has chosen 13 publicly funded national clusters which bring different RDI actors together. These include, for instance, Clean that focuses on environment technologies and Energy Cluster Denmark that aims to renew the energy system.

DO THE FOLLOWING

Ensure the responsibility of research and innovation activity

3.

Research and innovation activity always have desirable and unintended societal effects. There can also be contradictions between different effects. Financially profitable innovations can create, for instance, health or environmental damages and ethical problems.

By adopting practices from responsible research and innovation, RRI, we can contribute to the creation of ethically acceptable, sustainable and societally desirable research and innovations. Projects funded by Business Finland and Academy of Finland can support the creation of better and competitive solutions if the funding considers aspects of sustainability and responsibility.

For instance, the Research Council of Norway funds the research and development activity of research institutions, companies and public organisations. In the programmes it funds, the researchers are required to use responsible research and innovation activity practices, such as foresight and societal dialogue. The aim is to predict the positive and negative effects of RDI activity as well as actively direct the development to support the sustainability transformation.



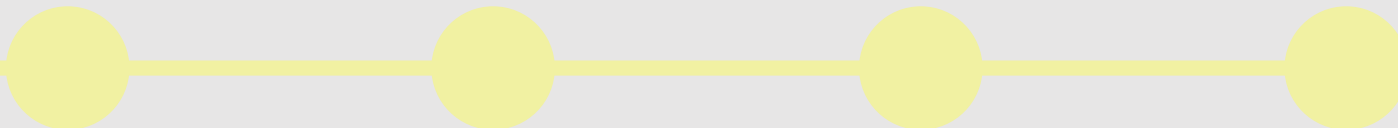
DO THE FOLLOWING

Renew ecologically and socially damaging industries

4.

As information about sustainability effects increases and societal values change, the environmental, social or ethical damages of industries can surpass the economic benefits they create. There is an inevitable and significant renewal in front of these fundamentally unsustainable industries. This renewal can be supported by innovation policy.

For instance, in the Asturias country of Spain, the shutdown of coal mine activity was combined with innovation and environmental support as well as retraining, which supported the foundation of a new business on the foundation of strong natural resource knowledge. Innovation policy should promote the controlled redirection of unsustainable industries as well as the shutdown of damaging activity.



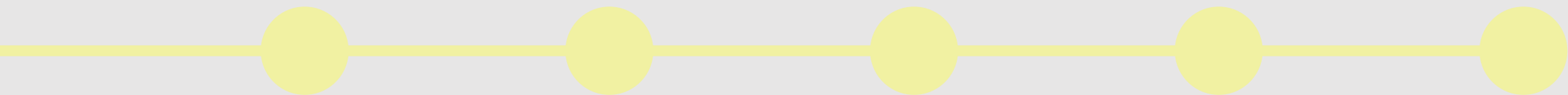
DO THE FOLLOWING

Develop management and ensure that sustainability targets are realised in the implementation of policies.

5.

Directing innovation policy towards sustainability challenges requires a broad picture of the challenges of different administrative sectors as well as a co-creational approach between different stakeholders, such as companies, researchers, the third sector and civil society. Joint targets must be set for innovation policy, and we must identify procedures to reach those targets. The effects of the procedures on different actors have to be assessed.

Sustainable innovation policy requires forming a strong strategical perspective and an ability to coordinate different policy actions. The best skills for this are achieved by establishing the research and innovation council, chaired by the Prime Minister of Finland, as a broad cooperation area where dialogue about the direction of innovation policy can be held. A sufficiently diverse group of experts on RDI activity and sustainability challenges must be involved in planning innovation policy.



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The ORSI project steers the welfare state to the limits of the carrying capacity of the environment. We are searching for fair and rapid ways in which public administration can steer change. We bring citizens, decision-makers and companies to the same table. We examine the management and budgeting, everyday participation, responsible innovations and steering of consumer choices.

Towards Eco-Welfare State: Orchestrating for Systemic Impact (ORSI) project is the joint endeavour of Tampere University, Finnish Environment Institute SYKE, Aalto University and VTT. The research is funded in 2019-2025 by The Strategic Research Council which operates within the Academy of Finland.

www.ecowelfare.fi/en



The COSU project develops principles for transformative innovation policy, which takes into account the targets of environmental, social and economic sustainability. The research produces new knowledge and concrete tools for the decision-makers of innovation policy. The joint venture of VTT and SYKE is funded by Business Finland.

www.sirp.fi/cosu/

