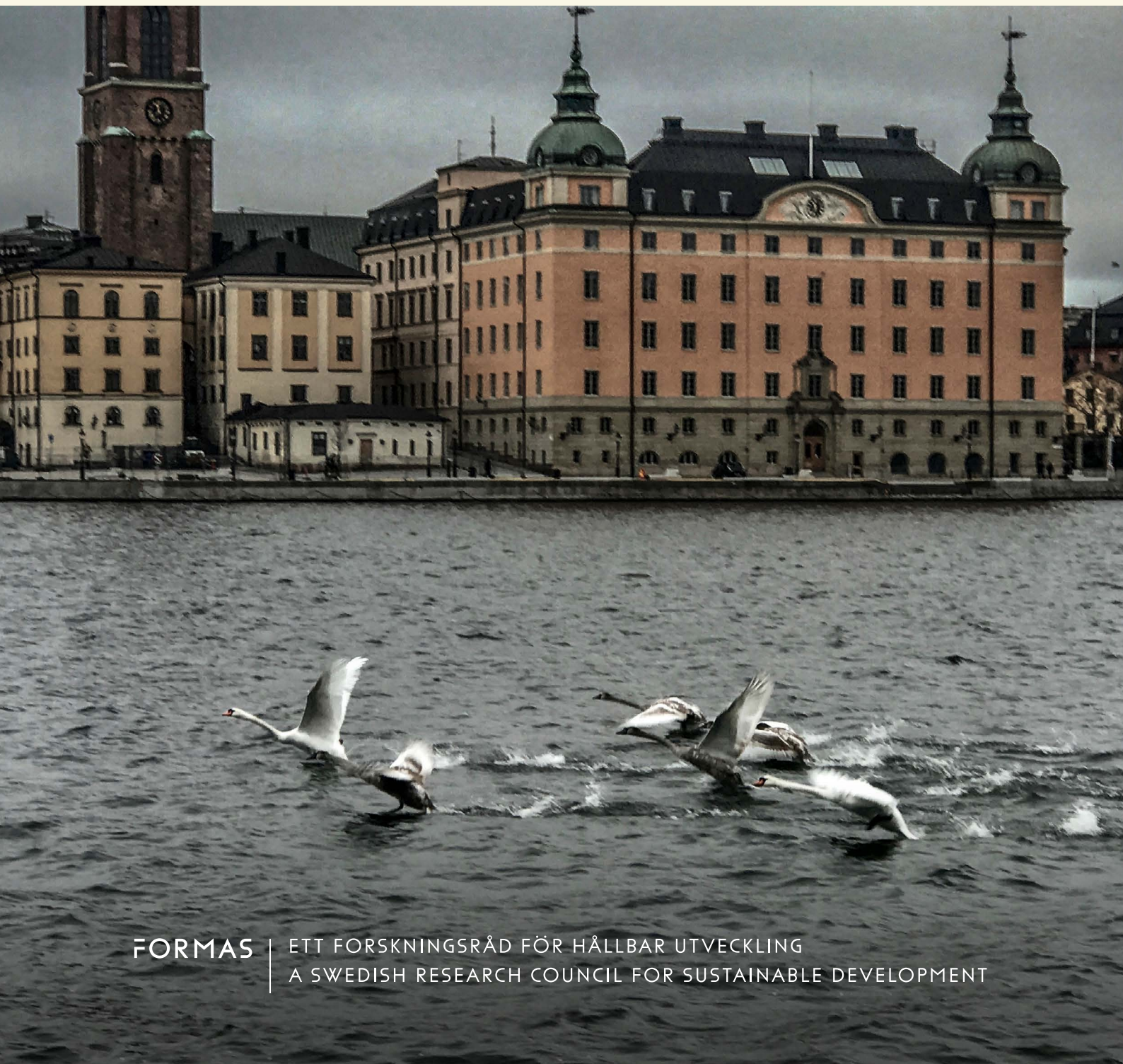




The Sustainable Development Goals – Formas' approach



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Investing in knowledge for a sustainable world

Formas is a government agency and research funder that invests in knowledge for a sustainable world and is engaged in activities linked to the goals of Agenda 2030. Formas' areas of activity primarily include the environment, agricultural sciences and spatial planning. These areas cover issues like climate, urban development, environmental toxins, agriculture and forestry, and threatened ecosystems. In 2019, Formas will award close to 1.6 billion kronor in grants to fund both research and innovation activities.

Formas funds interdisciplinary research and innovation that drive societal development in close collaboration with many different stakeholders. Our operations aim to fund the entire chain of basic research, applied research and innovation-related research as well as increase the availability and usefulness of research results. The research that Formas funds, and the projects that Formas runs, range from curiosity-guided to challenge-driven research.

This summary briefly describes Agenda 2030, research and innovation needs, and how Formas contributes to the implementation of Agenda 2030 for sustainable development.

Agenda 2030 for sustainable development

In September 2015, the UN member states adopted Agenda 2030 for sustainable development. The agenda is an action plan for the transition to a sustainable society for people, the planet and for prosperity that aims to promote peaceful, just and inclusive societies. It is targeted to the individual countries as well as to the world as a whole.

Agenda 2030 represents a new way of looking at our global challenges – one that acknowledges their interconnectedness and requires a comprehensive approach to solving them. The agenda is a coherent structure containing 17 global sustainable development goals and 169 targets that are universal and indivisible. This means that measures to achieve a goal can positively impact or, in some cases, negatively impact the ability to achieve other goals in the agenda. Because partnership is a foundation for successful implementation, the different stakeholders and levels of society must cooperate.

Agenda 2030 is the international community's definition of sustainable development. Its goal is to achieve environmentally, socially and economically sustainable development that builds on the Brundtland Commission's definition from 1987: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Agenda 2030 is being implemented in different ways in different parts of the world. In 2018, the Swedish government decided on an action plan for implementing Agenda 2030 in Sweden. The government also appointed an Agenda 2030 delegation, which has been commissioned to support and stimulate the Swedish implementation of the agenda and which has consisted of members from different sectors of society. The chair of the delegation has been Director-General Ingrid Petersson. In March 2019, the delegation completed its commission and handed over its report to the government proposing measures for further implementation in Sweden.

The OECD highlights several challenges

Research and innovation are necessary for finding solutions to the challenges of achieving the Agenda 2030 goals. The Organisation for Economic Cooperation and Development (OECD) has indicated a number of areas where there is a need to link research and innovation to the implementation of Agenda 2030:

- For specific challenges (like climate or health), engage in challenge-driven research and innovation in partnerships between government research, private industry and other societal stakeholders, such as civil society.
- Strengthen cross-disciplinary research and the perspectives of gender equality and citizens.
- Engage in international cooperation on global public goods such as climate, biodiversity and global health.
- Link research and innovation structures at the national level to the global framework for Agenda 2030.
- Leverage the potential of digital technology in implementing Agenda 2030.

Swedish research policy, and thus also Formas, prioritises and creates linkages to all these areas.

Research and innovation contribute to solutions

The Scientific Council for Sustainable Development in Sweden, a committee appointed by the government, has identified that research plays an important role in the implementation of the agenda by characterising and diagnosing various problems, providing different solutions and by creating dialogue, coordination and learning opportunities between different stakeholders. In a report produced on behalf of Formas, the Stockholm Environment Institute (SEI) noted that additional research also plays an important role in critically analysing the different goals.

The Agenda 2030 delegation has noted that research contributes by diagnosing the current state and development of society and by identifying connections and mechanisms relevant to the understanding of phenomena and problems. Research provides evidence-based solutions for a societal transition that is grounded in science, supported by a critical scientific approach and determined independently and autonomously. Innovation contributes by developing new solutions as part of society's transition. Examples include new collaborative structures, working methods, methodologies and business models. Higher education and research institutes also contribute to the provision of skills in other sectors of society.

Challenge-driven research and innovation play a crucial role in developing solutions to specific sustainability challenges. This means that several scientific areas need to be involved and leveraged to identify synergies and conflicts in the different areas of Agenda 2030. This can happen through collaboration and partnerships between the different stakeholders that take part in the implementation activities. Research can thus help to identify solutions that also make a difference at the system level.

There is a need for research and innovation within a wide range of specialised fields and scientific disciplines (health, climate, education) and research that helps to change behaviour patterns (transport, food and other consumption). There is also a need to invest in multidisciplinary, cross-sectoral research and innovation in order to address the complex nature of societal challenges, both in Sweden and globally.

Agenda 2030 is a global agenda. International research collaboration with the developing countries that face the most difficulties in implementing Agenda 2030 is therefore important for reducing the vulnerability of these countries and contributing to positive global development, with outcomes such as reduced greenhouse gas emissions.

Agenda 2030 – An integral part of Formas' activities

Formas aims to promote challenge-driven, interdisciplinary research and innovation. Our activities support research and innovation that are relevant to virtually all of the sustainability goals, which is apparent in the way Formas categorises all incoming applications according to the 17 global goals. However, the majority of our research funding goes towards the goals that most clearly relate to the environment, agricultural industries and spatial planning. The funding is intended to help solve society's challenges, so it is also instrumental in developing knowledge that contributes to public health, gender equality, economic growth and peace.

Agenda 2030 forms an integral part of Formas' work on the national research programmes, calls for proposals and international activities. Formas also conducts analyses, studies and literature reviews that aim to understand and follow up on how research policy and research funding can contribute even more to the agenda's implementation.

National research programmes

Formas is responsible for three of the seven national research programmes in Sweden: Sustainable Spatial Planning, Climate and Food. The programmes are broad, ten-year efforts to help solve priority challenges. Agenda 2030 is a key point of departure for the strategic research agendas that Formas developed for the programmes and for the calls Formas announces to implement these programmes.

The National Research Programme for Sustainable Spatial Planning is geared towards the various societal challenges facing cities. Examples are the transition to a fossil-free welfare society and adaptation to a changing climate, Agenda 2030, the UN's New Urban Agenda, national environmental objectives and other relevant policy goals. The programme has a broad, interdisciplinary nature, a strong connection to the users of research results and a global perspective.

The National Research Programme on Climate aims to help achieve Sweden's goals of becoming a fossil-free welfare society and a leader in the global effort to achieve the goals of the Paris Agreement. Meeting the climate challenge and reducing human impact on the climate requires comprehensive mitigation and adaptation efforts in Sweden, in the EU and globally. Research is therefore needed in a variety of disciplines, as well as interdisciplinary, cross-sectoral research and innovation.

The National Research Programme on Food aims to help increase productivity and innovation in the food chain and support the sustainable production and consumption of food. The programme stimulates needs-driven research, innovation, dissemination and commercialisation of research results, and an increased understanding of the food chain for educational purposes. In the long run, the programme will also link to the bio-based circular economy.

Strategic innovation programmes

Together with the Swedish Energy Agency and Vinnova, Formas participates in strategic innovation programmes. In these programmes, leading players from private industry, academia and the public sector identify and define areas that show a need for research and innovation and a potential for collaborative efforts. Together, the stakeholders in the strategic innovation programmes are responsible for formulating challenges, setting common long-term goals, and prioritising investment in research, development and innovation. This synergy creates a foundation for building sustainable solutions to address global challenges and to boost international competitiveness.

In dialogue with Formas, the Growth Analysis agency conducted a global analysis of international research programmes in 2017 which, in a similar way as for national research programmes, will help to solve priority challenges and strengthen synergies between research practitioners, funders and societal stakeholders. The purpose of the analysis was to provide guidance for governing and managing the national research programmes.

Among other results, the analysis underscored the importance of including many different stakeholders when setting agendas and designing the programmes compared with traditionally designed research programmes. It also indicated importance of linking the programmes' focus to national priorities and strengths, and maintaining flexibility in the design and management of the overall project portfolio.

Other calls that contribute to the implementation

The open call for proposals is Formas' largest call, accounting for roughly 40 percent of Formas' total research grants. It is divided into three sub-calls: research and development projects, research and development projects for early-career researchers, and mobility grants. In 2018, awards were granted within 16 of the 17 total global goals. Almost half of the applications that were awarded funding involved responsible consumption and production (Goal 12). Other goals that many of the applications addressed related to ecosystems and biodiversity (Goal 15), combating climate change (Goal 13), health and well-being (Goal 3), sustainable cities and communities (Goal 11), and sustainable industry, innovation and infrastructure (Goal 9). A majority of the applications (64 percent) had a natural sciences focus.

In addition to the open call, several of the calls have close links to the implementation of Agenda 2030:

- National Research Programme on Climate: Future Pathways
- Strategic Innovation Programme, Smart Built – Implementation projects
- Sustainable tourism and hospitality
- The impacts of extreme weather conditions on people, society and nature
- Climate and environmental change in low-income countries
- ERA-NET action, ForestValue – Innovating the forest-based bioeconomy

Two of the calls are described in more detail below.

“Communication on sustainable development in museums” is a call that contributes to the implementation of the agenda. It aims to promote communication of research on sustainable development by engaging museums to communicate Agenda 2030 and research within Formas' areas of responsibility. Publicly funded museums were able to apply for grants for projects aimed at an external audience and to use their own collections in combination with research results. With this call, Formas wished to spotlight the role of museums as knowledge institutions for the present and future and as promoters of evidence-based research and knowledge.

“Perspectives on global sustainability goals” is another call closely linked to Agenda 2030. It provides grants for the planning and preparation of leading major research projects related to Agenda 2030. It focuses on the linkages among the Agenda 2030 goals, both in terms of synergies and conflicts between two or more of the goals. The projects that were awarded grants addressed issues like the linkages between land use, climate change and the bioeconomy, positive scenarios versus visions of the future, governance and implementation of the global goals, art-based sustainability research, and ethical issues such as inequality, global population growth and nature's rights. Part of the call is intended for planning humanistic or social science research on the global goals within Formas' areas of responsibility.

Agenda 2030 – A goal for international research collaboration

Formas is tasked with promoting and initiating international and national research collaboration and the exchange of experiences, and with stimulating Swedish participation in research collaboration in the European Union's research activities and other international research programmes.

Formas adopted an international strategy in 2016 that aims to facilitate the prioritisation of international

activities and streamline the use of available resources. Agenda 2030 is an integral part of this strategy, and one of the stated objectives of the strategy is for Formas to fund international activities that contribute to the achievement of the global goals. Priorities are therefore made according to relevance for the global goals and Formas strongly promotes the use of the global goals as a point of departure in all collaborations.

Formas participates in various EU Commission initiatives and acts as the government's expert authority for two of the seven challenges included in Horizon 2020 (the EU Framework Programme for Research and Innovation). Agenda 2030 is a strategic tool for Formas in these discussions and in the agency's work with over 30 partnership programs. Together with other funders, Formas also participates in bilateral collaboration initiatives with Brazil, India and South Africa.

Formas participates in Belmont Forum, a global partnership between funding agencies with the task of meeting global environmental and climate challenges. The partners coordinate strategies, learn from each other's experiences, and coordinate and co-fund joint research programmes. Formas is leading the work on a joint call for sustainable seas, covering a total of 20 countries. Furthermore, Formas contributes funding in three additional calls within the Belmont Forum: one on changes in the Arctic, one on research for the Agenda 2030 goals, and a call for proposals on climate change and access to food.

Analyses, studies and literature reviews

The Stockholm Environment Institute (SEI) was commissioned by Formas in 2018 to conduct a systematic inventory of the knowledge and research needs for Agenda 2030. SEI identified research needs based on literature reviews for responsible production and consumption (Goal 12), sea and marine resources (Goal 14) and partnerships for the goals (Goal 17). The report's results reveal that more research is generally needed to fill the knowledge gaps in order to achieve the Agenda 2030 goals. The report

also highlights the leading role Sweden is playing in sustainability efforts and in terms of investment in research and innovation, and the country's potential to take on a global leadership role in stimulating a useful active contribution of research to Agenda 2030.

In 2019, the consultancy company Ramböll conducted a study on behalf of Formas examining how Agenda 2030 affects different countries' research strategies and activities. To identify good examples of how countries have attempted to implement Agenda 2030 at both the national level and within academia, a survey of these efforts was conducted in 20 countries. Based on the survey, three countries (Finland, the Netherlands and Canada) were selected since their work was considered particularly relevant for discussions about Sweden. The study's findings, which are expected to be completed in mid-April, will allow us to understand how Swedish funders can work towards realising Agenda 2030.

In 2018, the Royal Institute of Technology (KTH) conducted a pilot project on behalf of Formas to investigate the possibility of a bibliometric analysis of scientific publications based on the Agenda 2030 goals. The pilot study presents both strong and weak research areas in Sweden and indicates which national and international networks exist within Agenda 2030 for no hunger (Goal 2) and sustainable cities and communities (Goal 11). The study shows that it is possible to conduct a bibliometric analysis focusing on the goals of Agenda 2030.

Since 2018, Formas has been working on a government commission to create literature reviews, evaluations and analyses of published research to use as a scientific basis for ensuring cost-effective compliance with the national environmental objectives, which are closely linked to the global goals. This assignment helps to increase knowledge of the environmental objectives by showing the effects of measures and instruments and identifying the knowledge gaps around the additional research and innovation that are needed.

There's work to be done – and no time to lose

The Agenda 2030 delegation has noted that the transition to sustainable development requires action from the global level down to the local. The challenges addressed by Agenda 2030 – climate change, inequality and public health – are so important for society that Sweden and the world cannot afford not to act. A transition is urgently needed. At the same time, actions within the scope of Agenda 2030 bring great opportunities for creating positive effects in several areas.

Research and innovation activities are necessary for making the transition happen. That is why Formas and other funders carry out activities that are central to the implementation of Agenda 2030. Formas has a vital task: to continue to more clearly link its activities to the agenda, to raise awareness of the research community and to communicate the solutions that research brings to the world. Agenda 2030 represents a common language in Formas' collaboration with stakeholders in Sweden and other countries, and is an important instrument for orienting our activities towards relevant societal challenges.

About Formas

Formas is a government research council for sustainable development. We fund research and innovation, develop strategies, perform analyses and conduct evaluations. Our areas of activity include the environment, agricultural sciences and spatial planning. We conduct specific environmental analyses that aim to make it easier for Sweden to achieve our environmental goals. We also communicate research and research results.