
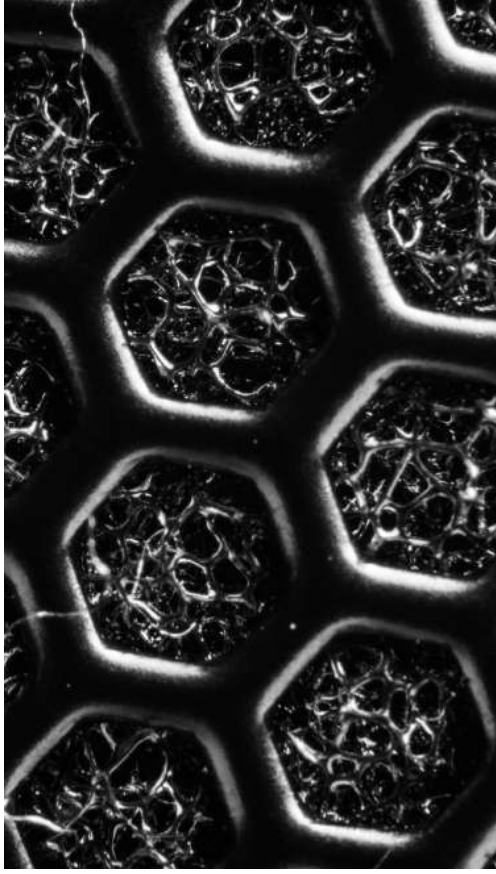
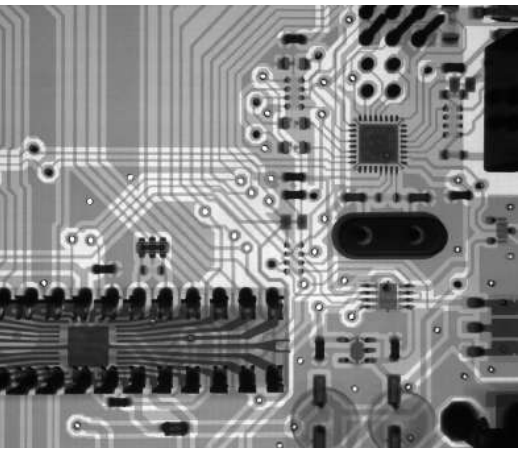


Funding Science for Sustainability

Launch of a Decade of Global Sustainability Science Action (2020-2030)

International Science Council
NSF
NRF National Research Foundation
IDRC CRDI
UK Research and Innovation
Sida
IIASA
futureearth Research. Innovation. Sustainability.
NATIONAL ACADEMY OF SCIENCES
BELMONT FORUM
VolkswagenStiftung

With just over ten years to go to achieve the 17 ambitious Sustainable Development Goals (SDGs) of the UN's 2030 Agenda, science funders and the research community have initiated an ambitious "Decade of Global Sustainability Science Action" in order to scale up the impact of the SDGs through game-changing action across funding, research and science systems throughout the world.

On 8-9 July 2019, the International Science Council convened the Global Forum of Funders with the aim of building strategic partnerships to increase and accelerate the impact of science and science funding on the achievement of the 2030 Agenda for Sustainable Development. Hosted by the U.S. National Academy of Sciences in Washington D.C., the Forum brought together 80 leaders from national research funding agencies, philanthropic foundations, development aid agencies and scientific organizations from around the world.

The Forum was supported by a number of partners that included the Swedish International Development Cooperation Agency (Sida), National Science Foundation (USA), the Belmont Forum, International Development Research Centre (Canada), the Science Granting Councils Initiative in Sub-Saharan Africa, the National Research Foundation (South Africa), UK Research and Innovation, the International Institute for Applied Systems Analysis (Austria), Future Earth, and the Volkswagen Stiftung.

The partners and participants are now seeking to expand the number of organizations involved in the Decade of Global Sustainability Science Action to urgently turn the recommendations of the Forum into accelerated practice.

The Forum included rigorous discussion around themes such as:

- Unleashing the Potential of Science for the SDGs: the role and responsibilities of the funding agencies,
- Maximizing the impact of SDG-related research investments through strategic partnerships,
- Building research ecosystems, capabilities and data capacities for the 2030 Agenda in the Global South, and
- Building Alliances for Science for the SDGs.

The Forum resulted in following key messages and recommendations:

1. The 2030 Agenda and its 17 SDGs represent the most ambitious and significant attempt since World War II to rethink what development means. We cannot afford to miss this opportunity to protect the planet and build the society we want to live in.
2. The cost of inaction keeps rising as the consequences of global challenges, such as inequality, climate change and biodiversity loss, become more and more prevalent. With only ten years to go to achieve the ambitions of the 2030 Agenda, we have to act now – we are at a critical point in time, where inaction may mean a lack of opportunity in the future.
3. Despite the urgency, the implementation of the SDGs is not on track and the latest predictions are that no single country will meet all of the goals by the 2030 deadline. Only an urgent, more ambitious and well-resourced global plan of action will ensure that the goals are met.
4. Science has a fundamental role to play in achieving progress towards the implementation of the SDGs by providing evidence for decision-making and informing the development of more sustainable solutions. In particular, it can help address the trade-offs that policy-making and action around SDGs are faced with. Science can accelerate transformative change by identifying the most significant interactions within the SDGs framework, and in turn, develop priorities for cross-sector action, as well as interventions with multiple outcomes. Science can further help to fill in data gaps and monitor progress.
5. For an accelerated implementation of the SDGs, it is critical to build and harness scientific knowledge and capacities, particularly in low- and middle-income countries; synthesize existing knowledge; and create a 'moon-shot' mission for Sustainability Science.

6. To scale up the impact of science and to address something as complex as the SDGs, post-normal, transformative and truly transdisciplinary research will be required. This will require an urgent review of the way science is conducted. To really challenge the status quo, science needs to engage more with policy-makers and build strong partnerships with both the public and private sectors, as well as society in general.

7. In this context, funding agencies, including national research councils, development aid agencies and private foundations, have a critical role to play. To unleash the full potential of science, more strategic and collaborative approaches to science funding are required, moving away from individual to collective action. Together, science funders are in a powerful position and can achieve a longer-term impact at a scale beyond what any one actor could achieve alone. With the SDGs framework providing a common language and organizing principles, the appetite for collaboration is growing.

8. Recognizing this pivotal moment in time, 80 leaders, representing national research councils, development aid agencies, private foundations and scientific institutions, have agreed to launch a 'Decade of Global Sustainability Science Action'. This initiative will strive to build strategic collaboration among the funding and research communities to address the SDGs by promoting system change in the way science is done, assessed, rewarded and funded.

   The initiative will seek to:

   - apply a holistic and systems approach, treating the SDGs as an indivisible agenda;
   - support transformative, high-impact and transdisciplinary knowledge creation;
   - promote mission-driven research, but also harness the contributions of fundamental research; and
   - support enabling activities, e.g. capacity development and knowledge brokerage.

9. This decadal initiative is a collaboration of the willing. It is open to traditional science funders and to organizations that depend on strong science for the success of their own work on SDGs, including foundations, development aid agencies and private sector organizations. The goal is to create space for participation by all interested partners through a variety of mechanisms, including blended funding models that build on partners' strengths, and to support data and information sharing among its participants.

10. To help prepare the next round of discussions, the International Science Council will mobilize key scientific partners and other actors to develop specific research missions for the critical societal transformations needed to achieve the SDGs by 2030, building on the work of the UN GSDR, IIASA, and the SDSN.

The next meeting of the decadal initiative will take place in conjunction with the Global Research Council's annual meeting on 26-28 May 2020, in Durban, South Africa. The exact dates are to be confirmed. The event will present missions that have been identified for key societal transformations and discuss how to co-fund these missions through innovative funding mechanisms.

To learn more about the Decade of Global Sustainability Science Action,
please contact Katsia Paulavets at katsia.paulavets@council.science

More details about the Forum discussions can be found in the report provided hereafter.

Forum Report

On 8-9 July 2019, the International Science Council convened the Global Forum of Funders with the aim of building strategic partnerships to increase and accelerate the impact of science and science funding on the achievement of the 2030 Agenda for Sustainable Development. Hosted by the U.S. National Academy of Sciences in Washington D.C., the Forum brought together 80 leaders from national research funding agencies, philanthropic foundations, development aid agencies and scientific organizations from around the world.

The Forum explored the critical knowledge and capacity gaps that currently prevent achievement of the SDGs and provided a space for a dialogue on the role of science and the key global challenges that science systems currently face in achieving the 2030 Agenda. The Forum also discussed the role that different types of funding agencies have in enabling science to respond to the SDGs, as well as how to maximise the impact of SDG-related research investments through strategic partnerships. The key outcomes of the Forum dialogue are presented in this report.

The Role of Science in accelerating progress towards the 2030 Agenda

Progress towards the implementation of the Sustainable Development Goals (SDGs) depends upon large-scale mobilization of actors for transformative societal change. Science has a critical role to play, as it provides objective information for decision-making and action. All policy-making and action around SDGs implies choices and trade-offs, and science can help to make better-informed choices.

For accelerated implementation of the SDGs, it is critical to harness existing and new knowledge, to synthesize it, and to increase the uptake of research by policy and practice. Investing in knowledge-broker organizations that increase the impact of science on public policy is therefore important.

Shifting the world onto a more sustainable path requires post-normal, transformative research, with engagement of all stakeholders, including policy-makers, communities and NGOs. In particular, if science is to really challenge the status quo, the international science community needs to engage more with policy-makers and build novel partnerships with both the public and private sectors, as well as society in general.

Due to the interactions, trade-offs and synergies between the SDGs, a holistic and systems approach is required. Research in isolation in one SDG domain is not enough and cannot be impactful. The SDGs should therefore be treated as an indivisible agenda, where one SDG cannot be realized fully without realizing the others. As for the key principle of the 2030 Agenda, “Leave no one behind”, the same should be said for each SDG. No SDG should be left behind. It is therefore necessary to build capabilities and capacities to think and act upon the SDGs in an integrated and cross-cutting manner. It is also important to reconsider the way progress towards the 2030 Agenda is measured. It should not be compartmentalized by a specific SDG, it should instead recognize the interplay among them and take into account regional specificity.

The key is to understand how science can help drive bigger and faster change. One approach, suggested by the Nature Conservancy, is to understand the most significant interactions within the framework of the SDGs, and the biggest threats to nature and people. Given that the pace and scale of global changes exceeds the collective efforts of individual sectors working in silos, it is important to identify priorities for cross-sector action and to evaluate interventions for multiple outcomes. Stronger collaboration at knowledge intersections will be critical.

Another approach for science to drive greater progress towards the SDGs is to understand systemic entry points for knowledge-based transformations. This approach is applied by the UN Global Sustainable Development Report (UN GSDR). The report identifies six such entry points: *Human wellbeing and capabilities; Sustainable and just economies; Energy decarbonization and access; Food systems and nutrition patterns; Urban and peri-urban development; and Global environmental commons.* For each, the report identifies four levers: Governance; Economy and Finance; Individual and Collective Actions; and Science and Technology. These levers should be seen not as an end in themselves, but as a means to an end. To drive the transformation, these levers would need to be combined in a way that responds to the context-specific priorities. This means that actors, including science, need to radically rethink their existing partnerships.

As different parts of the world experience global challenges differently, national trajectories and context-specific pathways to sustainable transformation should be developed based on scientific knowledge and evidence. As collective progress is needed, it is important that all countries, regardless of their current

level of development, start pursuing their national pathways towards the SDGs immediately.

In this context, to enable science to respond more effectively to the SDGs, it is vital to:

- **Harness existing knowledge for accelerated SDG implementation.** This includes continued support for international scientific assessments and synthesis and their increased coherence; building national and regional SDG knowledge platforms and competencies; knowledge diplomacy; supporting innovative and novel partnerships with the public and private sectors.
- **Boost scientific knowledge and capacities in low- and middle-income countries** through open-access knowledge and open science; and strengthening national and regional scientific funding institutions. To address the disparities in international research collaboration between the North and the South, mechanisms for enabling Southern researchers to engage and participate in global collaboration on an equal basis are needed. Building more equitable research partnerships between North-South, as well as supporting South-South collaboration, will be important.
- **Create a 'moon-shot' mission for Sustainability Science.** This includes the need for a rapid increase of mission-oriented research guided by the 2030 Agenda.

It would also require scientific assessment of existing transformation knowledge including from non-academic sources. Funding schemes would also need to be adapted to programme structures supporting inter- and transdisciplinary research; expanding incentives; and creating experimental spaces and transformation labs for next generation science-policy interfaces.

Unleashing the potential of science for the SDGs through strategic partnerships of science funders

To scale up science impact towards the implementation of the SDGs, science funders have a crucial role to play, especially if they amplify their impact by acting together. An honest reflection on how to fund science in a more coordinated, collaborative and efficient way is, however, needed. Currently, funding agencies are more often than not driven by their own priorities, creating fragmentation and duplication, and potentially limiting their impact. A more strategic approach to science funding is therefore required, moving from individual to collective action.

With the growing urgency posed by global challenges, there is a real appetite for collaboration among science funders. Many science funders are starting to align their priorities with the framework provided by the SDGs. The framework provides a common language and a common set of principles (cooperation, integration, inclusivity) on which that collaboration can be based.

However, the collaboration we had in the 20th century will not deliver on the SDGs – simply put, complex problems require new and innovative partnerships. Creating new ways of working with different funders by building on each other's strengths is critical. For that, it is important to understand what science funders can do together to achieve impact that is greater than the sum of its parts.

To this end, there was a consensus that for any future funding partnership to be impactful, it should apply a holistic and systems approach, and focus on large mobilization for transformational change. It is therefore critical to:

- identify key societal transformations and the levers of change,
- co-design specific missions and identify building blocks to enable each mission, e.g. *what is an Apollo mission around smart cities?*
- identify the short-, medium- and long-term priorities for cross-sectoral action, and
- assess progress continuously to make sure that the SDGs are on track to being achieved.

There are several already existing reports that identify key societal transformations (e.g. TWI2050 report, the UN GSDR report, and the SDSN report). There are similarities between the transformations identified by these reports. To avoid any confusion among policy-makers, it would be beneficial to create institutional arrangements, through which science could align the messages of these reports and speak with one voice. An appeal was made to the International Science Council to lead this process in partnership with key relevant actors.

The future funding partnership should also be aware of a potential tension that may arise from promoting mission-oriented research. Science needs to be policy-relevant but policy-neutral; it should provide objective information for decision-making, and not serve any particular policy objectives that have been previously decided upon. With a mission-oriented approach, science can be used to support the set of choices that have been already made. This tension needs to be recognized and navigated.

The funding partnership should also promote system change in the way science is done, assessed, rewarded and funded. Addressing something as complex as the SDGs requires a cross-sectoral approach and multi-stakeholder engagement in agenda-setting and

research. Funders also need to be prepared to take a longer-term approach to research support and to the assessment of impact.

Funders would need to move away from traditional funding models, which are often too prescriptive. Science funding needs to indicate direction without prescribing the solutions. It should give more freedom, be open to innovation, and be less prescriptive in order to stimulate bottom-up creativity.

Science funders need to show leadership in order to bring together diverse funding communities for cross-border collaboration. To this end, it is important to build effective, ongoing communication through a neutral convening collaboration platform that will foster the sharing of strategic priorities, agendas and calls for proposals etc. This foundation could eventually lead to opening-up the funded projects' databases across institutions.

The group agreed that to take the collaboration forward it will be important to:

- better understand the landscape, experiences and strengths of partners involved;
- build trust and respect across the collaboration;
- be flexible in the mechanisms. It is important to create mechanisms that will allow to bring together a portfolio of different funding approaches, building on funders' strengths and taking into account their operational differences;
- develop a roadmap with a list of essential fundable components; each funder then could understand how it can contribute;
- take into account partners' risk tolerances.

Taking forward the strategic collaboration: next steps

Recognizing a pivotal moment for the entire research and funding communities to create the knowledge required to deliver the planet and society we actually want to live in, the Forum agreed to launch **a Decade of Global Sustainability Science Action (2020-2030).** The initiative will strive to build greater collaboration among science funders and the research community to address the SDGs through innovative research funding mechanisms.

This collaborative initiative will support transformative, high-impact, transdisciplinary knowledge creation. It will apply a holistic approach, treating the SDGs as an indivisible agenda.

It will promote mission-driven research but also harness fundamental contributions, and support enabling activities such as capacity development and knowledge brokerage. In this context, developing a research agenda which clearly identifies the research that needs to be done (what), underlying values (why), and related governance and institutions (how), is a prerequisite. The agenda will also need to be responsive to the context, taking into account the nuances of national and regional challenges to be able to respond appropriately.

This initiative will be a collaboration of the willing. It will be open to traditional science funders and to other types of organizations whose mandate is not necessarily to fund research, including foundations, development aid agencies and the private sector. The goal is to create space for participation for all interested partners through blended funding models, building on partners' strengths. Practices and lessons from demonstrated modes for implementing global collaborative research action will be harnessed (e.g. through the Belmont Forum).

The initiative will also promote the information sharing across funders. The performance of the initiative would need to be reviewed to monitor the extent to which it contributes to the achievement of the objectives of the 2030 Agenda.

The International Science Council was recognized by Forum attendees as the most appropriate neutral broker to steer such a collaborative venture forward. As next steps towards building this collaboration, it was agreed that the ISC would take the lead in:

- Identifying key societal transformations together with the scientific community, building on the work of the UN GSDR, IIASA, and SDCN.
- Developing a process for identifying the missions for societal transformations needed to realize the SDGs.

The group agreed to meet again in 2020 to present the outcomes of the identification process for the missions, and to discuss how to co-fund these missions through blended funding mechanisms. The existing consortium of partners will lead the planning and delivery of that event. The partners will also work to bring additional funders on board, including foundations and private sector organizations.