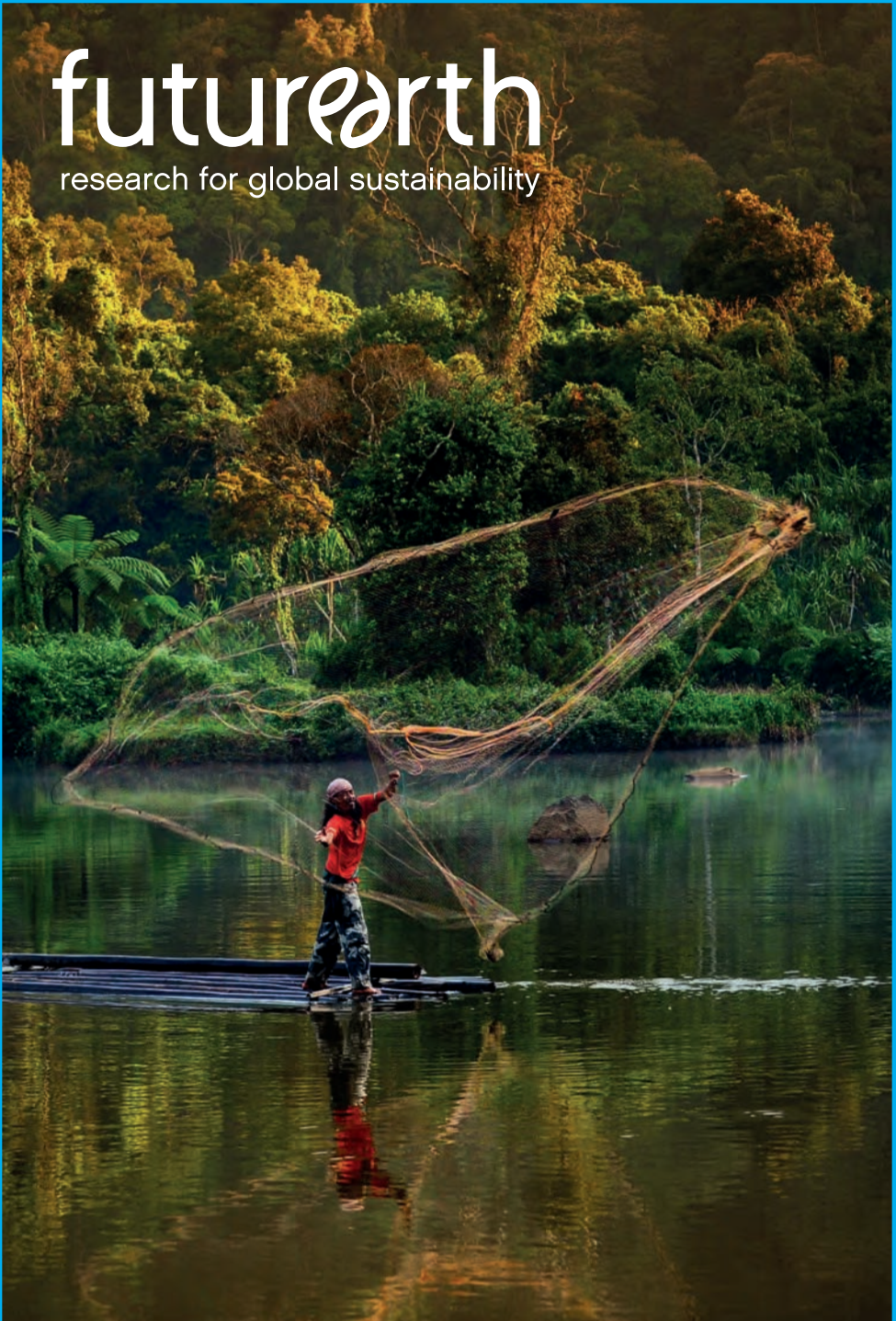


future^{earth}

research for global sustainability



8 challenges



1. Deliver water, energy, and food for all, and manage the synergies and trade-offs among them, by understanding how these interactions are shaped by environmental, economic, social and political changes.



2. Decarbonise socio-economic systems to stabilise the climate by promoting the technological, economic, social, political and behavioural changes enabling transformations, while building knowledge about the impacts of climate change and adaptation responses for people and ecosystems.



3. Safeguard the terrestrial, freshwater and marine natural assets underpinning human well-being by understanding relationships between biodiversity, ecosystem functioning and services, and developing effective valuation and governance approaches.



4. Build healthy, resilient and productive cities by identifying and shaping innovations that combine better urban environments and lives with declining resource footprints, and provide efficient services and infrastructures that are robust to disasters.



5. Promote sustainable rural futures to feed rising and more affluent populations amidst changes in biodiversity, resources and climate by analysing alternative land uses, food systems and ecosystem options, and identifying institutional and governance needs.



6. Improve human health by elucidating, and finding responses to, the complex interactions amongst environmental change, pollution, pathogens, disease vectors, ecosystem services, and people's livelihoods, nutrition and well-being.



7. Encourage sustainable consumption and production patterns that are equitable by understanding the social and environmental impacts of consumption of all resources, opportunities for decoupling resource use from growth in well-being, and options for sustainable development pathways and related changes in human behaviour.



8. Increase social resilience to future threats by building adaptive governance systems, developing early warning of global and connected thresholds and risks, and testing effective, accountable and transparent institutions that promote transformations to sustainability.

“ Future Earth is at the start of a remarkable ten-year journey. We are developing a new research field - Global Sustainability Science - and this must connect with society. Quite simply, this is essential for the long-term future of humanity.

– Paul Shrivastava,
Executive Director Future Earth.

A prerequisite for long-term human development is a stable Earth system. This stability, which has allowed civilisations to flourish, is now at risk. Nations have acknowledged the need to act through adoption of the Sustainable Development Goals and the Paris Agreement. Internationally coordinated research is an essential part of the solution.

Future Earth is an international research programme for global sustainability. We coordinate research to generate new knowledge and solutions relating to our dynamic planet, global sustainable development and transformations to sustainability. Our vision is for people to thrive in a sustainable and equitable world.

Future Earth aims at a partnership between the research community and the society. We bring the world's leading centres and experts in research for global sustainability into a single open network in order to support a more agile global innovation system.

Future Earth was launched at the 2012 United Nations Conference on Sustainable Development and at the 2012 Planet Under Pressure conference. We became fully operational in 2015 with the launch of five Global Hubs, four Regional Centres and the appointment of our first Executive Director. Future Earth will run for ten years from 2015.

“ Future Earth is now fully operational and has embarked on a very ambitious yet realistic research and implementation strategy. Oriented towards informed action in support of the 2030 Agenda for Sustainable Development, research and knowledge co-designed and co-produced through Future Earth will ensure a sound basis for the much needed transformative solutions towards sustainability.

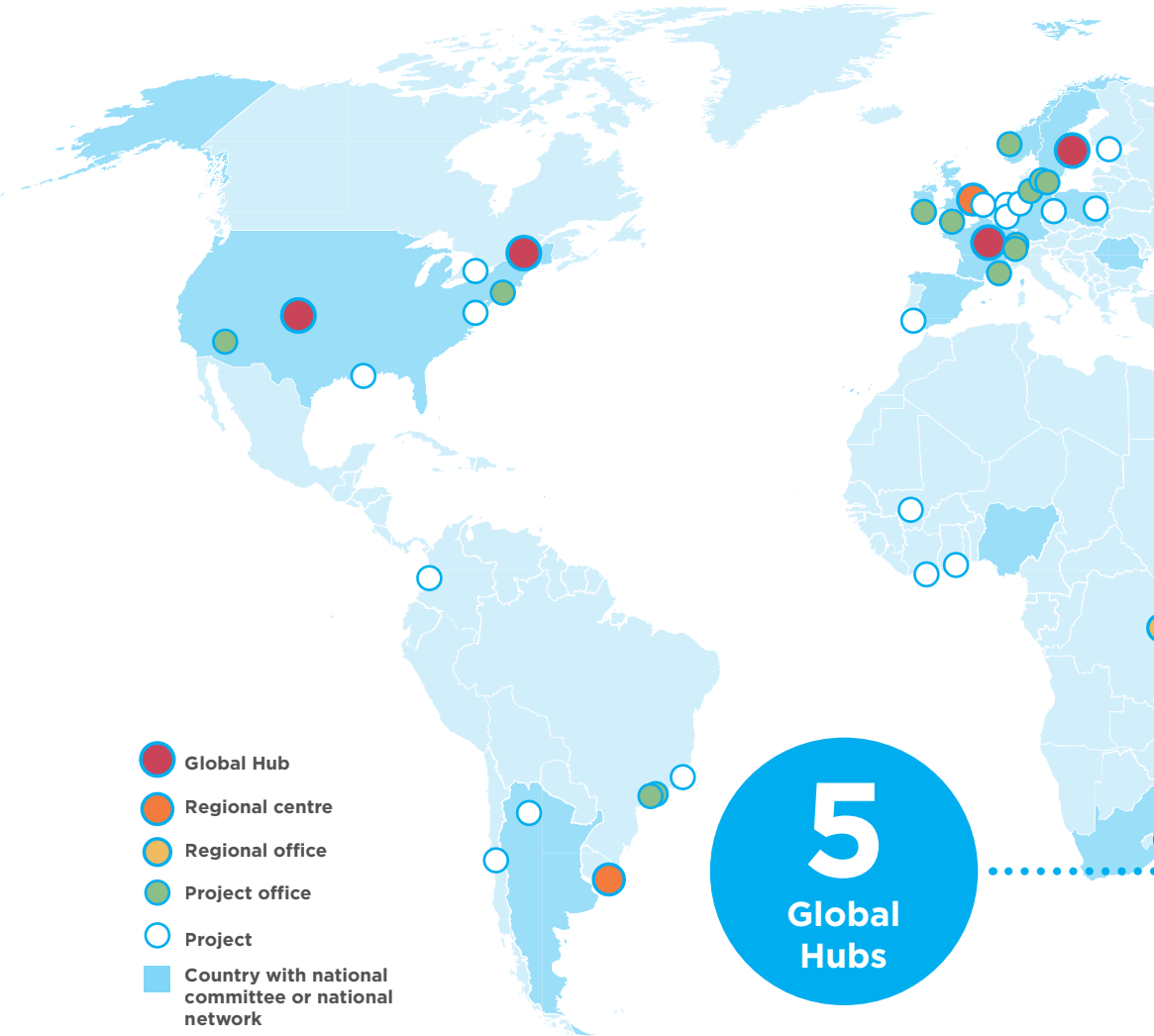
– Flavia Schlegel, Gordon McBean,
Co-chairs of the Future Earth Governing Council (2016)

Future Earth in numbers




50,000+

Our networks reach 50,000 global sustainability researchers and people interested in this research




- Global Hub
- Regional centre
- Regional office
- Project office
- Project
- Country with national committee or national network

5
Global Hubs

 **>20**

National networks established, and many more in progress

 **8**

Knowledge-Action Networks



>20

Global research projects



7

Regional centres and offices

Research

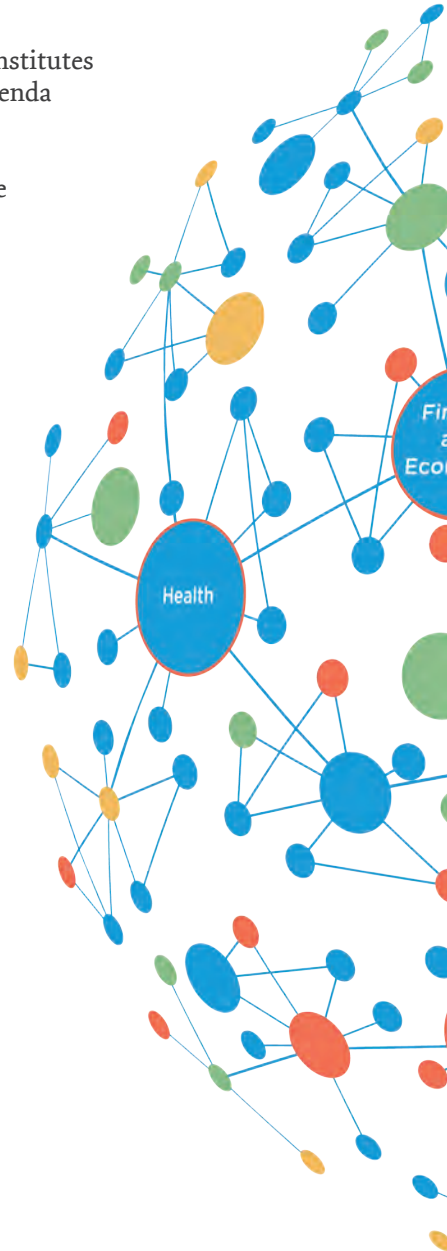
We are an open network of researchers, projects and institutes brought together around an international research agenda focusing on Global Sustainability Science.

We sponsor some of the world's leading global-change research initiatives; for example, the projects on Past Global Changes, International Global Atmospheric Chemistry, and Earth System Governance.

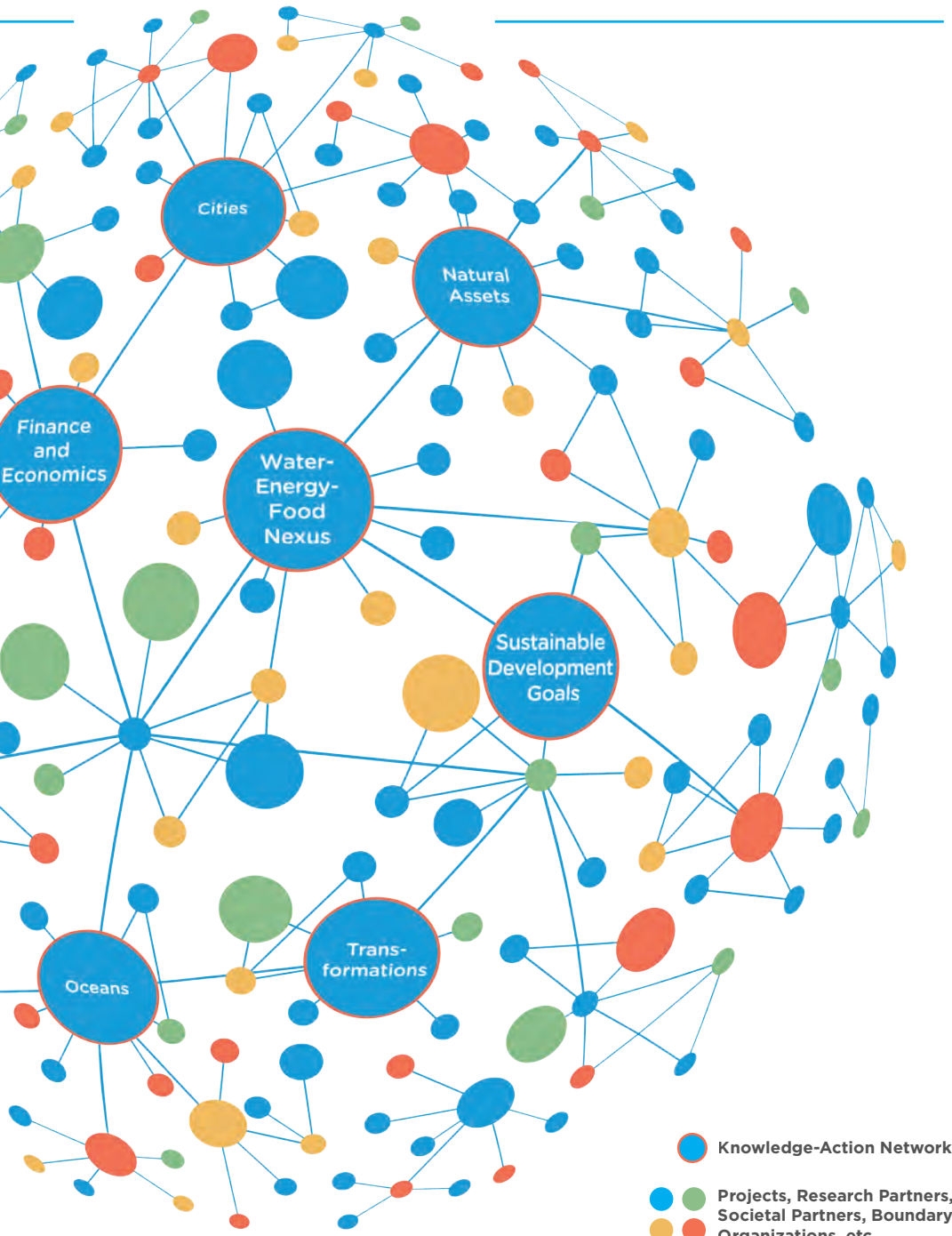
Our projects are truly global and focus on societally relevant research questions relating to all aspects of the Earth system – from biogeochemical cycles and biodiversity to international governance and societal transformation. Our research is solutions-oriented and aims to identify socially viable pathways to sustainability.






Our Knowledge-Action Networks bring societal partners into the discussion to catalyse co-designed research in key focal areas*:

- Water-Energy-Food Nexus
- Health
- Cities
- Natural Assets
- Sustainable Development Goals
- Transformations
- Oceans
- Finance and Economics



* The first networks launch in 2016. More will be developed in 2017/2018.



-  Knowledge-Action Network
-   Projects, Research Partners, Societal Partners, Boundary
-   Organizations, etc

Our engagement

Co-design and co-production of knowledge

We are exploring new ways for international research programmes to engage deeply with society. Co-design and co-production of knowledge in partnership with policymakers, businesses, NGOs and other societal actors are an integral part of our Knowledge-Action Networks. Our Engagement Committee as well as the Future Earth Open Network, an online platform for individuals, projects and organizations interested in sustainability, are the main tools to ensure collaboration between science and society.

International policy

We provide direct links into international processes and scientific assessments, coordinating input from the research community, organizing workshops and helping guide research agendas, including:

- United Nations Framework Convention on Climate Change
- Convention on Biological Diversity
- Sustainable Development Goals
- Intergovernmental Panel on Climate Change
- Intergovernmental Platform on Biodiversity and Ecosystem Services

Communications

Future Earth's projects often have high international media impact. We provide international media and communications support for our network. We run popular communications webinar series:

- Writing commentaries and editorials for mainstream and scientific media
- Writing blogs
- Social media
- Infographics and data visualization
- Science-communications-policy workshops

As well as science-communications-policy workshops. In 2016 /2017 we will develop MOOCs (Massive Open Online Courses) on subjects relating to the Anthropocene, global sustainability, communications and policy.

Future Earth Media Lab

The Future Earth Media Lab is a space for innovation. We work with science and media partners to develop cutting-edge digital products.

The team already has a track record in developing high-profile, high-impact media sites, data visualisations and events:

- *Globalcarbonbudget2015.org* (animation in English, Chinese, Spanish, French)
- *Anthropocene.info* (world's first website on the subject)
- *RoadToParis.info* (single issue journalism at the science-policy-economics nexus)
- *The Anthronaut Experience* (world's first series of virtual reality hackathons on the Anthropocene)

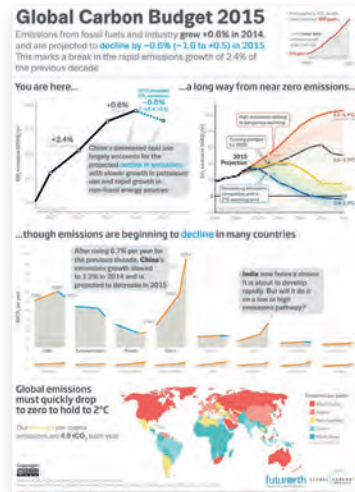


Our science

2015 Global Carbon Budget

In 2015, the Global Carbon Project published its 10th annual global carbon budget at the United Nations Paris Climate Summit (COP21). The results showed that emissions from fossil fuels and industry grew just 0.6% in 2014, breaking the rapid emissions growth of 2.4% of the previous decade.

C Le Quéré. *Earth System Science Data*, DOI:10.5194/essd-7-349-2015



Landmark study of plant traits

In 2016, researchers published two studies in *Nature* that used a global archive of plant traits – the TRY database, managed by Future Earth researchers – to gain a better understanding of how plant traits such as plant height, seed size and leaf area influence the way species evolve, survive, grow and reproduce. This work will help efforts to stem biodiversity loss in the face of increasing human pressure on our ecosystems.

Díaz, S. *et al* (2016): The global spectrum of plant form and function. In: *Nature* 529, 167–171

Kunstler, G. *et al* (2016): Plant functional traits have globally consistent effects on competition. In: *Nature* 529, 204–207



Global Research Projects

- **AIMES** – Analysis, Integration and Modelling of the Earth System
- **bioDISCOVERY**
- **bioGENESIS**
- **CCAFS** – Climate Change, Agriculture and Food Security*
- **ecoHEALTH**
- **ecoSERVICES**
- **ESG** – Earth System Governance
- **Future Earth Coasts** (former LOICZ)
- **GCP** – Global Carbon Project
- **GLP** – Global Land Project
- **GMBA** – Global Mountain Biodiversity Assessment
- **GWSP** – Global Water System Project
- **IGAC** – International Global Atmospheric Chemistry
- **IHOPE** – Integrated History and Future of People on Earth
- **iLEAPS** – Integrated Land Ecosystem-Atmosphere Processes Study
- **IMBER** – Integrated Marine Biogeochemistry and Ecosystem Research
- **IRG** – Integrated Risk Governance Project
- **MAIRS** – Monsoon Asia Integrated Regional Study
- **PAGES** – Past Global Changes
- **PECS** – Programme on Ecosystem Change and Society
- **SOLAS** – Surface Ocean–Lower Atmosphere Study
- **UGEC** – Urbanization and Global Environmental Change

*CCAFS is a research partner.

Publications



Future Earth 2025 Vision



Strategic Research Agenda 2014
(English, Japanese, Chinese)



Initial Design Report
(Chinese and English)

Get involved

We are an open network and we are launching an online platform for research collaboration. If you support our research agenda and vision, join us.

We facilitate partnerships with relevant stakeholders, and want to hear from stakeholders and funders on how we can better deliver on your global environmental challenges.

Join our mailing list. Tweet us. Facebook us. Connect on LinkedIn.



@futureearth



www.facebook.com/futureearth.org



Future Earth

Contact

Future Earth has Global Hubs in Montreal, Paris, Stockholm, Colorado and Tokyo. Furthermore, we have regional centres and offices in Japan, India, South Africa, Rwanda, Cyprus, Uruguay and the UK. See our website for addresses and contact details or email:

contact@futureearth.org

www.futureearth.org

futureearth
research for global sustainability

Photos: Ricky Martin/CIFOR (CC BY-NC 2.0), Nicolas Desagher/Azote, Sven-Erik Arndt/Azote, Jerker Lokrantz/Azote, André Maslennikov/Azote

Design: Jerker Lokrantz/Azote

Governing Council



UNITED NATIONS
UNIVERSITY



international social science council



ICSU

International Council for Science



United Nations
Educational, Scientific and
Cultural Organization



UNEP



World
Meteorological
Organization

Weather - Climate - Water

BELMONT
FORUM



SUSTAINABLE DEVELOPMENT
SOLUTIONS NETWORK
A GLOBAL INITIATIVE FOR THE UNITED NATIONS