

# Engaging with the Nature-Based Solutions Coalition for the Climate Action Summit

*Contribution from the United Nations Committee of Experts on Environmental-Economic Accounting*

## 1. Title/Heading

Mainstreaming Natural Capital Accounting for Climate Change Policy

## 2. Context and rationale

Nature-based solutions (NBS) which help protect, sustainably manage and restore ecosystems in support of climate change mitigation and adaptation will be key to tackling climate change. However, countries need credible and dependable data on the environment and economy in order to create effective, sustainable nature-based solutions for climate change. The System of Environmental-Economic Accounting (SEEA) was developed to provide a framework to measure the links between the environment and economic and societal well-being. By bringing together environmental and economic data, the SEEA provides a measurement framework that enables policy analyses, and an understanding of the economic pressures and drivers behind climate change.

The SEEA was adopted in 2012 by the United Nations Statistical Commission as the only international statistical standard for measuring the environment and its relationship with the economy. It is a statistical framework that brings together economic and environmental information to measure the condition of the environment, the contribution of the environment to the economy and the impact of the economy on the environment, in a structured accounting framework, in both physical and monetary terms.

As a statistical framework, the SEEA helps structure the production process for indicators describing the link between the environment and economy. By using a standard set of concepts, definitions, classifications, accounting rules and tables, countries compiling the SEEA are able to produce reliable data that can facilitate policy analysis and scenario modeling and effectively track progress over time. The concepts and definitions that constitute the SEEA are designed to be applicable across all countries, regardless of their level of economic and statistical development, their economic structure, or the composition of their environment. At the same time, the SEEA is flexible enough that countries can tailor their accounts to address their specific policy needs when it comes to climate change mitigation and adaptation.

The SEEA does not recommend specific indicators but focuses on providing a systematic and methodologically sound approach to compiling environmental-economic statistics, thus lending rigor to the calculation of many indicators used to assess specific aspects of sustainable development, including tackling climate change. Therefore, the advantage of the SEEA is that it ensures that indicators are defined and compiled in a methodologically coherent way, so as to better serve their ultimate purpose of informing policy and supporting the monitoring of progress.

The SEEA framework consists of two parts, the SEEA Central Framework (SEEA CF) and the SEEA Experimental Ecosystem Accounting (SEEA EEA). The SEEA CF looks at individual environmental assets, such as energy, water, forests and fisheries resources and how those assets are extracted from the environment, used within the economy and returned back to the environment in the form of emissions into air, water and waste. The SEEA EEA complements the SEEA CF and represents international efforts toward a coherent accounting approach to the measurement of ecosystems. Ecosystem accounts enable the presentation of data and indicators of the level and value of ecosystem extent, ecosystem condition and ecosystem services (such as carbon sequestration, water provisioning and soil retention) in both physical and monetary terms in a spatially explicit way. A revision of the SEEA-EEA is underway and scheduled to be completed by 2020.

Implementation of the SEEA has increased as more and more countries realize the necessity of collecting integrated data on the environment and economy when promoting sustainable development. More than 80 countries have compiled SEEA CF accounts and more than 30 countries have compiled SEEA EEA accounts.

In particular, several countries have recognized the value of the SEEA for understanding effective NBS for climate change. The UN Statistics Division, the United Nations Environment Programme, the Secretariat of the Convention on Biological Diversity and the European Union are currently implementing the Natural Capital Accounting and Valuation of Ecosystem Services ([NCAVES](#)) project in Brazil, China, India, Mexico and South Africa. The project's main objective is to mainstream natural capital accounting and valuation of ecosystem services in decision making and policy. For example, in Mexico, the NCAVES project will include the piloting of ecosystem accounts for national land and ecosystem extent accounts; ecosystem condition accounts; and ecosystem services accounts, including accounts for carbon storage and sequestration, crop provisioning, water supply and coastal protection. These ecosystem accounts will be used to conduct scenario modeling, enabling policy that accounts for externalities, an understanding of potential trade-offs and promotes effective NBS for climate change.

In addition, in China, the NCAVES project is supporting the Chinese government's commitment to sustainable economic growth through an ecological civilization. Under the project, UNSD will be working with the Chinese National Bureau of Statistics and Chinese Academy of Sciences to develop accounts for forests, farmland, grasslands, freshwater, marine and urban areas. The information from the accounts is planned for use in setting ecosystem compensation standards in the Guangxi Zhuang Autonomous Region and Guizhou province. In addition, the ecosystem

accounting pilot work is proceeding in parallel with a broader effort in China to establish “natural resource balance sheets,” which will inform policy and decision making by providing information on the physical and monetary stocks and changes in stocks of natural resources over time.

Also, the World Bank [WAVES Global Partnership](#) has been working with developing countries since 2012 to develop SEEA accounts and mainstream their use into policy. The objective is to promote sustainable development by ensuring that natural resources are mainstreamed in development planning and national economic accounts. WAVES is currently active in 18 countries and have 5 associated countries which have finalized their WAVES program and are now continuing by themselves. Many of these countries develop ecosystem accounts to be used for sustainable land use and water management, with the aim to safeguard and promote ecosystem services like soil retention, micro -climate regulation, water regulation and coastal protection. In particular, the Philippines have developed account on coastal protection services by mangroves and coral reefs. Ecosystem accounts are also being developed to inform coastal protection planning within the World Bank West Africa Coastal Areas (WACA) program.

### 3. An overview of the contribution

The SEEA is a flexible and modular framework which allows countries to compile accounts that address their policy priorities and needs. SEEA accounts can support policy analysis and scenario modeling for nearly all the potential NBS themes noted. The table below indicates which SEEA accounts can support which NBS themes:

Potential NBS theme	Applicable SEEA accounts
Scaling up preservation and restoration of forests, land and marine ecosystems	Ecosystem extent accounts, land accounts, forest accounts, carbon accounts, environmental protection expenditure accounts
Conservation and restoration of wetlands	Ecosystem extent accounts, ecosystem condition accounts, ecosystem services accounts, carbon accounts, environmental protection expenditure accounts
Comprehensive treatment of soil erosion	Soil accounts, ecosystem extent accounts, ecosystem condition accounts, environmental protection expenditure accounts
Prevention of desertification	Ecosystem extent accounts, ecosystem condition accounts, environmental protection expenditure accounts
Eco-corridors and protection of biodiversity	Ecosystem extent accounts, ecosystem condition accounts, ecosystem services

	accounts, species accounts, environmental protection expenditure accounts
Climate compatible agriculture and food systems	Agriculture, forestry and fisheries accounts; ecosystem services accounts
Regenerating ecosystems of the ocean and natural reserve systems with national parks as the mainstay	Ecosystem extent accounts, ecosystem condition accounts, environmental protection expenditure accounts

In addition, scenario modeling guidance is being developed under the NCAVES project. This guidance will outline the use of ecosystem accounts in policy scenario analysis in the context of the SEEA and address several of the potential NBS themes.

**4. How the contribution leverages living natural systems as a solution to avert climate change?**

Through physical and monetary accounts, the SEEA provides an integrated understanding of the contributions of the environment and ecosystems and their services to climate change mitigation and adaptation. Its integrated systems approach clarifies the major drivers of climate change and ecosystem changes, identifies key trade-offs and supports the development of NBS. In addition, by providing accounts for both individual environmental assets and ecosystems, the SEEA provides a wholistic picture of climate change and its connections to biodiversity, ecosystems and the economy.

**5. How might the contribution support both climate, mitigation and adaptation as well as other important co-benefits and social, economic and environmental outcomes in coming years. They may include:**

- i. Reduction in carbon emission and carbon capture (GTonnes):**  
SEEA air emission accounts and carbon accounts can reliably capture information on carbon emissions and carbon capture/storage in countries.
- ii. Net economic impact (total in US\$; how was it achieved?)**  
SEEA accounts can be compiled in both physical and monetary terms. The SEEA is closely aligned with the System of National Accounts (SNA), from which GDP is derived. Thus, the SEEA allows for indicators such environmentally adjusted GDP, which accounts for the depletion and degradation of the environment.
- iii. Impact on realization of the 2030 Agenda for Sustainable Development (in particular SDGs 1, 2, 6, 12, 13, 14, 15, 16)**  
The SEEA can help inform 40 indicators for nine SDGs, including SDG 2, 6, 7, 8, 9, 11, 12 14 and 15.
- iv. Minimising species extinction and ecological losses and fostering an increase of biodiversity.**

Species accounts and ecosystem extent, condition and services accounts can provide statistics for an informed understanding of biodiversity, including the drivers of biodiversity loss.

## **6. Which countries and organisations are involved in the contribution?**

The UN Committee of Experts on Environmental-Economic Accounting (UNCEEA) and the UN Statistics Division, as Secretariat of the UNCEEA are involved in the contribution. The UN Committee of Experts on Environmental-Economic Accounting (UNCEEA) was established by the UN Statistical Commission at its 36th session in March 2005. The UNCEEA functions as an intergovernmental body to provide overall vision, coordination, prioritization and direction in the field of environmental economic accounting and supporting statistics. Approximately 25 countries (both developed and developing) are part of the UNCEEA and the UNCEEA is currently chaired by Statistics Netherlands.

Over 80 countries in all regions of the world currently compile the SEEA. Please see [here](#) for more information.

## **7. How have stakeholders (for example local communities, youth and indigenous peoples, where applicable) been consulted in developing the contribution?**

The development of the SEEA was mandated to the UNCEEA by the United Nations Statistical Commission. Both the development of the SEEA CF and SEEA EEA have been collaborative processes between national statistical offices of UN member states and scientific, conservation, academic, geospatial and policy communities.

## **8. Where can the contribution be put into action?**

The concepts and definitions that constitute the SEEA are designed to be applicable across all countries, regardless of their level of economic and statistical development, their economic structure, or the composition of their environment. At the same time, the SEEA is flexible enough that countries can tailor their accounts to address their specific policy questions, thereby informing national initiatives in addition to global initiatives.

## **9. How the contribution will be delivered? How will different stakeholders be engaged in its implementation? What are the potential transformational impacts?**

By bringing together economic and environmental information, the production of SEEA accounts requires a multidisciplinary, cross-sectoral effort by nature. The national statistical offices play an important role in coordinating the national statistical systems and in integrating the information into the accounts providing credible, replicable and trusted data. A vast majority of countries that have compiled SEEA accounts have instituted cross-agency and/or cross-sectoral working groups or technical committees to harness synergies and promote data sharing. In turn, by presenting integrated data and indicators to policy makers, the SEEA promotes an integrated and multidisciplinary policy response.

**10. Is this initiative contributing to other Climate Action Summit workstreams (industry transition; energy transition; climate finance and carbon pricing; infrastructure, cities and local action; resilience and adaptation; youth and citizen mobilization; social and political drivers; mitigation strategy)?**

There is an opportunity for the SEEA to provide the framework to create an information base that links environmental issues to the economy and can contribute to measuring the impacts of transition programs, infrastructure investment and climate policy. Considering the regional cases that the climate-based solution website highlights, there is a distinct need for national and global context when highlighting successes or needs in these themes.

**11. How does this contribution build upon examples of experience to date? How does the contribution link with different ongoing initiatives?**

More than 80 countries have compiled SEEA accounts. The SEEA links with several ongoing initiatives and projects. Relevant projects include The Economics of Ecosystems and Biodiversity (TEEB), NCAVES, [KIP-INCA](#) and the [MAIA](#) project. Relevant policy initiatives include green growth, circular economy, beyond GDP, the Gaborone Declaration for Sustainability, the Aichi Targets (Strategic Goal A, Target 2) and post-2020 Agenda and the SDGs.

It should be noted that NCAVES project is significantly contributing to the development of the SEEA EEA methodology and the use of the accounts for policy, including NBS. The partner countries of Brazil, China, India, Mexico and South Africa are piloting a range of ecosystem accounts in physical and monetary terms and the results of these pilots will inform the revision of the SEEA EEA (to be completed by the end of 2020). The pilot accounts will also be applied to scenario analysis based on national policy priorities. The results of the accounts and their application to policy in these countries will be communicated through a variety of products, increasing awareness of the role of the SEEA for policy applications within the project countries and beyond.

**12. What are the mechanisms for funding (with specific emphasis on potential for partnerships)?**

Country implementation of the SEEA is usually done through the National Statistical Office or the Ministry of Environment. The NCAVES project is funded by the E.U. Partnership Instrument.

**13. What are the means of stewardship, metrics for monitoring?**

The UN Committee of Experts on Environmental-Economic Accounting (UNCEEA) was established by the UN Statistical Commission at its 36th session in March 2005. The UNCEEA functions as an intergovernmental body to provide overall vision, coordination, prioritization and direction in the field of environmental economic accounting and supporting statistics. Approximately 25 countries (both developed and developing) are part of the UNCEEA, and the UNCEEA is currently chaired by Statistics Netherlands.

The UNCEEA reports to the UN Statistical Commission, the highest body of the global statistical system, which brings together the Chief Statisticians from member states from around the world.

**14. What is the communication strategy?**

The current UNCEEA communications strategy can be found [here](#). The main modes of communication include the SEEA website (seea.un.org) and communication to the SEEA community via the SEEA newsletter ([SEEA News & Notes](#)).

**15. What are the details of proponents (indicating the degree of commitment among the countries and organizations that are named).**

Various modules of the SEEA are mandated in the E.U. (air emissions, physical energy flow, material flow, environmental taxes and subsidies, and environmental protection expenditure accounts). In addition, the SEEA is explicitly included in the National Strategy for the Development of Statistics (NSDS) of several developing countries.