United Nations Climate Change Global Innovation Hub

Ninth Systemic Innovation Workshop

Workshop Report

Date: 16th September 2024

Venue: B Hotel, SHN Q 5 Bloco J Lote L - Asa Norte
Brasília, DF, Brazil

United Nations Climate Change
Global Innovation Hub

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1 Executive Summary

The UN Climate Change Global Innovation Hub (UGIH) successfully conducted its Ninth Systemic Innovation Workshop at the B Hotel, Brasília, Brazil, on September 16th Monday, 2024. The objectives of the workshop were fourfold:

- To provide cities and counties (rural and urban) a physical space in the form of a workshop, where they can, with their solution providers, backcast and translate into directional goals, then challenges their long-term vision on how their citizens will satisfy their core human needs while aligning with climate and sustainability goals. These long-term visions of cities and counties (rural and urban) are referred to as the Future Outlook of Rural and Urban Counties.
- To discuss possible challenges that the solution providers participating in the workshop may face in reinventing their organization based on their current assets and their current and/or to be built distinctive competence, skills, and expertise, with a view to being relevant to the Future Outlook of Cities and Counties (rural and urban).
- To explore whether, for some of these challenges for Cities and Counties (rural and urban) and their solution providers, a cluster of climate and sustainability solutions is available for upscaled deployment.
- To identify the priority missing solutions that need to be developed or the existing solutions for which we need to accelerate and upscale the deployment and formulate the related critical Innovation Projects

UGIH's Systemic Innovation Workshops were launched in 2023 as part of a wider Systemic Innovation Framework that aims to accelerate the identification, development, and effective deployment of innovative technologies, policies, financial instruments, and business models, as well as cooperative approaches and products from culture and creative industries. This framework supports transformative climate and sustainability innovations to address the needs of the many people and the planet. Since its launch, UGIH has successfully organized nine workshops in the following cities that have resulted in the ideation of twenty-two global innovation projects:

- Bonn, Germany (June 2023 and June 2024)
- New York, USA (September 2023)
- Riyadh, Saudi Arabia (October 2023)
- Dubai, UAE (December 2023)
- Bangalore, India (May 2024)
- Johannesburg, South Africa (July 2024)
- Shenzhen, China (September 2024)
- Brasília, Brazil (September 2024)

UGIH's Ninth Systemic Innovation Workshop (SIW) was organised with the support of the State Chancellery of Mecklenburg-Vorpommern, Germany, along with viventure Partners, YvY Capital, CNA, OMA, ORIZON, CNT and CAIXA. The workshop featured engaging plenary sessions and seven focused breakout group discussions. The opening remarks were delivered virtually by Massamba Thioye, Project Executive of UGIH, who provided a comprehensive introduction to UGIH, elaborating on its vision, mission, core values, and operational framework. This was followed by keynote addresses from Ms. Manuela Schwesig, President of the Federal Council and Ministerpräsidentin des Landes

Mecklenburg-Vorpommern, Germany, and Mr. Adalberto Maluf, National Secretary of Urban Environment and Environmental Quality, Brazil.

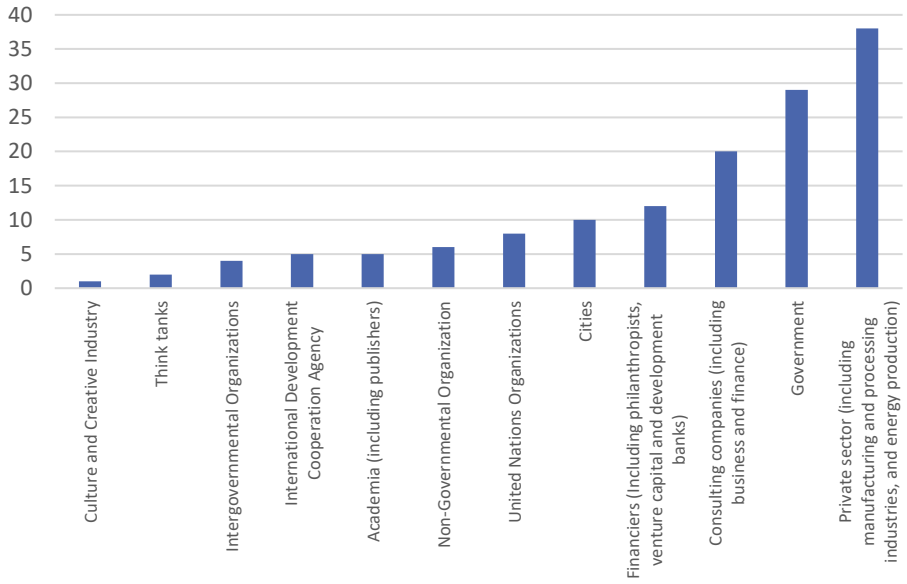
The next session was a high-level panel discussion featuring Mr. Adalberto Maluf (National Secretary of Urban Environment and Environmental Quality, Brazil), Mr. Patrick Dahlemann (Chief of State Chancellery, Mecklenburg-Vorpommern, Germany), and Mr. Marcelo Freire (Chief Green Officer, YvY Capital). The panel brought together perspectives from the public and private sectors on the challenges of developing and deploying transformative climate and sustainability solutions.

A second-panel discussion, moderated by Ms. Diana Schröter (Chief of Staff, Viventure), focused on challenges faced by cities and local governments. Panellists included Mr. Michael Sack (County Mayor, Landkreis Vorpommern-Greifswald, Germany), Mr. João Inácio Laufer (Mayor, Municipal de Quatro Pontes – Paraná, Brazil), Mr. Danny Rodewald (Mayor of Pasewalk, Germany), and Mr. Antonio Queiroz Barreto (Undersecretary of Agricultural Economic Policies, State Secretariat of Agriculture, Brasília, Federal District, Brazil). Discussions highlighted issues such as investment in green fuels, capacity building, waste recycling awareness among citizens, and other local sustainability challenges.

These panel discussions were followed by reaction sessions, where solution providers responded to challenges raised by city representatives. Experts in agriculture, biogas, and transport proposed potential solutions. Notably, Mr. Dietrich Lehmann from Mele Group shared insights into innovative solutions developed by Mele Group.

In the subsequent session, participants were divided into focused groups for in-depth discussions on challenges identified earlier. These breakout discussions led to the ideation of eight innovation projects. A plenary session concluded the workshop, featuring presentations of these innovation projects and contributions from Saskia Berling (Director for Brazil, KfW Development Bank), Marco Diogo (Head of EIB Global Representation to Brazil, European Investment Bank), Jochen Quinten (Country Director, GIZ Brazil), Timon Lepold (Environment and Climate Attaché, German Embassy in Brazil), and Mr. Patrick Dahlemann.

The 9th SIW gathered 140 representatives from Germany and Brazil across business, science, politics, and development finance. Approximately 80% attended in person, while the rest participated virtually. The figure below illustrates the organizational breakdown of the participants.



2 Summary of the Breakout Groups Discussions

The participants were divided into seven breakout groups to address challenges and develop solutions in the areas of energy, education, mobility, circular economy, and sustainable agriculture. A summary of the discussions is provided below.

2.1 Renewable Energy

The group discussion focused on the challenges of implementing innovative solutions in renewable energy, including biogas projects and the development of biofuels. Access to funding was identified as a major barrier. The group highlighted that obtaining financial guarantees from institutions such as banks posed a significant challenge for innovators. The discussion aimed to explore solutions to address the financing gaps for renewable energy projects.

2.2 Future of Green Energy: Biogas

The discussion centered on scaling biogas and biomethane projects within the region and exploring strategies for global sales. Participants also discussed carbon certificates and regulatory frameworks in South America and Europe, emphasizing the importance of compliance and market opportunities in these regions.

2.3 Future of Green Energy: Hydrogen

The group discussed ongoing innovative green hydrogen projects in Germany and the potential for transferring these technologies to Brazil. Green electricity from photovoltaics, hydropower, solar, and wind is cheaper in Brazil than in Europe, creating an opportunity to apply German technologies and concepts. Participants explored the potential for technology transfer from Germany to Brazil in the coming years, with the goal of developing large-scale hydrogen production capacities, particularly for local production and consumption. Brazil, one of the world's largest food exporters, is also the largest importer of fertilizers. Ammonia, a byproduct of hydrogen energy production, presents an opportunity for Brazil to leverage its own green hydrogen production to create fertilizers, promoting sustainable food production for global supply.

2.4 Education

The group discussion focused on transforming mindsets to promote a deeper connection with nature, moving away from an anthropocentric worldview. They emphasized the importance of education in creating critical awareness and tailored sustainable experiences. Engagement with various stakeholders, including schools, businesses, and civil society is required for this transformation. The group also discussed the shift toward a biocentric approach that places all living creatures at the center of environmental protection, fostering conscious change through methodologies like Theory U and design thinking.

2.5 Mobility

The discussion focused on making mobility more sustainable through innovative solutions, with an emphasis on short-term, technology-driven approaches. Key challenges identified included a lack of financing and the absence of a regulatory framework for the quality of biofuels, as well as ensuring their integration into the national grid. The group explored Hydrotreated Vegetable Oil (HVO), a drop-in technology that does not require changes to

engine systems in the transportation sector. While Brazil has already started nationwide production of HVO, the discussion centered on increasing its accessibility. Two regulatory mechanisms that could be helpful were identified: environmental impact assessments to quantify carbon benefits and funding to support greater accessibility. Although HVO is a more expensive energy source, it is feasible to make it more accessible. Given the existing organic waste and biogas production in Brazil, HVO and other biofuels could be produced from these sources.

2.6 Circular Economy

The group emphasized that waste segregation is a crucial first step in implementing a circular economy, particularly in the early stages. The discussion focused on waste management and recycling, with special attention given to the need for distinct separation of industrial waste, such as metals. For municipal waste, strong segregation processes are already in place. There are also existing solutions for segregating industrial and agricultural waste. The key challenge identified for circular economy projects was financing. A proposed solution was the introduction of a credit system for plastics and CO2. Brazil has several initiatives already underway, with waste pickers integrated into these processes, ensuring social inclusion and the involvement of vulnerable groups. A similar initiative, Greenfields in Paraná, serves as a model for scaling such projects, demonstrating that there is no need to reinvent the wheel as many successful initiatives are already in progress.

2.7 Sustainable Agriculture and Food

The group discussed the challenges and opportunities in aligning Brazilian agricultural and food products with EU organic standards, with a particular focus on sustainability practices. A German fish company expressed interest in importing products from Brazil, but meeting EU standards was a key requirement. While Brazilian producers implement various sustainability measures, they lack mechanisms to quantify and demonstrate compliance with EU or global standards, which creates a barrier to trade. The discussion explored opportunities for collaboration between German and Brazilian stakeholders to address this issue. The group highlighted the need for partnerships involving companies, universities, and governments from both countries to bridge this gap, facilitate smoother trade, and promote sustainability.

These productive discussions led to the creation of eight global innovation projects. These projects were ideated as concrete outcomes from the workshop and will be further developed by the project proponents with support from the UGIH.

3 Proposed Global Innovation Projects For Addressing The Challenges

Project 1: Export of Organic Food **Theme:** Agriculture	***Description***: The proposed project aims to foster collaboration between German and Brazilian universities, companies, and governments to align Brazilian agricultural products with EU organic standards. The goal is to develop methods for measuring and comparing sustainability practices, aligning Brazilian standards with EU requirements. This collaboration would involve knowledge transfer from Germany, including expertise in standards evaluation and certifications, and adapting these processes to Brazilian contexts to facilitate import of organic food from Brazil to Germany.
Project 2: Councilors' Engagement Program with the Sustainable Development Goals – SDGs **Theme:** Education	***Description***: The objective is to train city councillors from all over Brazil to integrate the SDGs into their agendas and promote public policies that meet local needs and contribute to tackling climate change. This project address adult education to the SDG´s. Methodological innovation in the education of adults with the responsibility of creating local laws and conduct for the people in the territory. A lot of the councillors need a specific approach to be engaged and trained in SDG´s.
Project 3: Innovation of Sustainable Mobility **Theme:** Access	***Description***: This project aims to leverage innovative sustainable mobility solutions through a variety of green fuels, including HVO, biomethane, and green hydrogen. Innovative financial instruments are identified as crucial for making renewable fuels accessible and competitive with fossil fuels. Funding is needed for the production, storage, and distribution of alternative energy fuels, as well as for the development of new technologies. Local constraints, such as the limited availability of HVO and ethanol for heavy-duty vehicles, are key considerations. The project seeks to establish a platform for the energy transition in the mobility sector, beginning with more feasible energy sources like biofuels, such as HVO (also known as Green Diesel).
Project 4: Green Finance Distribution Mechanism **Theme:** Finance	***Description***: This project aims to establish a fund-of-funds model. A large central fund will be created, with smaller funds or assets in different locations of the projects. These smaller funds can actively monitor and assess the risks and challenges associated with the project, providing closer oversight and mitigation strategies. One of the key issues addressed is the difficulty in securing guarantees for funding from banks, which this model seeks to reduce by minimising risk. A financial body will manage the central fund, while the smaller funds will be based in the states where the projects are located. The benefits of this model include reduced risk for asset managers. Additionally, a digital platform will be developed to provide transparent information on the funds and projects. This model has the potential to be replicated in other sectors as well.

Project 5: Mindset Transformation Through Deep Listening **Theme:** Education	***Description***: The project focuses on mindset transformation to upgrade systems and help people realize that humanity is not separate from the environment but is inherently part of nature. The initiative will use education to create critical information through tailored sustainable experiences. Laboratories and prototypes will be developed for various stakeholders, including schools, municipal councils, corporate managers, civil society, students, educators, businesses, and others. The aim is to shift from an anthropocentric worldview to a biocentric one, where every living creature is seen as central to the protection and transformation of the entire system. Additionally, safe spaces will be created to facilitate conscious change. The project will use methodologies such as Theory U and design thinking to drive this transformation.
Project 6: Gas-COOP: Blueprint for a Regionally Interconnected, Globally Scaleable Biogas - Plant – Cluster **Theme:** Energy	***Description***: The goal is to set up a regionally interconnected "cluster" of biogas plants which produce biomethane from pig manure. A blueprint shall be developed including a financial assessment/concept together with a valid business model for the production of biogas/bio methane. The blueprint will first be developed on market conditions/regulations in Brazil. The vision is to transfer (scale) the concept to other regions like Vietnam, Indonesia and others with strongholds in pig production. The focus will be on technological Innovation (quality, amount of raw material, …) Improvement of living conditions; Environmental protection; and Strengthening regional economy.
Project 7: Agents of Change: Orchestrating the Recycling Chain **Theme:** Waste Management	***Description***: The project aims to create an integrated value chain by incorporating local waste pickers and recycling companies, financed through CO2 and plastic credits/certificates. It seeks to implement a recycling ecosystem by integrating and educating local waste pickers, while aligning them with established value chains. However, potential conflicts may arise if the integration is insufficient. The project holds high scaling potential across different Brazilian states, supported by credit/certificate-based financing. A similar initiative is the Greenfields project in Paraná.
Project 8: Sustainability Methodologies for Tropical Agriculture **Theme:** Agriculture	***Description***: The project aims to develop a new methodology for measuring carbon emissions from tropical agriculture and find common sustainable practices to facilitate international trade, widening the sustainability data availability. This project aims to level the field of data availability on sustainability for tropical agriculture. The main idea is to connect worldwide researchers to expand the methodologies available to measure carbon emissions from agriculture to generate new data that can enhance national inventories for Brazil and other tropical countries. It also has the goal to compare international sustainable agriculture practices to create common ground on what is considered a "green food product" based on the capacity, legislation and NDCs of different countries.

Photo Gallery