



**Birchwood OR Tambo Conference Centre Johannesburg, South Africa
3 – 5 March 2027**

Concept Note

1. Background and Rationale

Agriculture is central to Africa's economy and food security but also a major growing source of greenhouse gas (GHG) emissions. While innovations for low-emission, climate-resilient agriculture exist, uptake remains low by smallholder farmers who dominate production on the continent. Factors accounting for the low uptake include limited capacity of farmers for effective implementation, policy incoherence and poor coordination among responsible institutions as well as insufficient private sector engagement.

The Africa-wide AgriGHG Research and Innovation Symposium (AWIS 2027) will bring together researchers, innovators, and industry leaders to promote learning, share evidence, and develop collaborative pathways to scale impactful solutions. The symposium will serve as a platform to showcase agricultural GHG mitigation innovations, evaluate progress, and define clear pathways for their further development, uptake, and scaling.

This initiative builds on the outcomes of the 2025 Science-Policy Dialogue on Agricultural GHG Research Priorities, convened by the Qnisa Initiative and AgriDENZ Alliance. The dialogue called for stronger African ownership of the agricultural GHG research agenda and advocated for repositioning Africa from a carbon credit source to a market-maker. It also emphasized the need for a clear value proposition that prioritizes enhanced production efficiency and trade competitiveness, with GHG mitigation framed as a co-benefit.

2. Symposium Objectives

The overall objective of the symposium is to facilitate productive exchange, showcase and promote effective GHG mitigation strategies in the agri-food sector, and to generate fresh momentum for their development, refinement, uptake and scaling.

Specific objectives

- Deepen understanding of emerging agricultural GHG research, innovation and policy, with a focus on their interpretation, prioritisation, and implications for the environment, trade competitiveness and market access globally.

- Showcase proven and emerging innovations in agriGHG mitigation, highlighting scalable solutions from research institutions, the private sector, and development partners.
- Catalyse multistakeholder coalitions and pathways for action to accelerate the uptake, commercialization, and scaling of proven innovations - moving beyond community-building toward concrete follow-up, experimentation and measurable impact across the continent.

3. Symposium Theme and Sub-Themes

Theme: Shaping Africa's Low-Emission Agricultural Future: Discover. Connect. Scale.

This theme reflects the growing recognition that both proven and emerging technologies and practices can reduce emissions while maintaining productivity and trade competitiveness. Realizing this dual potential in the African context requires greater awareness, targeted investments, and the strategic scaling of effective innovations.

Grounded in an action-oriented framework, the symposium is organized around three core pillars: **Discover. Connect. Scale.** These pillars represent a collective approach to advancing a low-emission future for African agriculture by:

- Discovering context-specific opportunities and innovations, including those that need support to reach adoption maturity;
- Connecting with other experts to foster strategic collaborations that align expertise, funding, and policy support; and
- Scaling proven solutions by driving the investments and systemic changes needed for broad and lasting impact.

Together, *Discover. Connect. Scale.* represents more than a strategy—it is a shared commitment to unlocking Africa's potential through low-emission agriculture, *anchored in science, driven by innovation, and powered by collaboration.*

Sub-themes:

(i) Innovations for emissions reduction and Measurement, Reporting and Verification

This theme will focus on practical technologies aimed at reducing methane (CH₄), nitrous oxide (N₂O), and carbon dioxide (CO₂) emissions from agri-food systems. The foundational research and technical systems that support the effective management, quantification, and reporting of GHG emissions in agriculture will be highlighted.

Under this theme, we will explore how evidence from agricultural practices can inform Africa's GHG research and reporting initiatives. The focus will be on ensuring that innovations for tackling GHG emissions are practical, regionally relevant, and aligned with Africa's food security priorities, resource constraints, and stakeholder needs while contributing to global emission reduction efforts.

Advancements in MRV systems, including innovative tools and models for tracking emissions across crops and livestock systems will be showcased. Key topics will include:

- Emission measurement methodologies and life-cycle assessments
- Digital technologies (e.g., remote sensing, AI) for data collection and monitoring
- Mitigation technologies like feed additives, nitrification inhibitors, and alternate wetting and drying
- Conservation practices that support both monitoring and emissions reduction.

(ii) Soil Health and Nutrient Optimization Innovations

Focusing on soil health, carbon sequestration, and nutrient management, this theme will highlight practices that improve productivity while enhancing environmental outcomes with emphasis on the synergy between soil carbon storage, water retention and optimized nutrient/fertilizer use.

Key topics will include:

- Climate-smart soil management (cover crops, agroforestry, integrated soil fertility)
- Organic amendments and synthetic fertilizer efficiency
- 4R Nutrient stewardship (right source, rate, time, and place) and precision application techniques
- Co-benefits of improved soil practices for resilience, yields, and emissions mitigation.

(iii) Food Loss and Waste (FLW) Innovations

This sub-theme will highlight strategies and technologies that reduce post-harvest losses and food waste across agricultural production value chains. Topics include cold chain innovations, improved storage, processing techniques, redistribution systems, and circular economy approaches, emphasizing their role in reducing emissions and improving resource efficiency.

(iv) Enabling Environment and Carbon Market Systems

This sub-theme will explore the social, institutional, policy, and market conditions necessary to accelerate the development, uptake, and scaling of agricultural GHG mitigation innovations across Africa.

Key focus areas will include:

- Inclusive governance, gender-responsive approaches, and institutional capacity building
- Strengthening education and extension systems to support farmer adoption
- The role of science and evidence-based policymaking in shaping enabling environments
- Multi-stakeholder coordination mechanisms for effective implementation and scale
- Carbon credit infrastructure and market systems to support robust, equitable carbon trading in agriculture.

Additionally, the track will address how to build systems that ensure integrity, transparency, and community benefits in agricultural carbon markets. Specific areas of interest include:

- African-led MRV and carbon credit verification systems
- Development of digital platforms and national carbon registries
- Community ownership models and benefit-sharing frameworks
- Policy and regulatory alignment to support compliance-grade carbon markets

4. Symposium Structure

The symposium will span three days, comprising:

- Scientific and Technical Sessions: Keynote presentations, panel discussions, and research paper presentations across sub-themes.
- Side Events: Organised by participating institutions to deepen discussions on specific themes or initiatives.
- Exhibitions: Showcasing innovations from research institutions, agribusinesses, and start-ups.
- Poster Presentations: Dedicated session for one-on-one interactions with poster authors.

5. Expected Outcomes

- Strengthened partnerships and collaboration for agricultural GHG mitigation
- Increased awareness and visibility of promising low-emission agricultural innovations
- Identification of key research gaps and investment priorities
- Concrete actions to support scaling of infrastructure and agricultural GHG mitigation solutions in Africa
- Enhanced capacity of researchers, practitioners, and institutions

6. Expected Participants

The symposium will attract a wide range of stakeholders from Africa and globally, including:

- National and international agricultural research institutions
- Universities and academic experts
- Development agencies and donor organizations
- Farmer organizations and agribusinesses
- Private sector actors and technology providers
- Policymakers and government representatives
- Civil society and youth groups
- International organizations (e.g., FAO, CGIAR, UNFCCC, GRA)
- Research Organizations (National and International)
- Industry (e.g. Food Processors, Millers, Exporters)
- Regulatory Bodies
- Professional Associations/Societies
- Blockchain registry platforms (e.g. Open Forest Protocol, Toucan)
- Carbon rating agencies (e.g. Sylvera, BeZero)
- Global and African carbon exchanges (e.g. ACX, Xpansiv)
- Local verification firms
- Climate legal experts

7. Co-convenors and Planning

The symposium will be co-convened through strategic partnerships with both African and international institutions, drawing on the diverse expertise, networks, and mandates of key stakeholders committed to agricultural transformation and climate action.

On the African continent, emphasis will be placed on engaging institutions that are already part of the QInisa Initiative's network, as well as other relevant organisations. Potential co-convening partners include, but are not limited to the Technology Innovation Agency (TIA), Department of Science, Technology and Innovation (DSTI), Agricultural Research Council (ARC), AgriDENZ, AUDA-NEPAD, Global Methane Hub, CCARDESA and the United Nations Framework Convention on Climate Change (UNFCCC) Regional Climate Centre for East and Southern Africa.

To ensure effective coordination and delivery, a multistakeholder Planning Committee will be established. This committee will oversee the development of the symposium program, mobilize financial and in-kind resources, coordinate partner contributions, and support outreach and communications. Reflecting the symposium's inclusive approach, the committee will include representatives from research, policy, civil society, development partners, and the private sector.

8. Funding

The symposium will be jointly funded by the convenors and a range of interested local and international partners. A multi-pronged resource mobilization strategy will be adopted to ensure successful delivery of the event. Funding will be sourced through the following avenues:

- **Partner Institutions:** Collaborating institutions will explore cost-sharing arrangements and submit joint funding proposals to support the symposium's core activities.
- **Government and Development Agencies:** Funding applications will be submitted to relevant national research bodies and government agencies, as well as to international development partners and embassies.
- **Private Sector and Philanthropic Foundations:** Proposals will be submitted to foundations whose interests align with agricultural innovation and climate action in Africa.
- **Corporate Sponsorships:** Support will be solicited from private companies in relevant sectors (e.g., agribusiness, biotechnology, renewable energy) in exchange for visibility opportunities including brand promotion and speaking slots.
- **Registration Fees and Sponsorship Packages:**
 - *Registration Fees:* A modest registration fee will be charged to help offset costs, with waivers available for students and early-career researchers.
 - *Tiered Sponsorship Packages:* Gold, Silver, and Bronze sponsorship packages will be offered to accommodate various levels of support and partnership.
- **In-kind Contributions:** Contributions such as venue use, printing, equipment, and event management support will be sought from institutional partners. Graduate students and early-career researchers will also be engaged as volunteers in exchange for participation benefits, reducing staffing costs and enhancing capacity-building outcomes.

This diversified funding approach will not only ensure the financial viability of the symposium but also promote a sense of ownership and shared commitment among stakeholders.

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