

HAlow: Health Approaches for Lowering Livestock Emissions

A Proposed Global Research Alliance (GRA) Flagship Initiative

The Opportunity

Livestock systems contribute approximately 40% of global agricultural methane emissions. Animal health conditions reduce productivity, resource-use efficiency, and reproductive performance — thereby increasing emissions intensity. Yet animal health has rarely been incorporated into climate mitigation strategies for livestock systems, and many countries currently lack the tools, harmonized approaches, and institutional capacity needed to incorporate animal health interventions into national climate planning, reporting, and investment processes.

Unlike single-outcome mitigation interventions such as feed additives or dietary modifications, animal health improvements generate quantifiable co-benefits across productivity, welfare, economic performance, resilience, and One Health dimensions — yet without integrated quantification approaches, this distinctive value remains difficult to evidence and finance. HAlow will strengthen the scientific and policy foundations linking animal health improvements with reductions in livestock greenhouse gas (GHG) emissions, while supporting food security, farmer livelihoods, and climate resilience.

What HAlow Will Do

HAlow will establish a coordinated international research program to generate harmonized evidence linking animal health interventions with greenhouse gas emission reductions, productivity gains, and economic benefits. The Flagship will support integration of this evidence into national climate mitigation planning, reporting, and investment processes, building the integrated case required to position animal health as a credible and investment-ready mitigation pathway

Central to HAlow are two complementary tools developed by an interdisciplinary team:

- **A scientific framework** spanning 11 components — covering animal health conditions, interventions, physiological functions, climate, economics & markets, management practices, GHG emissions, human health, policies & regulations, environment, and sociocultural aspects
- **Policy guidelines** that translate the framework into practical, decision-relevant guidance for integrating animal health into climate policy and planning processes

Both tools are applicable across livestock species and production systems — from intensive to pastoral — and will be applied across diverse country contexts to generate comparable, policy-relevant evidence.

Work Program

HAlow will focus on three interconnected areas of work:

1. Establish a Coordinated International Platform

- Bring together national research teams, policy stakeholders, and (where relevant) inventory practitioners
- Synthesize existing datasets and identify quantification gaps
- Embed early-career researchers (CLIFF-GRADS, PhDs, Postdocs) in national teams

- Build structured peer learning and technical exchange across countries

2. Apply and Adapt Harmonized Analytical Approaches

- Apply the scientific framework across participating countries to generate comparable evidence across production systems and geographies
- Deliver in-depth LMIC demonstrator case studies
- Produce peer-reviewed synthesis and practical methodological guidance

3. Support Pathways for Policy and Reporting Uptake

- Engage policy stakeholders and (where relevant) inventory practitioners to identify country-specific entry points
- Develop policy-relevant summaries and technical briefs
- Establish lasting linkages between research teams and policy communities

Participation

The initiative will launch with participation from **at least eight countries across Africa, Latin America and the Caribbean, Asia, Europe, and Oceania**, with ambition to expand to up to 30 countries over time. Participating countries can contribute data and expertise, engage in methodological development, join training and capacity-building activities, and collaborate on policy and climate finance integration.

Expected Outcomes

HALow will deliver:

- Harmonized analytical approaches linking animal health, livestock productivity, and emissions across diverse production systems
- Multi-country evidence base demonstrating the climate mitigation potential of animal health interventions
- Strengthened national analytical capacity for integrated livestock health–climate assessment
- Clear pathways for incorporating animal health into climate mitigation planning and related reporting processes
- Investment-ready case studies and policy guidance to support climate finance mobilization
- A scalable coordination model applicable across GRA member countries

Together, these outcomes aim to establish animal health as a recognized pathway for reducing livestock greenhouse gas emissions globally.

Partners and Support

The initiative is hosted by the GRA Animal Health Network and builds on collaboration within the Global Research Alliance on Agricultural Greenhouse Gases, drawing on the Livestock Research Group and the Inventories and MRV Network. Approximately USD 1 million in confirmed support has been secured through contributions from the Global Methane Hub, Environmental Defense Fund, Edinburgh Napier University, and partners within the GRA Animal Health Network — covering project coordination, six CLIFF-GRADS placements, and case studies in three LMICs.