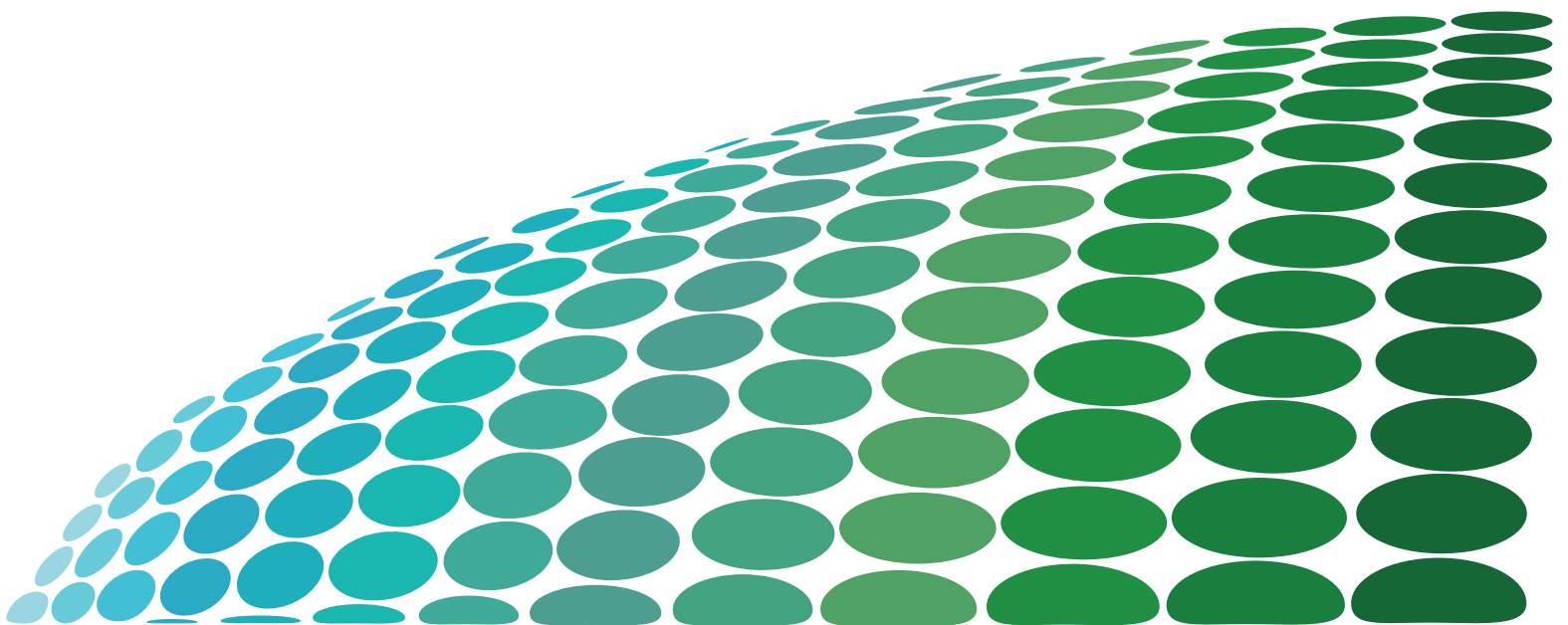


2025

ANNUAL HIGHLIGHTS

Global Research Alliance on Agricultural Greenhouse Gases



Introducing the 2025 GRA

COUNCIL CHAIR

Dr. Karl Walsh



Dear GRA Members and Partners,

It is a great honour to address you as Chair of the Council of the GRA. Ireland, through our Department of Agriculture, Food and the Marine, was a founding member of the GRA in 2009 and is delighted to take on the role of Chair for the first time during the 2025/2026 period.

The EU's climate change service, Copernicus, confirmed that the threshold set by the 2015 Paris Agreement to reduce the impacts of climate change was passed for the first time in 2024. We know that agri-food systems are a major contributor to climate change, accounting for about a third of global GHG emissions. So the urgency has never been greater to advance our scientific understanding of agricultural greenhouse gases and their mitigation. We need to identify and pursue emerging and promising fields of research to develop mitigation technologies that are efficacious, safe, affordable and widely available to farmers. The GRA has a critical role to play here and must remain at the forefront of such global efforts.

Ireland's Role and Objectives



At a high level, Ireland's objectives for its period as Chair are to strengthen international collaboration, drive scientific innovation, and support global efforts toward more sustainable and climate-resilient food systems. More specifically, we wish to further the reputational profile and leadership of the GRA, advance research priorities to address both mitigation and food security, and continue to build the momentum and resourcing of the GRA to advance solutions. Ireland is also supporting projects of the Council, particularly around the development of the new strategic plan and a review of the structure of the GRA, as well as representing the GRA at international fora.

We look forward to welcoming the GRA members and partners to the Council Meeting in Dublin in June 2025. Alongside this, we have planned a series of meetings and events for delegates, including a gala dinner, an agriculture and climate conference, tours to a research centre and farm, and other social networking opportunities.

Finally, I want to welcome Pakistan to the GRA family as our new member country. Represented by the Global Climate-Change Impact Studies Centre, their membership brings important new perspectives and expertise to the GRA and we look forward to working with them collaboratively in the months and years ahead.

Karl Walsh
GRA Council Chair
Ireland



A message from the GRA

SPECIAL REPRESENTATIVE

Dr. Harry Clark

Reducing emissions globally is challenging, particularly for the agricultural sector which needs to reduce emissions while feeding a growing population. Recently we have seen greater investment by countries, industry, and philanthropic organisations in agricultural mitigation solutions, meaning that the GRA's objectives of increasing global research collaboration, building research capacity, and developing strong partnerships is as relevant as ever. However, increased resources and associated new initiatives and multistakeholder partnerships brings challenges, as does increased demand on those working on agricultural greenhouse gas mitigation solutions. It is perhaps a good problem to have but it does mean that the GRA needs to critically evaluate its role to ensure that what it does and how it does it - remains fit for purpose.



It was a pleasure to continue as the GRA's Special Representative during 2024-25. A particular highlight was the G20 Chief Agricultural Scientists meeting in Brazil in May 2024 where I outlined the GRA's contribution to the global efforts to reduce agricultural emissions. I will represent the GRA at the May 2025 event in South Africa with an invited presentation on the role of Climate Smart Agriculture in food system resilience. Another highlight was speaking at AGRIGHG 2024, a collaboration between the GRA, the CGIAR and the German Federal Research Institute Theunen. Hosted by the German Federal Ministry of Food and Agriculture, the conference was attended by 200 delegates from 40 countries.

The unique strength of the GRA was well demonstrated via the work I undertook with one of our Partners, the CCAC, when organising a global survey utilising the GRA networks to obtain improved information on the likely adoption rates of a suite of GHG mitigation measures. The survey elicited close to 450 responses and will have a significant influence on how mitigation measures are quantified in a major CCAC report on agricultural emissions and air quality.

Other important initiatives have been the expansion of inventory training programmes to help GRA members to move from Tier 1 to Tier 2 accounting protocols for agriculture, and the joint work with the Global Methane Hub and the Environmental Defense Fund on the role of animal health interventions in reducing GHG emissions.

I have been involved in the GRA since its inception meeting in 2010 and seen it grow from an initial memorandum of understanding between around 24 countries to an influential 68 member country organisation. In my view it has been successful. However, the world is very different to 2010. The 2025 Council meeting comes at a critical juncture. A new 5-year strategic plan is being developed to guide what we do, how much we do, and how we do it. It is tasked with examining the appropriateness of the Research Group structure. I urge all Members to participate in these discussions to help ensure that the GRA remains relevant to you.

Harry Clark
GRA Special Representative





UPDATES FOR 2025

New Initiatives



Science to Policy Working Group

The GRA Council established a Science to Policy working group to build and strengthen dialogue between scientists and policy makers and advocate for policy co-development models and practices.

We aim to enhance the power of science as a driving force in decision making. Members and Partners can utilise the strong networks of scientists and governments from around the world within the GRA to grow better understanding and inclusive policies.

1

**New member
country**



3

**Research Group
meetings**



10

Webinars



30

**Newsletters &
Publications**

The Qinisia Initiative

The GRA supported the establishment of the Qinisia Initiative that is making significant strides toward enhancing cooperation, communication, and innovation in agricultural greenhouse gas (GHG) research across Southern Africa.

The initiative is dedicated to improving coordination and fostering partnerships that enable access to validated data and knowledge in support of sustainable, climate-smart agriculture. Qinisa has joined one of the national task teams developing sectoral emission targets for South African industries—demonstrating its commitment to influencing policy and implementation.

AGRIGHG SYMPOSIUM

The International Research Symposium on Agricultural Greenhouse Gas Mitigation from Research to Implementation took place in Berlin, Germany on 21-23 October 2024. It was hosted by the Federal Ministry of Food and Agriculture (BMEL) and organised by the Thünen Institute.



This event brought together researchers and relevant stakeholders from all over the world to discuss options for climate change mitigation measures, their implementation and win-win solutions for scaling up climate action in agriculture, with particular attention to the Global South. Discussions addressed possible roadmaps to increase ambition for climate mitigation in agriculture, ways to improve science-policy communication, future work under the Global Research Alliance of Agricultural Greenhouse Gas mitigation as well as specific research topics with high potential for implementation. The Livestock and Integrative Research Groups as well as the Inventories & NDC and the Animal Health Network hosted their annual meetings in Berlin, Germany on the margins of the 2024 Agri-GHG Symposium.



Livestock Research Group

"The theme of the 14th annual meeting of the LRG was "Mitigation in action"., building on 13 years of working collectively to advance global research activities and building capacity for reducing livestock GHG emissions. With members from 22 countries attending, alongside multiple partner organisations, the attendees had opportunity to hear from the LRG's five networks, explore potential opportunities, discuss science to policy engagement, and help advise and refine priority activities for the LRG in the coming year. ."

Animal Health Network

"The AHN met to discuss and develop key components of a new project aimed at reducing emissions from livestock systems through improved animal health. This project will look at the intersection between animal health, methane, and climate change in 5 different countries."



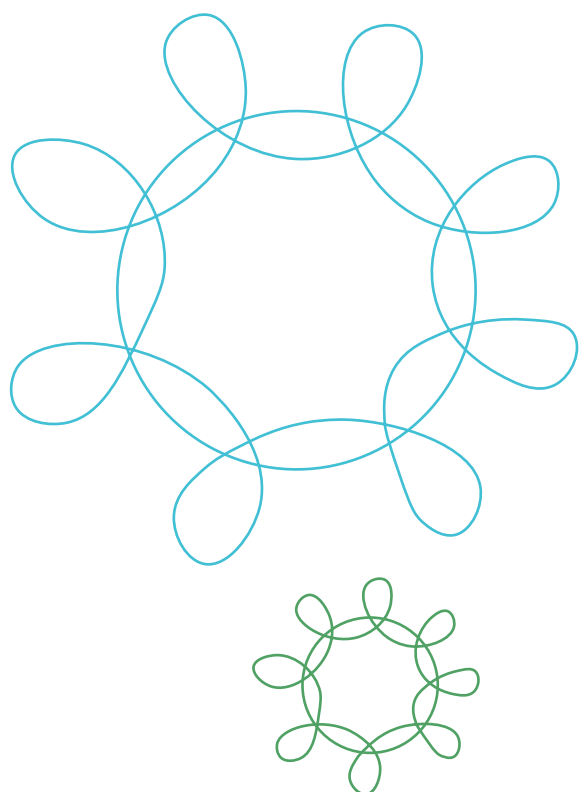
Integrative Research Group

"The IRG met to discuss the synergies across its networks and steps to further develop these connections. An outcome of this event was the idea to have an IRG workshop presenting the tools of each network to better understand the synergies and the gaps that need to be filled."

Inventories & NDC Network

"The INDC meeting had a focus on the science to policy interface. The key outcome was a consensus on prioritising investing in people. The INDC will take on board the dissemination of information, capacity building, and linking people/projects with finance options."





Global Research Alliance Agricultural Inventory Training



Fiji and Samoa are receiving support from the New Zealand (NZ) government to build capability in estimating GHG emissions from key livestock categories.

The programmes consist of in country training workshops covering:

- Introduction and Training of Advanced Methodologies
- Improvement of Inventory Accuracy
- Strengthening Data Collection and Analysis
- Fostering Collaborative Engagement

Four workshops (2 for each country) have been delivered over the last year. Countries were supported in between workshops to develop their own Tier 2 Inventory for selected key categories, development of improvement plans and holding of National Validation workshops.

A Study Tour to NZ further enhanced the training and support participants received. The tour focused on: Data collection protocols that NZ uses for collecting data for their National Inventory, as well as improvements over time, barriers, and solutions.



Participants from the Philippines also joined the Pacific delegation on the study tour which built on the Agricultural inventory capability building programme they were receiving under the NZ Climate Smart Agriculture initiative, also funded by the NZ Government.

The Fiji project is a good example of the ethos of the GRAIT programme, that being the coordination of activities within a country to avoid duplication of work with other funders. The project was designed to support projects already being implemented in Fiji, by filling the gaps and providing foundation training to support the objectives of the other projects.





THE POWER OF *Indigenous Research Network* INCLUSIVITY

In August 2024, the Indigenous Research Network (IRN) brought its APEC workshop series 'The Power of Inclusivity' to life in Trujillo, Peru. The Power of Inclusivity was born to explore indigenous-led strategies for addressing climate change impacts on food systems and to influence policymakers and scientists to recognise and empower the view of young indigenous leaders in global climate decisions and actions.

This joint GRA-APEC workshop series was hosted by New Zealand and co-sponsored by Australia, Canada, Peru, and the United States. It has become a prime example of how the GRA works collaboratively with other multilateral organisations like APEC to recognise the value that traditional knowledge and practices have in addressing climate change issues. Delivered through two workshops, the Power of Inclusivity series included representatives from 41 different countries and gained the IRN 17 new member countries.

“Inclusivity is empowering others to participate, lead, and thrive at all levels.”

Participants of this workshop series:

- recognised that inclusion is not just about representation; it's about recognising the value of every voice.
- acknowledged the interconnectedness between culture and climate and the importance of uniting even the most diverse perspectives to build a sustainable future.
- designed actionable outcomes to be implemented in their organisations to directly support and create opportunities for young indigenous leaders.

The Power of Inclusivity set the stage for future collaboration, ensuring that indigenous youth continue to have a platform in global conversations, decisions, and actions about food systems, agriculture, and climate change.



BUILDING CAPABILITY

From 24 to 28 February 2025, CIHEAM Zaragoza hosted the advanced course on:



'Cattle Breeding for Low Methane Emissions: From farm measurement to genetic progress'

The training activity was jointly organised by CIHEAM Zaragoza, the Basque Institute for Agricultural Research and Development (NEKER), and the Global Research Alliance on Agricultural Greenhouse Gases (GRA); in collaboration with Wageningen University and Research (WUR) and the National Institute for Agricultural and Food Research and Technology of the Spanish National Research Council (INIA-CSIC).

The aim of this course is to teach the process required to include methane as a trait in breeding programmes. At the end of the course, participants were expected to:

- be able to create genetic models and estimate genetic parameters for methane traits;
 - understand how to screen and manipulate raw datasets provided by methane measuring devices;
 - be aware of different proxies to estimate methane emissions;
 - Know the advantages and disadvantages of different methane measuring devices on farm;
 - understand the concept of breeding programmes and how to implement methane traits;
 - know about different breeding programmes implementing methane traits.



The course attracted 43 participants from 21 countries across Europe, Africa, America, and Oceania. Attendees included researchers, academics, and representatives from breeders' associations and genetic companies working in cattle breeding to reduce methane emissions. Delivered by 15 prominent lecturers from international universities, research centres, and companies, the course fostered an exchange of experiences and perspectives among participants and lecturers. The programme combined lectures with practical work, technical visits, and case studies.

FROM SCHOLARSHIP

Growing leadership and impact in the GRA

TO FLAGSHIP



Alumni becoming leaders in the GRA...

The CLIFF-GRADS scholarship marked a pivotal moment in Dr. Florencia Garcia's career, providing advanced training in methane mitigation and rumen metabolism while fostering international research connections. During her research stay in Chile, she explored the effects of inhibiting methanogenesis on nitrogen and fatty acid metabolism in dairy cows, gaining hands-on experience with key methane measurement techniques. This deepened her

understanding of hydrogen dynamics in the rumen—knowledge she later applied as part of the coordination team for the GRA Feed Additives Flagship Project.

Capability building to global collaboration...



Leveraging her CLIFF-GRADS experience, Florencia played a key role in managing contributions from over 60 researchers across 23 countries and coordinating the development of six technical guidelines. Her journey reflects the lasting impact of CLIFF-GRADS—not only through research stays but also through its broader capacity-building efforts that strengthen scientific expertise, enhance professional skills, and empower emerging leaders in climate-smart livestock research.

Accomplishments of the Feed Additives Flagship...

The GRA Feed Additives Flagship Project: Technical Guidelines for Methane Mitigation has published a comprehensive set of technical guidelines to accelerate the development and implementation of methane-reducing feed additives. Released as a special open-access issue of the *Journal of Dairy Science* in January 2025, this milestone brings together contributions from over 60 experts across 23 countries and 46 institutions.

The guidelines address six critical areas of feed additive development: identifying promising compounds, testing in animals, modeling impact, understanding mechanisms of action, navigating regulatory frameworks, and accounting for methane reductions. Each article provides science-based recommendations tailored to both researchers and the livestock industry.

Feed additives are a promising tool to reduce enteric methane emissions from ruminants, a significant source of agricultural greenhouse gases. By translating cutting-edge nutritional science into practical guidance, this initiative supports global efforts to mitigate climate change. The guidelines are freely accessible and aim to build scientific consensus and trust in feed additive solutions, supporting more rapid and coordinated adoption worldwide. This publication marks a major step forward in aligning international research and policy efforts toward reducing methane from livestock production.

Check out recent GRA



PUBLICATIONS

Livestock Research Group



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Integrative Research Group



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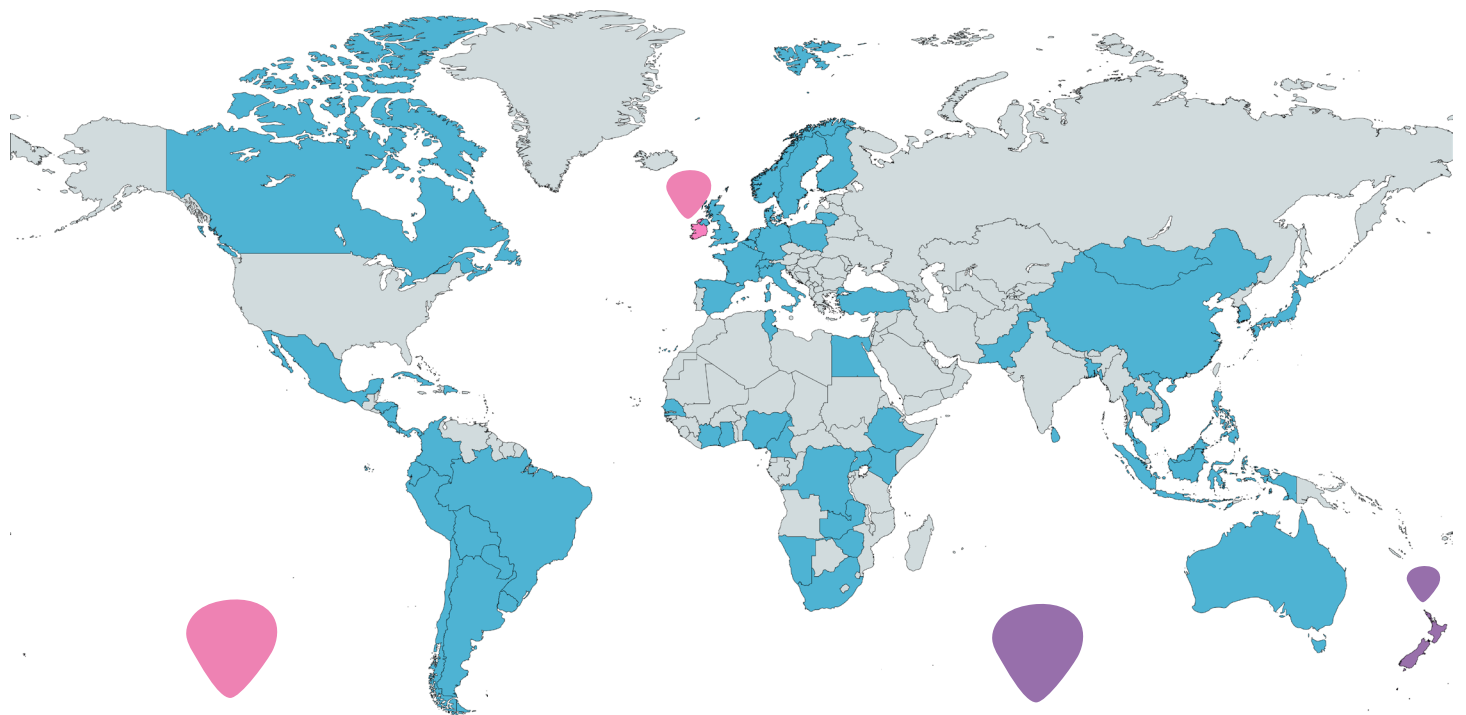




GLOBAL RESEARCH ALLIANCE

on agricultural greenhouse gases

68 member countries and 29 partner organisations working collaboratively, finding ways to grow more food without growing greenhouse gas emissions.



GRA Chair
Ireland (2025)

GRA Secretariat
New Zealand

Global Research Alliance on Agricultural Greenhouse Gases (GRA)
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