Climate-Smart Agriculture and Food System Initiative
Knowledge Mobilization and Implementation Coordination Hub: Funding Opportunity

1. Overview

Genome Canada launched its new challenge-driven **Climate Action Genomics Initiative funding** opportunity on **May 12, 2022**.

The new opportunity, called the Climate-Smart Agriculture and Food Systems Initiative (hereafter "the Initiative"), is investing $30 million from Genome Canada in cutting-edge genomic research and innovation to reduce greenhouse gas emissions and the carbon footprint of Canada's food production systems to build their resiliency, environmental sustainability and economic viability.

The scope of this funding opportunity includes areas where genomic technologies are used to help achieve net-zero emissions by 2050 and reduce the carbon footprint of Canada's agriculture and food production system. Projects should seek solutions that will increase the value created by production systems without increasing greenhouse gas emissions or amplifying negative impacts on the natural environment.

The Initiative will fund a portfolio of Interdisciplinary Challenge Team (ICT) projects that will be supported, coordinated and connected through cross-cutting programs in knowledge mobilization, data coordination and implementation. This portfolio approach allows the benefits from one solution to be applied to other food production systems or supply chains such that the impacts can cascade throughout the broader food system.

Knowledge mobilization and implementation will be critical components of the Initiative. The projects within the portfolio will intentionally and regularly connect, convene and learn from each other to drive greater collective impact.

To that end, this Initiative will fund two cross-cutting coordination Hubs: the Data Coordination and Collaboration Hub (hereafter "the Data Hub"), which will focus on data, and the Knowledge Mobilization and Implementation Coordination Hub (hereafter "the KMIC Hub"), which will focus on knowledge mobilization and implementation. These Hubs will provide administrative, technical and coordination leadership to the project portfolio with a focus on:

- Intentionally connecting projects across the ICT portfolio.
- Supporting the coordination and alignment of portfolio activities across projects.
- Engaging stakeholders and end users at the portfolio level.
- Adding value to project outputs.
- Addressing gaps to create portfolio coherence in achieving impacts.

The KMIC Hub will possess broad and specific knowledge, skills and expertise in genomics in society (GIS)—a field that encompasses the environmental, economic, ethical, legal and social aspects of genomics (GE^3LS) research—as well as skills in stakeholder relations, partnership development, project management, stakeholder and end-user engagement,

policy and regulation, economics, and implementation science. These skills and knowledge areas will equip the KMIC Hub to lead and coordinate cross-cutting GE^{3}LS research and activities at the portfolio level and to launch and manage other knowledge mobilization activities that will help drive the adoption of genomic solutions and mobilize knowledge to help the portfolio deliver net carbon reduction.

Notably, the KMIC Hub will focus initially on developing mechanisms and structures to enable the ICT teams to connect with the Hub. The Hub will work with ICTs to refine, co-create and harmonize project-specific knowledge mobilization and implementation plans into a single unified portfolio plan. This plan should describe an ambitious yet practical vision of what a Canadian KMIC Hub for climate genomics could be and how it will work across the portfolio of projects to support Canada's goals to achieve net-zero emissions by 2050 and to reduce the carbon footprint of its agriculture and food production system.

It will be critically important for the KMIC and Data Hubs to work together to coordinate their activities across the portfolio, informing each other's data and knowledge mobilization portfolio-level strategies. Both Hubs will require formal mechanisms and structures to ensure coordination and co-creation of work across the portfolio and with each other. Governance structures will support this. Genome Canada and the relevant Genome Centres will have ongoing, direct relationships with the Hubs to drive strategic objectives in knowledge mobilization and data coordination.

2. Objectives

The objective of this funding opportunity is to support a single pan-Canadian team that will develop and implement a portfolio-level knowledge mobilization and implementation plan for Genome Canada's Climate-Smart Agriculture and Food Systems Initiative. The team will coordinate knowledge mobilization and implementation activities to ensure that research and investments produce the intended impacts and outcomes. Consistent with the overall Initiative objective, this will include undertaking key GE^{3}LS research at the portfolio level and advancing genomic technologies and policies that have the potential to measurably mitigate climate change by reducing carbon emissions and increasing carbon sequestration.

3. Funding available and term

- Only one pan-Canadian team will be funded.
- Up to $2.1 million of Genome Canada funding will be available for the KMIC Hub project. This includes up to $700,000 for the first phase and up to $1.4 million for the second and third phases.
- A detailed budget is required for the first phase. A high-level budget is required for the second and third phases.
- Co-funding that is at least equal to the Genome Canada contribution is required.
- There is a 100 per cent co-funding commitment for the first phase at the time of the release of funds.
- The term is five years.

4. Phased approach

It is important to have a strong knowledge mobilization and implementation voice at the portfolio level during the planning stages of the Initiative. It is also important to recognize that it will take time to develop a meaningful and realistic knowledge mobilization and implementation plan across the portfolio and to secure the right expertise, skills and

capacity to action this plan. In recognition of these factors, a phased approach to activities and funding is being undertaken.

Phase 1. Engagement and development of the portfolio knowledge mobilization plan. During years one and two, the KMIC Hub will:

- Establish **mechanisms and structures** (e.g., regular meetings, working groups, training, education etc.) across the portfolio to:
  - understand the needs of both the projects and the portfolio
  - build awareness, knowledge and expertise across the portfolio
  - coordinate and co-create work across the portfolio.
- Identify **gaps and opportunities** at the portfolio level (e.g., policy, engagement) and develop a plan to address gaps and leverage opportunities (e.g., GE^{3}LS research).
- Identify and engage **key external stakeholders**—including end users, policy- and decision-makers, under-represented groups and industry—to inform the work and drive uptake and implementation.
- Pilot the **foundational activities** of the KMIC Hub. These will be positioned as demonstration projects to inform and prepare for the implementation phase.
- Advance the **harmonization** of project-specific knowledge mobilization and implementation plans into a portfolio plan.

During this phase, it will be important for **the KMIC Hub and Data Hub to establish mechanisms and structures to work together**, coordinate efforts and co-create portfolio-level plans and activities.

Expected outputs at this stage include:

- Evidence of structures in place to coordinate and co-create the knowledge mobilization and implementation work across the portfolio and with the Data Hub.
- Outputs and learnings from pilot or demonstration projects.
- A comprehensive portfolio knowledge mobilization and implementation plan (e.g., identified audiences, impacts with targets and evaluation criteria, a communications approach, stakeholder engagement, key activities with milestones, timelines and deliverables, and key partners). GE^{3}LS research activities, such as methods development, can be included as appropriate to ensure the success of the KMIC Hub.

The Portfolio Oversight Committee will review these outputs and recommend what is required to move to the next phase.

Phase 2. Implementation of the portfolio knowledge mobilization plan. To initiate this phase, the KMIC Hub and the Data Hub will have their portfolio plans approved at the end of phase 1. Within years three and four, the KMIC Hub will work on completing the portfolio knowledge mobilization and implementation plan. The transition from the development phase to implementation will provide an opportunity to update the project budget and bring new skills and partners aboard to align with the activities.

For example, this phase could include targeted investments in the development of a new genomics-related industry national standard, the development of a tool to allow for carbon accounting across the portfolio, research, the hosting of a policy forum with key decision- and policy-makers, and/or developing curricula to drive the uptake and use of a technology.

During the implementation, the KMIC Hub will work closely with the Data Hub to help ensure that the outputs collectively translate into climate change impact.

Expected outputs at this stage include:

- Evidence that milestones and deliverables are on track from the portfolio knowledge mobilization plan.
- A plan to ensure transition and sustainability beyond the project, including any revisions to activities and/or budget within year five to address the plan.

The Portfolio Oversight Committee will review these outputs and recommend what is needed to move to the next phase.

Phase 3. Sustainability and transition planning. During year five, the emphasis will be on developing a sustainability plan to ensure that the outputs of the Initiative continue to have the desired impact. This work could include cooperating with Genome Canada and other stakeholders to transition the leadership of this work, transfer research and innovation to others, and help identify new objectives and funding.

5. Required elements

Applicant teams will describe a proposed portfolio knowledge mobilization and implementation strategy that is ambitious and achievable. The activities should focus on the development phase. There will be three main sections in the application form that focus on the first phase:

- Portfolio vision, coordination and leadership.
- Knowledge mobilization and implementation plan and activities (including research).
- Management and finance (i.e., team, decision-making processes, and resourcing to achieve the project objectives).

Hubs must have a dedicated project manager with sufficient administrative support to coordinate Hub-specific activities. In addition, each Hub will contribute the budgetary equivalent of 0.5 of a full-time employee to pay for a portfolio-level project manager responsible for coordinating shared activities.

6. Application process

Only one team will be funded. Applicants are required to apply for funding through a regional Genome Centre.

Registration

Applicants will use a brief registration form to indicate their interest in applying to the competition. The form will include the applicant's information, details about the composition of the provisional team, and a list of partners. Information from eligible registrations—that is, the name(s) of the Project Leader(s) and lead institutions—will be posted on the Genome Canada website. Applicants who are deemed eligible will be invited to submit a full proposal.

Full proposal stage

Full applications must address the required elements for the competition—that is, portfolio leadership and coordination, a knowledge mobilization and implementation plan and activities, and management and finance details.

A committee with expertise in assessing all of the review criteria of the competition will review the full proposal. The project that best meet the competition's criteria will be considered for a portfolio review that considers synergies with ICT and the Data Hub.

The evaluation processes may be adjusted where warranted by the complexity or number of applications received or by other relevant factors. Any changes will be communicated through Genome Canada's website and the Genome Centres.

7. Timeline

Activity	Date
Launch of funding opportunity	August 23, 2022
Registrations due at a Genome Centre	December 2022*
Full application due at a Genome Centre	March 2023*
Application review	May 2023
Notification of decision to teams	Early July 2023
ICT and Hub teams convened	May-late July 2023

**Please check date with your regional Genome Centre.*

8. Contacts

Centre	Contact
Genome British Columbia	Alison Dendoff **adendoff@genomebc.ca**
Genome Alberta	Georgia Balsevich **GBalsevich@genomealberta.ca**
Genome Prairie	Lester Young **lyoung@genomeprairie.ca**
Ontario Genomics	Dennis McCormac **dmccormac@ontariogenomics.ca**
Genome Quebec	Caroline Telekawa **ctelekawa@genomequebec.com**
Genome Atlantic	Britta Fiander **bfiander@genomeatlantic.ca**

Appendix 1. KMIC Hub evaluation criteria

Eligibility criteria

1. The team must be pan-Canadian with representation from *at least* three provinces.

2. The team should be multidisciplinary and include representatives who have expertise, skills and knowledge in areas such as:

- Knowledge mobilization and implementation (e.g., implementation science, knowledge translation and exchange, knowledge brokering).
- Research (e.g., implementation science, GE^{3}LS).
- Policy and regulation (e.g., shaping and influencing policy, understanding federal and provincial or territorial governments and processes).
- Stakeholder engagement and outreach (e.g., consultations, public engagement).
- Partnership development (e.g., the ability to identify, establish and maintain partnerships with public, private, non-governmental and academic sectors).
- Science communications and marketing.
- Economics and economic evaluation.
- Evaluation and measurement.
- Inclusion, diversity, equity and access (IDEA) and Indigenous knowledge and engagement.
- Climate and agriculture science (e.g., genomics in society, crops, livestock).

Please note that different sources of expertise and experience can be pulled in at different phases; the full complement is not necessarily expected at the start of the project.

3. The project must include partner(s) from the public, community or private sector to facilitate the use and/or impact of the Initiative.

4. Project Leaders from the ICT teams cannot be Project Leaders of the Hubs. However, members of the ICT teams can be involved in the Hub team as co-applicants.

Phase 1 review criteria

For each of required element, it is important for the application to provide examples of how various team members have a proven track record in leading and delivering the following pieces. In reviewing plans, evaluators will assess:

1. Portfolio vision, coordination and leadership

- **Portfolio vision.** The degree to which the proposed vision of the Hub is bold and impact-driven but also realistic, adaptable and is appropriate within the context of the initiative.
- **ICT coordination.** The degree to which the plan outlines the approach to establish mechanisms and structures across the portfolio of projects to coordinate work, activities and efforts related to knowledge mobilization and implementation, including the co-creation of knowledge mobilization plans and activities.
- **Hub coordination.** The degree to which the plan outlines the approach to establish mechanisms and structures with the Data Hub to ensure the coordination and co-creation of plans and activities.

- **Leadership.** The degree to which the plan for leadership at the portfolio level is in place.

2. Knowledge mobilization and implementation activities

- **Gaps and opportunities.** The degree to which a robust process is outlined to identify gaps and opportunities across the portfolio, including GE^{3}LS and implementation science research within the portfolio.
- **Harmonization.** The degree to which a robust process is outlined to develop a portfolio knowledge mobilization and implementation plan—building on ICT project plans—to advance the outputs of the ICT teams and facilitate climate impact.
- **Impact and evaluation**. The degree to which there is a clear plan for how the team will work with the ICT teams to help meet the impact goals of the portfolio, and how it will approach measurement and evaluation. This would include a plan on how to support the impact evaluation and measurement work to ensure the portfolio of projects is leading to the desired outcomes and impacts (e.g., impact dashboard, logic model).
- **Stakeholder engagement.** A clear process for engaging key stakeholders and partners who would be interested and impacted by the Initiative, specifically those from under-represented groups and Indigenous communities. It would be helpful to explicitly outline a clear process for how to meaningfully engage Indigenous communities and how to best leverage and focus on Indigenous knowledge.
- **Building capacity.** A clear plan for how to build capacity and skills in knowledge mobilization and implementation (e.g., training workshops for project teams to build skill and competencies in ICTs, science communication workshops, research mentorship from equity-deserving groups).

3. Management and finance

- **Team.** The degree to which the team has the right expertise to develop and implement the different elements of the portfolio knowledge mobilization and implementation plan.
- **Management**. The degree to which the management plan is appropriate.
- **Budget.** The degree to which the budget is appropriate for the proposed activities.
- **Equity, diversity and inclusion (EDI).** The degree to which EDI principles are incorporated into the proposed plan.