

PROJECT NAME: Scoping Project on a North American Center for Informed Substitution

- 1. Project duration:** 6 to 12 months
- 2. Budget (C\$):** 50,000
- 3. Short statement of the issue(s) under this topic, need/gap identified; the project objective(s) and activities to address the issue; and expected outcomes and benefits/beneficiaries (max. 200 words):**

Chemicals are essential for the production of many goods; thousands of substances are used and emerge as industry responds to consumers demands. Traditionally, chemical risk evaluation and subsequent risk management have been used to control exposure levels or restrict the use of highly toxic chemicals of concern. The transition to safer chemicals fundamentally challenges conventional economic drivers in consumption, because it places human and environmental health as the central priority for innovation. Informed substitution (IS) involves the assessment and comparison of chemical alternatives, incorporating information on hazards, technical functionality, exposure, and economic assessments. This transdisciplinary approach requires a high level of collaboration among industry, regulatory agencies, and academia, as well as other stakeholders. It is often unclear who should lead such collaborations. Indeed, various parties can even lack the necessary knowledge, resources, or motivation to initiate and manage the work. The goal of this project is to scope out the feasibility for establishing a trinational Center for Informed Substitution (CIS) and provide a roadmap for facilitating knowledge sharing, promoting best practices, and fostering the implementation of chemical alternatives assessment and informed substitution across North America.

- 4. Select the strategic pillar(s) from the 2021–2025 Strategic Plan that the project addresses:**

- Clean Air, Land and Water
- Preventing and Reducing Pollution in the Marine Environment
- Circular Economy and Sustainable Materials Management
- Shared Ecosystems and Species
- Resilient Economies and Communities
- Effective Enforcement of Environmental Laws

5. Describe how the project uses strategic cross-cutting approaches in its implementation: Innovative and Effective Solutions and/or Diverse and Inclusive Stakeholder Engagement and Public Participation (including gender and diversity effects and opportunities, and youth) (max 100 words):

Following precautionary and preventive principles, informed substitution assessments focus on safer alternatives to avoid potential health and environmental risks. Access to a reliable source of up-to-date technical information can provide a groundwork for fostering innovation and prevent the use of regrettable substitutes, which occurs when a chemical of concern is substituted for one just as or potentially harmful or of unknown health and environmental risks. The creation of the North American CIS could catalyze change in production paradigms; the collaboration of academia, industry, and governments could, in the long run, benefit companies, trade, consumers, and the environment.

6. Explain how the project can achieve more impact through trilateral cooperation (max 100 words):

Products containing or created from an array of different chemical formulations move daily across North American borders. Capacity, priorities, and policies related to chemicals of concern differ in Canada, Mexico and the United States. However, given the technical demand for substitution assessments, the three countries can utilize existing, perhaps little-known or not widely available knowledge, systematizing and harmonizing ongoing and future research, resources, and best practices and make the information comparable and available. Beyond these benefits, access to information will allow industry to have common ground to respond to emerging, more strict chemical regulations. In addition, the CIS can promote trust and competitiveness in North American businesses and markets, fostering the adoption of green chemistry and avoid cases of unwise substitution.

7. Describe how the project complements, or avoids duplication with, other national or international work (max 100 words):

Several initiatives have been developed to follow up on existing assessment frameworks, such as the [OECD Substitution and Alternatives Assessment Toolbox](#), the [US EPA Safer Choice Program](#), and the [combined government discussion paper and science committee report on IS](#) by Health Canada and ECCC. Lowell Center for Sustainable Production has been a key player in the [Association for the Advancement of Alternatives Assessment](#) and the [Sustainable Chemistry Federal Landscape Report to Congress](#). Beyond the region; the EU Parliament announced a substitution center pilot, and the recent development of a [Global Framework on Chemicals](#) that promotes the identification of safer alternatives. The proposed project will build upon synergies with these efforts as it assesses the establishment of a North American CIS.

8. Describe how the project engages experts in traditional ecological knowledge (TEK) or Tribal/First Nations/Indigenous communities, if applicable (max 100 words):

Involvement of experts in traditional ecological knowledge is not specifically considered for the scoping stage of the initiative. Nevertheless, should the CIS be established, it will aim to actively involve a broad range of participants to include a holistic approach to the evaluation of chemical alternatives.

9. Describe how the project engages new audiences or partners, if applicable (max 100 words):

Scoping results from the project can be shared to foster future potential partnerships amongst industry sectors, government authorities, subject matter experts, and NGOs.

10. Identify the designated partner agencies or organizations committed to implementing this project, as well as other organizations that could be involved, or benefit from it, including through outreach efforts, collaborations or partnerships (e.g., federal agencies, other levels of government, academia, NGOs, the private sector, civil society, and youth):

| Lead agencies or organizations | Country |
|---|---------------|
| Environment and Climate Change Canada, Environmental Protection Branch, Chemical Production and Products Division | Canada |
| Environmental Protection Agency, Office of Chemical Safety and Pollution Prevention | United States |
| <i>Dirección General de Gestión Integral de Materiales y Actividades Riesgosas (DGGIMAR) – Semarnat</i> | Mexico |

| Other organizations/individuals (if applicable) | Country |
|---|---------------|
| Lowell Center for Sustainable Production | United States |
| <i>Instituto Nacional de Ecología y Cambio Climático – INECC (Semarnat)</i> | Mexico |

11. In the following table, describe: the project objective(s) and the activities and subtasks planned to achieve the objective(s); the corresponding outputs, expected results and how they will be measured (performance measures); baselines (if known), and targets by end of the project; and the timeline and budget.

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| OBJECTIVE 1 | Develop a workplan to pilot a North American Center for Informed Substitution (CIS) to foster the implementation of alternatives chemical assessment and informed substitution |
| Activity 1 Budget: C\$50,000 | Develop a workplan for piloting a North American CIS. |
| Output(s) | <ul style="list-style-type: none"> • High-level review of current global Informed substitution (IS) assessment frameworks and governance mechanisms • Identify key resources, actors, sectors, and networks currently working on IS assessments • Workplan for a North American Center for informed substitution pilot |
| Expected results, performance measures | The scoping initiative will provide a common understanding of the regional capacity to support a CIS and will provide potential roadmaps for establishing such a North American CIS and facilitating knowledge sharing. |
| Baseline (current status), if known | <p>ECCC has undertaken previous work under the Chemicals Management Plan (CMP) priorities. Along with Lowell Center for Sustainable Production, they have assessed the feasibility of establishing a Canadian national centre of excellence in IS. This work could be used as a reference for understanding alignment and synergies with Mexican and US chemical agendas. In the case of Canada, there is special interest in following up these efforts and in addressing a group of chemicals of trinational concern, such as perfluoroalkyl and polyfluoroalkyl substances (PFASs).</p> <p>As part of the consultation exercise with companies and governments involved in the CEC's Advancing Supply Chain Transparency (SCT) for Chemicals in Consumer Products, participants were asked what use they made of the chemical information they receive from suppliers. Some 97% of industry participants reported that the main use is to ensure regulatory compliance and chemical safety. However, half of them specified that they currently use the information to prioritize substitution and innovation, and they specified the need for more information on possible chemical alternatives.</p> |

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| Target (by project end) | Inform the necessary steps to establish and pilot a trinational CIS to catalyze the adoption of safer chemical alternatives. | |
| Subtask 1.1 | <p>Develop a conceptual framework to compare potential implementation models that could be pilot to establish a North American CIS. The analysis will contain a high-level review on current IS assessment frameworks globally and in North America, including governance mechanisms that currently support its Implementation and systematize:</p> <ol style="list-style-type: none"> 1. Relevant key resources, actors, sectors, and networks currently working on chemical innovation in the three countries, or in other regions that could be considered operational examples for a future CIS. 2. Identify early potential beneficiaries for the establishment of a North American CIS. 3. Common chemical priorities on IS in the region with high commercial trade and chemicals of concern due to their risks to health and the environment. 4. Available tools and information sources and existing criteria to identify safer chemicals. | When: May 2024 |
| Subtask 1.2 | <p>Convene a work group of previously identified (Subtask 1.1) industry, academics, NGOs, and government experts to obtain feedback to complement the review in Subtask 1.1. The working session should be designed to discuss:</p> <ol style="list-style-type: none"> 1. The feasibility and interest of establishing a center for informed substitution from a public, academic, and private sector perspective in the region. 2. Discuss roadmaps for implementation developed in Subtask 1.1. and understand their challenges, including financial support, trust, credibility, patent rights and confidential information, etc. 3. Select most viable roadmap and define short, mid, and long-term objectives of a North American CIS along with concise activities which the Center could focus its efforts in a pilot stage. 4. Gather recommendations and obtain proposals on substance specific potential pilot projects to implement in the region. | When: October 2024 |

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| Subtask 1.3 | Compile information and provide a work plan based on a targeted group of chemicals of common interest towards piloting a North American CIS. | When: February 2025 |
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