PROJECT NAME: Trilateral Data Exchange System on the Import and Export of Hazardous Waste – Maintenance, Implementation, Testing and Launch of US-Mexico API Exchange in Production

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1. **Project duration: 18 months**

2. **Budget (C$): 249,000**

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:**

   Pursuant to the legal frameworks controlling imports and exports of hazardous wastes across North America, Canada, Mexico and the United States exchange notice and consent notifications prior to shipping hazardous wastes. The "Notice and Consent Electronic Data Exchange" (NCEDE) is a system developed through the CEC in 2012 to enable the three countries to process these notifications efficiently and effectively and thus protect the North American environment through appropriate control of transboundary hazardous waste movements.

   Building on the OP 2019–2020 project, "Modernizing the data exchange system for hazardous waste transfers," the current project continues the joint work carried out by the trinational working group/Steering Committee, representing areas of authorization management for transboundary movements of waste and information technology. This project is needed because of unexpected delays in modernizing the system, caused by contract lapses which have delayed issuance of security certification for the US IT system that hosts the API exchange.

   The aims of the project are to:

   (1) test implementation of the maintenance approach created in 2021 for the node-based and API-based exchanges, including, at the trinational level, an optimization and update of the data catalogs (operational codes) developed, and the incorporation of the regulatory changes on cross-border movements between the three countries;
   (2) complete testing of the US-Mexico API exchange in production; and
   (3) ensure IT support for a full period after the US-Mexico API exchange is successfully launched.

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):**

Modernizing the NCEDE system is itself an innovative and effective solution, since improving existing NCEDE data exchange between the North American countries directly improves environmental protection by establishing more efficient control of hazardous waste exports and imports. For example, it can prevent unauthorized dumping and recycling of hazardous waste that could lead to environmental and health risks—particularly for vulnerable populations (e.g., women and children) that are exposed to these contaminants through their work or in their communities.

The use of a trilateral electronic system supports paperless information-sharing, extensive reduction in processing delays, and more efficient decision-making, as the current NCEDE has had a significant economic impact on recycling and waste management companies. The effective management of waste through international trade also supports job creation in the three countries, as each country develops better technology and the processes to manage waste and recyclables. However, while this project has the potential to positively impact all North American communities, it primarily involves enforcement agencies in the three countries and does not involve direct stakeholder engagement nor public participation.

In the case of the Mexican system, an information capture module of the hazardous waste export notification format for access by companies or individuals interested in requesting authorizations from the government agency responsible for the management of transboundary movements of hazardous waste had been developed under the OP 2019–2020 modernization project. This has brought added value by facilitating the management of authorization requests from the US and Canada and thus reducing errors in capturing technical information from the formats.

6. **Explain how the project can achieve more impact through trinational cooperation:**

The international, regional and bilateral agreements that control the import, export, and transit of hazardous wastes are binding on Canada, the United States, and Mexico, and promote the application of the procedure for notification of attempted export of hazardous waste and prior consent. The NCEDE is a trilateral data exchange system that enables the three countries to comply with these requirements through electronic means.

Significant cost efficiency is gained in working trilaterally rather than developing three separate systems (e.g., US-Mexico, US-Canada and Canada-Mexico). Working trilaterally helps to harmonize hazardous waste management controls in the three countries, reducing the administrative burden on companies and facilitating compliance with environmental regulations. The NCEDE establishes common practices in handling regulatory and technical data so that they can be exchanged in an understandable way between the three countries. Working together is thus also necessary in order to update NCEDE, in order to maintain a user-friendly system that guarantees a good level of security as the data are exchanged. The CEC has been instrumental in facilitating the original development of the NCEDE and continues to serve as the best mechanism for achieving the necessary policy dialogue and technical discussions that are needed between the three countries to update the NCEDE.

Under the previous project that ended on June 30, 2021, the three countries successfully updated and tested the existing US-Canada and US-Mexico node exchanges to allow more flexibility for updating required field values. They identified the updates required for the field values and agreed to phase in the updates, based on effective dates of international waste and transportation data and Canadian regulatory changes. In addition, the three countries developed the required structure and scope for a more robust and efficient API exchange and developed a US-Mexico API exchange using that structure.

While initial testing for the US-Mexico API exchange was successful, the US and Mexico would benefit from extended implementation and limited additional development support under this project. The three countries also developed an updated maintenance approach to facilitate updates to the exchanges due to future domestic or international changes to regulations or technologies but lacked the time to test the implementation of the approach. This project includes the next steps necessary to support this important effort.

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

The exchange of information on notices and consents prior to shipping hazardous wastes supports the implementation of numerous domestic and international regulations applicable for transboundary hazardous waste movements. The project

complements national efforts and facilitates coordination and information sharing amongst the countries on any update or modifications.

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

While this project has the potential to positively impact all North American communities, it primarily involves enforcement agencies in the three countries and does not foresee direct engagement with TEK experts or Tribal/First Nations/Indigenous communities.

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

While this project has the potential to positively impact all North American communities, it primarily involves enforcement agencies in the three countries and does not foresee direct engagement with new audiences or partners.

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	Expert	Country
Environment and Climate Change Canada (ECCC)	**Georges Kedl** Unit Head, Regulatory Operations Modernization Unit	Canada
Environment and Climate Change Canada (ECCC)	**Robin Tremblay** Program Manager, Regulatory Operations Section	Canada
Environment and Climate Change Canada (ECCC)	**Yann Guilbault** Unit Head, Notification Unit	Canada
Secretaría de Medio Ambiente y Recursos Naturales*— Semarnat *(Dirección General	**Alejandra Medina Arévalo**	Mexico

***de Gestión Integral de Materiales y Actividades Riesgosas* - DGGIMAR)**	Lead, Hazardous waste and materials management staff	
Secretaría de Medio Ambiente y Recursos Naturales*— Semarnat *(Dirección General de Gestión Integral de Materiales y Actividades Riesgosas - DGGIMAR)	**Jesús Ignacio López Olvera** Deputy Director of Transboundary Movements of Hazardous Waste	Mexico
Secretaría de Medio Ambiente y Recursos Naturales*—Semarnat *(Dirección General de Gestión Integral de Materiales y Actividades Riesgosas - DGGIMAR)	**Azucena Olivares Angeles** Management staff of authorizations for transboundary movements of hazardous waste	Mexico
Secretaría de Medio Ambiente y Recursos Naturales*—Semarnat *(Dirección General de Gestión Integral de Materiales y Actividades Riesgosas - DGGIMAR)	**Dania Zepeda Ramos** Management staff of authorizations for transboundary movements of hazardous waste	Mexico
Secretaría de Medio Ambiente y Recursos Naturales*— Semarnat *(Dirección General de Gestión Integral de Materiales y Actividades Riesgosas - DGGIMAR)	**Alejandra Cuenca Ortega** Management staff of authorizations for transboundary movements of hazardous waste	Mexico
Secretaría de Medio Ambiente y Recursos Naturales*— Semarnat *(Dirección General de Informática y Telecomunicaciones - DGIT)	**Claudia Leticia Guerrero López** Lead, IT Development Staff	Mexico
Secretaría de Medio Ambiente y Recursos Naturales*— Semarnat *(Dirección General de Informática y Telecomunicaciones - DGIT)	**Rodolfo Yañez Ramirez** IT Development Staff	Mexico
Secretaría de Medio Ambiente y Recursos Naturales*—Semarnat *(Dirección General de Informática y Telecomunicaciones - DGIT)	**Rudy Gustavo Gonzalez Ortiz** IT Development Staff support	Mexico
US Environmental Protection Agency (USEPA)	**Laura Coughlan** EPA waste import/export branch, US import/export regulations and policy expert	United States

US Environmental Protection Agency (USEPA)	**Jana Tatum** EPA waste import/export branch, US notice team leader	United States
US Environmental Protection Agency (USEPA)	**Audrianna Maki** EPA waste import/export branch, US notice officer	United States
US Environmental Protection Agency (USEPA)	**Katie Linder** EPA waste import/export branch, US notice officer	United States
US Environmental Protection Agency (USEPA)	**Roy Chaudet** EPA Information Technology Services	United States
US Environmental Protection Agency (USEPA)	**David Charbonneau** Chief, EPA Information Collection and Analysis Branch	United States
US Environmental Protection Agency (USEPA)	**Scott Christian** EPA Information Collection and Analysis Branch	United States
US Environmental Protection Agency (USEPA)	**Christopher Muir**EPA Information Collection and Analysis Branch	United States

Other organizations/individuals (if applicable)	Country
Consultant(s)	

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.

OBJECTIVE 1	**To test implementation of the maintenance approach developed under the previous project, including, at trinational level, an optimization and update of the data catalogs (operational codes) developed, and the incorporation of the regulatory changes on cross-border movements of the three countries**

Activity 1 Budget year 1 and year 2: C$57,000	Regular, periodic trilateral calls to ensure a sound maintenance of the system. **Budget: Year 1 – C$28,500**; **Year 2 – C$28,500**	
Output(s)	Updated the data catalogs (operational codes) developed in the previous project Regulatory changes on cross-border movements of the three countries incorporated Successful exchanges over trilateral calls	
Expected results, performance measures	Optimized and robust system complete	
Baseline (current status), if known	System to be launched by January 2022	
Target (by project end)	Operations and Maintenance (O&M) support has been ensured throughout the entire project. The "NCEDE Maintenance Communication and Change Management" document has been drafted under the OP19-20 NCEDE project	
Subtask 1.1	Regular and periodic trilateral CEC-hosted calls - simultaneous interpretation services provided for four planned meetings	**When**: Full length of the project
Subtask 1.2	Continuation of management of items dealt with during preceding months and any anticipated outages or updates needed	**When:** Full length of the project
Subtask 1.3	Note any problems with how maintenance approach worked during preceding months and propose revisions as needed	**When:** Full length of the project
Subtask 1.4	Translate any updates to the maintenance approach document ("NCEDE Maintenance Communication and Change Management") and other project-related documents as required	**When:** by the end of the project

OBJECTIVE 2	**To bilaterally conduct extended testing for US-Mexico exchange developed under the previous OP19-20 project**
Activity 2 Budget year 1 and year 2: C$57,000	Testing of US-Mexico API exchange after US launch of exchange in production in US system via virtual meetings. **Budget: Year 1 – C$28,500**; **Year 2 – C$28,500**
Output(s)	The "Lessons learned" document is updated and serves as living useful reference

Expected results, performance measures	The US-Mexico API exchange is successful after US launch of exchange in production	
Baseline (current status), if known	The "Lessons learned document" has been drafted under the OP19-20 NCEDE project	
Target (by project end)	Tests finalized and lessons learned identified and compiled in a document accessible to the three countries' government officials	
Subtask 2.1	Regular and periodic CEC-hosted calls - simultaneous interpretation services provided for four planned meetings	**When**: Full length of the project
Subtask 2.2	Carry out the testing of the new API between US and Mexico after US launch of exchange in production	**When:** Second quarter of year 1
Subtask 2.3	Update lessons learned document drafted in the previous project to reflect testing outcomes	**When:** Third quarter of year 1

OBJECTIVE 3	**To provide Operations and Maintenance (O&M) and development support for Semarnat´s IT system**
Activity 3 **Budget year 1 and 2: C$135,000**	To provide IT support to complete any needed additional modifications or development for Semarnat's IT system associated with Objective 2, along with Operations and Maintenance (O&M) support for Semarnat's IT system. **Budget: Year 1 – C$67,500; Budget Year 2 – C$67,500**
Output(s)	Completion of tests and full integration of the new system between US and Mexico and eventually with Canada
Expected results, performance measures	Full integration of the new system between US and Mexico achieved
Baseline (current status), if known	System to be launched by January 2022

Target (by project end)	Adjustments and developments needed made	
Subtask 3.1	Provide IT project for Support and Maintenance	**When:** from third quarter of year 1 to end of project
Subtask 3.2	Assessment of the need for and provision of IT project support for modification or development activities arising from the US-Mexico API production testing conducted under Activity 2	**When:** from second quarter of year 1 to end of project

12. Describe <u>post-project</u> expected impacts:

Expected impact (by the end of the project)	SMART performance measure(s)
The project is expected to advance the modernization of a user-friendly computer platform, easy to update by the IT areas of the environmental authorities of the three countries.	Full exchange between US and Mexico is enabled through the new API.
The modernization of the system will contribute to facilitating the compilation of information for individual country reports on authorized cross-border movements of hazardous waste.	Exchange of information and optimization and update of the operational codes following regulatory updates in the region and at international level.
The modernization of the system will contribute to increasing information flow and coordination between the countries regarding hazardous waste imports and exports.	Increase of trilateral communications of updates and any changes.