

REQUEST FOR PROPOSALS

Milestone Study on Paper Waste Management in North America

for the project

Transforming Recycling and Solid Waste Management in North America



Commission for Environmental Cooperation

2022

I. Overview

The Commission for Environmental Cooperation (CEC) is requesting proposals from prospective consultants to carry out a milestone study on post-consumer paper waste in North America.¹ Specifically, the consultant would be expected to: evaluate the current state of paper waste recycling infrastructure capacity across the region; summarize and evaluate opportunities and barriers in enhancing/improving secondary paper material markets and North American trade; and evaluate emerging technologies and sustainable materials design pathways associated with paper waste recycling; and best practices and examples implementing circular economy principles, taking into account traditional ecological knowledge of Indigenous communities to the extent feasible.

The Commission for Environmental Cooperation (CEC) was established in 1994 by the governments of Canada, the United Mexican States (Mexico), and the United States of America (United States) through the North American Agreement on Environmental Cooperation, a side agreement concluded in connection with the North American Free Trade Agreement (NAFTA). As of 2020, the CEC operates in accordance with the Environmental Cooperation Agreement, which entered into force at the same time as the new trade agreement known as CUSMA, T-MEC and USMCA in each of these three countries, respectively. The CEC brings together a wide range of stakeholders, including the general public, Indigenous People, youth, nongovernmental organizations, academia, and the business sector, to seek solutions to protect North America's shared environment while supporting sustainable development for the benefit of present and future generations. Find out more at: www.cec.org.

The CEC's Council, its governing body, approved the project "Transforming Recycling and Solid Waste Management in North America" that focuses on various waste streams—specifically paper, plastics and bioplastics waste—and is part of the 2021 CEC Operational Plan and its purpose is to accelerate the uptake of circular economy and the sustainable materials management practices that are needed to transform North American recycling and solid waste management. This transformation should bring economic and environmental benefits for the region.

The full CEC project is expected to address information gaps; inform policy-making across Canada, Mexico and the United States; identify potential areas for policy coherence; and advance circularity and sustainable material management practices for the specific materials. The project will support CEC member states in their efforts to promote circular economy and sustainable materials management practices that will encourage eco-design and thus increase product and material reuse, recovery, and recycling rates in North America. For a complete description of the project, including tasks and related budget, please visit the CEC website at: <http://www.cec.org/transforming-recycling-and-solid-waste-management-in-north-america/>.

The overall goal of the project will be accomplished by developing a series of milestone studies to better understand the opportunities for the recycling sector and secondary material markets in North America, an overview/description of the legal and policy-relevant frameworks, identify

¹ Discarded paper stock comprises a multitude of post-consumer paper types that are classified by the Institute of Scrap Recycling Industries, Inc., according to their potential for recycling into useful, new paper applications. The ISRI terms paper stock that has been treated in such manner (coated, or contaminated with other materials, such as plastics) that would render it unsuitable for recycling, as "Outthrows". This RFP and the milestone study on post-consumer paper waste will refer to all discarded paper prior to any decision on whether it is suitable for recycling or would be considered an Outthrow as "Paper Waste". Paper that has been evaluated as suitable for recycling into a viable commercial product will be termed "Paper Waste". For more specificity on the latter, and ISRI classifications of paper waste, see Annex II of this RFP.

emerging materials and technologies, and support stakeholder collaboration and knowledge sharing via networking activities. Building on the results of milestone studies and stakeholder input, the project will include pilot projects to assess the feasibility of innovative technologies or practices for adoption at scale across North America. The particular milestone study contemplated by this request for proposal would be part of the broader project and would focus on paper waste.

II. Terms of Reference

A. Overview and Scope

The World Bank estimates that around 2 billion tonnes of municipal solid waste were generated in 2016, with Canada, Mexico, and the United States generating 0.4-1.5 kg more waste per capita per day than the global average.² North America has the highest per capita paper consumption in the world and represents four times the global average in per capita paper consumption.³

Reducing waste and closing material loops will help minimize the environmental impacts along the value chain of resources and products, as well as presenting considerable economic opportunities. Circular economy strategies are estimated to unlock \$4.5 trillion of economic growth around the globe (Annex I).⁴ The World Business Council for Sustainable Development estimates that the global bioeconomy market could be worth up to US\$7.7 trillion by 2030, with significant opportunities for circular solutions.

The transition to a circular economy and increased recovery of material also offers solutions to mitigate climate change. The magnitude of avoided GHG-emissions and the benefits from material circularity are highly dependent on the type of material recovered and the local circumstances for energy offsets. For example, the US EPA estimates that recycling of various paper products could result in 2.64-3.59 Mt CO₂e reduction per short ton of paper,⁵ and the Cámara Nacional de las Industrias de la Celulosa y del Papel⁶ in Mexico estimates the saving of space in final waste disposal sites at a rate of 2.5 m³ for each recycled tonne of paper waste.

B. Description of Services

The consultant shall coordinate with the CEC's designated contacts to accomplish the following:

The overall project will run for four years and consist of two differentiated phases of two years each. Milestone studies on paper waste, plastic waste, and bioplastics waste will be carried out during the first phase.

² Kaza, Silpa; Yao, Lisa C.; Bhada-Tata, Perinaz; Van Woerden, Frank. (2018). [What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050](#). Urban Development. Washington, DC: World Bank. © World Bank. License: CC BY 3.0 IGO.

³ Haggith, Mandy; Kinsella, Susan; Baffoni, Sergio; Anderson, Patrick; Ford, Jim; Leithe, Rune; Neyroumande, Emmanuelle; Murtha, Neva; and Tinhout, Bas. (2018). [The State of the Global Paper Industry. Shifting Seas: New Challenges and Opportunities for Forests, People and the Climate](#). Environmental Paper Network

⁴ Accenture (2018), retrieved from <https://newsroom.accenture.com/news/the-circular-economy-could-unlock-4-5-trillion-of-economic-growth-finds-new-book-by-accenture.htm>

⁵ In the US EPA report [Waste Reduction Model \(WARM\), Documentation for Greenhouse Gas Emission and Energy Factors Used](#), from which these figures were retrieved, the imperial ton is used as measurement unit: a short ton is the equivalent of 907.18474 kilograms. US EPA (2016), Waste Reduction Model, Documentation for Greenhouse Gas Emission and Energy Factors Used (2016).

⁶ National Chamber for Pulp and Paper Industry.

The incumbent consultant will take existing literature on the topic of paper into account and carry out a study focusing on paper waste (anything included in Annex II to this RFP) during Phase I of the project, aiming at:

- Collating foundational knowledge of each country's current state of recycling to inform policy options that drive the transformation of paper waste management in North America, including potential ways to scale-up opportunities around this industry.
- Going beyond the existing studies of US and Canadian recycling and recovery infrastructure, including a targeted scoping study of paper waste recycling infrastructure in Mexico that focuses on estimated recycling rates and the contribution of the informal sector through fieldwork (Annex III).
- Evaluating opportunities and barriers in secondary markets throughout North America and considering emerging technology for paper recovery and recycling infrastructure and product design, as well as resource efficiency in the production processes (e.g., sorting-related, material selection, recycled content requirements, etc.).
- Including recommendations (e.g., possibly tools and resources for key actions by stakeholders) that could further the development of the circular economy in North America in relation to paper waste.
- Considering the different recycling infrastructure and system needs across urban, rural, and Indigenous communities, using readily available information and to the extent possible.

This project activity will require the consultant to coordinate with the CEC's designated contacts, and with other suggested contacts, to accomplish the following tasks:

1) Activity 1: Conduct a study on recycling and recovery markets, innovative product design, sustainable packaging designs currently on the market, and emerging materials that are relevant to paper waste recovery and recycling technologies

The consultant will research, collect input from relevant stakeholders, and analyze the information in order to:

- 1.1) Provide an overview of North American (municipal or post-consumer) paper waste collection and sorting capacity:
 - Characterizing the mode and availability of collection systems (e.g., curbside, drop-off, etc.), including distribution of single- vs. dual-stream collection and stewardship versus Extended Producer Responsibility (EPR) systems.
 - Preparing an inventory of existing Materials Recovery Facilities (MRFs), their capacity, and the main type of paper bales they produce and sell to recyclers/product producers.
 - An overview (and estimate) for contribution of the informal sector⁷ in Mexico (Annex IV) in collection, sorting and separation of paper waste.
- 1.2) Provide an overview of North American (post-consumer) paper waste recycling capacity, including the informal sector in Mexico:

⁷ The World Bank acknowledges the importance and complexity of the informal sector in solid waste management in its report [What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050](#) from 2018. Page 104: "(...) Disposal costs vary greatly. In some countries, waste disposal is informal and therefore not officially accounted for."

- Identify facilities (i.e., pulp or paper mills, paper product manufacturers, or dedicated secondary pulp producers), type of bales of paper waste used (including laminated cartons, tetra pack), and type of pulp (i.e., brown, gray, or bleached) or other products (i.e., recycled paper) produced.
- 1.3) Analyze the North American secondary market for post-consumer cross border trade in paper waste. This analysis would focus on the flow of paper waste (specifically for recycling) between the three countries, as well as identify capacity gaps and weaknesses in the integrated North American secondary market (e.g., paper types with low demand, low economic value or oversupply within the continent and in each respective country).
 - 1.4) Identify existing best practices along the paper product value chain (e.g., product design, MRFs and recycling technologies and processes, recycled content, new product applications for recycled pulp, cross-border recycling hubs), that strengthen circularity in the sector and improve the North American secondary paper market.

2) Activity 2: *Finalize report documenting findings of studies and outlining next steps*

The consultant will conclude the milestone study by developing an outline of:

- 2.1) A description of the main findings of the report and identification of areas requiring specific improvements or solutions; in particular but not limited to strengthening circularity in the post-consumer paper waste sector and the North American secondary paper market;
- 2.2) A proposal of possible solutions in response to the identified areas of improvements/gaps along the paper product value chain.

This milestone study will provide key input for defining and developing appropriate pilot projects in Phase II of the project.

Separate from this milestone study but part of the larger overall project, scheduling and implementing a work program on stakeholder engagement is intended. This will ensure the organization and hosting of networking events for stakeholders to permit sharing and seeking feedback on the results of the milestone studies, as well as feedback and recommendations in the scoping pilot projects to be carried out over the second phase. This milestone study is primarily intended for governments, relevant institutions, charities, nongovernmental organizations, industry and business, as well as for wider outreach to broad public. Therefore, writing style must be very clear, accessible, and consistent with this purpose.

Project activities will take place according to the timetable below. This schedule is approximate, and subject to change.

Activity 1	Activity Description	Deliverable(s)	Date(s)
Project kick-off call with the CEC	Review report outline, discuss sources of data and information, develop draft work plan	Revised outline and final work plan	Start of contract
Research, compilation and drafting of report text for Activity 1	Conduct research; prepare draft text, text boxes, graphics and illustrations Identify information gaps and potential information sources with the CEC	Draft text for Activity 1	Two months after the start of contract
Revisions of draft text for Activity 1 (following CEC review)	Discuss comments with the CEC Revise text (using tracked changes), checking as needed with the CEC	Revised draft text for Activity 1	Nine months after the start of the contract
Activity 2	Activity Description	Deliverable(s)	Date(s)
Research, compilation and drafting of report text for Activity 2	Conduct research; prepare draft text, text boxes, graphics and illustrations Identify information gaps and potential information sources with the CEC	Draft text for Activity 2	Twelve months after the start of contract
Revisions of draft text for Activity 2 (following CEC review)	Discuss comments with the CEC Revise text (using tracked changes), checking as needed with the CEC	Revised draft text for Activity 2	Fourteen months after the start of contract
Revisions to draft report (following technical and external stakeholder review)	Co-facilitate the discussion with an expert stakeholder group meeting/s hosted by the CEC Co-facilitate networking events with key stakeholders and general public hosted by the CEC Discuss comments with the CEC Revise text (using tracked changes), checking as needed with the CEC	Meetings with stakeholders Final draft report	During the first sixteen months of the project
Final report review and editing (in collaboration with the CEC)	Final review for errors, inconsistencies and lack of clarity in text or graphics	Final report ready for editing, layout and translation	Twenty months after the start of contract

C. Periodic Reporting Requirements

Throughout the project, the consultant will work in close collaboration with the CEC, the project's Steering Committee, and experts to gather information to support delivery of the work. The consultant may consult directly with government officials and other experts linked to the Steering Committee, as needed and in coordination with the CEC designated staff. However, the consultant shall report only to, and receive direction only from, the CEC designated staff.

The CEC Secretariat will forward draft deliverables to the project's Steering Committee and other experts, for their review and comment. The CEC Secretariat will arrange teleconferences with

the consultant, the CEC designated staff, and other experts on an as-needed basis. The goal of these meetings will be to present the products and assess progress on the project.

The consultant will present periodic status reports to the CEC designated staff, and to the Steering Committee when requested by CEC, that summarize the following:

- progress in previous month;
- current status;
- anticipated progress in upcoming month;
- potential problems, with description of and reasons for any delays; and
- actions that should be taken by the CEC Secretariat to facilitate the project.

A copy of these reports is to be sent to the CEC designated staff by e-mail.

The consultant will work in their own offices.

D. Quality of Deliverables

The consultant is responsible for providing deliverables of **publishable quality** (i.e., copy-edited prior to submission) in English and, when applicable, for the technical editing of the materials. The consultant will submit to the CEC Secretariat all written material (including complete drafts and final reports) in Microsoft Word, following the format of the CEC's [Report Template](#) and adhering to the precepts of the [Guidelines for CEC Documents and Information Products](#), as supplemented by the CEC's English [Style Guide](#). [Include reference to any other CEC guideline as necessary.] Supporting documents for tables, figures and maps will be submitted with the report in their original file format (e.g., Excel or ArcGIS). Note that all amounts shall be presented in metric units. The CEC Secretariat will be responsible for the translation into Spanish and French of the final version of this milestone study and, if applicable, for printing, publication and distribution of products from this activity.

Upon delivery by the consultant of a final version of the milestone study or other written materials under the project, the CEC reserves the right to a 15-business day period to review the document(s), notify the consultant of any potential issues or errors, and return the document(s) to the consultant for appropriate corrections, at no extra cost. In all cases, contract payments will be withheld if products submitted to the CEC fail to fulfill the quality and formatting requirements specified above. In the event that the consultant neglects to make the required corrections or if, following corrections, a deliverable remains unsatisfactory, the document shall be edited or revised by a third party designated by the Secretariat, the cost of which shall be deducted from the consultant's fees at a rate of C\$60 per hour.

E. Plagiarism

Plagiarism is the act of conveying someone else's original expression or creative ideas as one's own and can be a violation of copyright law. Neither intentional nor unintentional plagiarism is acceptable to the CEC. The consultant must follow good scholarly methodology in preparing reports and deliverables under the contract, including systematic referencing in footnotes or in-sentence references, for any secondary sources, quotations, data, etc., that do not originate with the author. Sources for tables and figures reproduced from other literature must be given in a "Source" attribution immediately below the table or figure. Failure to properly reference the source of such borrowed material constitutes plagiarism and will be considered a breach of contract. For further information, see [Guidelines for CEC Documents and Information Products](#). In addition, for every written deliverable submitted, the Consultant must use iThenticate software, or an equivalent software approved by the Commission, to validate the written product

in question and must forward the plagiarism review results to the CEC at the time of document submission. Contract payments will be retained if products do not fulfil these requirements.

III. Requirements and Proposal Evaluation

A. Mandatory Requirements

To be eligible for further consideration, all consultants must fulfill the following basic requirements.

1. In-country Ability

The consultant, as well as all his or her personnel and sub-consultants, must be domiciled and able to legally work in at least one of the three North American countries. If travel is required, the consultant must possess valid documentation to travel within these countries and comply with the current health regulations and restrictions in the three countries.

2. Key Personnel

For the purposes of this RFP, the term "consultant" or "bidder" may refer to either a group or company or a single individual.

If a proposal is submitted by a consortium of individuals or institutions, a "lead" consultant should be designated to take responsibility for ensuring overall coordination, the coherence of activity outputs, and the integration of information and ideas.

3. Qualifications Required

The consultant and key support personnel must be qualified, competent and experienced in the subject area. The consultant must demonstrate competency and document 5 years (non-overlapping) within the past 10 years of work experience in the field of solid waste and material management and in particular familiarity with the three countries' paper waste management. The consultant will also have in-depth knowledge of post-consumer waste management, paper waste disposal practices, and related issues, such as circular economy, sustainable consumption and production, efficient use of resources, etc.

Having a branch/subsidiary company or partners/associates, or hiring subconsultants in Mexico is required to minimize travel while ensuring a team bilingual in Spanish and English to carry out fieldwork in this country.

To demonstrate the qualifications mentioned above, the proposed consultant must provide a minimum of three (3) examples of projects completed.

For each project, the consultant must provide:

- i. Client organization name, project title and industry sector;
- ii. Client contact name and title;
- iii. Description of the project, involvement of proposed team members, deliverables expected and methodologies; and
- iv. Lessons learned.

The consultant must have excellent writing skills and be fluent in both written and spoken English and Spanish; proficiency in French is desirable.

4. Proposal Submission

It is the intention of the CEC Secretariat to include the **Terms of Reference (Section II)** of this document) in the contract negotiated with the successful applicant. Therefore, prospective consultants should refer to these for more detailed information on the project and the services to be provided. Prospective consultants are requested not to reiterate the Terms of Reference in their submissions, but are invited to suggest modifications if applicable, within the imposed timeline and budget.

Proposals must include the following:

- A brief statement of interest and intent. This statement should be based upon and serve to demonstrate the consultant's experience and subject knowledge. The statement should address desired results; guidelines (parameters within which results are to be accomplished); resources (human, financial, technical, or organizational support available to help accomplish the results); and other aspects deemed applicable by the consultant. The purpose of this statement is to demonstrate not only the consultant's general and specific familiarity with the subject area, but also to highlight writing skills;
- A general Work Plan and Schedule as well as the proposed methodology for carrying out this project. The bidder must submit a Work Plan that demonstrates they can meet the requirements and timelines outlined in the Description of Services.

The Work Plan must include:

- An overview and understanding of project requirements.
 - The bidder's approach and a detailed description of the methodology, providing clear and logical explanation of data gathering and analysis.
 - Breakdown of each project tasks and scheduling: a detailed description of timing and task allocation for each team member.
- Suggested modifications to the Terms of Reference, if applicable, and the reasons for such modifications;
 - Resumes of the key personnel involved in the project;

For all members of the team, the prospective consultant must submit a detailed *curriculum vitae* (CV), including their individual educational backgrounds and professional designations, for all members of the team, if applicable. It must also include work experiences for the major tasks as described in the Description of Services.

- Detailed cost breakdown, including number of person/days of key and other personnel, direct and indirect costs, and travel costs.

The proposal must identify:

- The team members/resources that will be assigned to the project and their role and contribution to the project;
- Number of years of each resource experience and expertise directly relevant to the work, industry and sector;
- Number of years of experience directly related to the work as outlined in the Description of Services.

The Project Team should be composed of a balanced mix of individuals/resources with the knowledge, skills and experience to accomplish specific project-related tasks outlined in the Description of Services.

In case the bidder is a sole consultant, demonstration of experience consulting and undertaking large projects independently is required.

- References must be presented upon request.

B. Other Information to be Provided

Potential consultants are encouraged to submit any additional information that they believe will assist the CEC Secretariat in the evaluation of their proposal. However, the additional information should not exceed six (6) pages, excluding applicant resumes, samples of previous work or corporate brochures.

C. Type of Contract to be Used for These Services

The CEC Secretariat intends to use its milestone-based contract for these services. A sample is available upon request. If the contract is negotiated with a consortium, the CEC will offer the consultants the option to have separate contracts between each consultant and the CEC.

All work within the contract must be completed by 15 December 2023.

D. Selection Procedure

The consultant deemed best qualified will be selected on the basis of a competitive process, in accordance with sections 2.5-2.7 of the [CEC Consultant Services Procurement Manual](#).

Proposals that the CEC Secretariat determines to be complete will be evaluated according to the procedure described below. Prospective consultants who submit proposals determined by the CEC Secretariat to be incomplete will be so notified in writing.

Each complete proposal that is submitted will be evaluated by the CEC Secretariat according to the following criteria, with a point rating assigned for each:

Evaluation Criteria	Maximum Point Rating
Understanding of milestone study requirements, adequacy of work plan	20
Consultant’s ability to analytically approach the subject, the suitability of the proposed approach, and demonstrated writing ability	30
Consultant’s experience and qualifications and competency of key personnel	20
Consultant’s ability to successfully manage and deliver reports and/or projects similar in scope to this milestone study or larger, on time and on budget	20
Adequacy of budget	10
	<i>Total</i> 100

A minimum score of 80 will be required for the prospective consultant's proposal to be eligible for further consideration.

Proposals in response to this request will be evaluated by the CEC designated staff and technical reviewers, who will form an Evaluation Committee. Each member of the Evaluation Committee will receive a copy of the proposals and will be asked to rate each proposal using the evaluation criteria and its maximum point ratings given above.

The CEC designated staff will arrange for a conference call/meeting among the members of the Evaluation Committee to discuss the ratings, arrive at final scores, and, subsequently, a ranking of all proposals. The strengths and weaknesses of each proposal, in terms of the evaluation criteria, will be noted and summarized. Once the selection has been made, each prospective consultant will be provided with their score—if requested—along with their comparative ranking. However, neither the evaluations nor the scores of other bidders will be provided.

E. Estimated Level of Resources Required

The budget for this activity is expected to be C\$170,000 (one hundred and seventy thousand Canadian dollars), including professional fees and expenses.

Eventually reimbursable expenses would be detailed in the CEC standard contract; in addition, the cost of using iThenticate software (US\$50) or other approved software to detect plagiarism should also be considered.

For universities and nongovernmental organizations, note that the CEC accepts that overhead be charged for administration and other indirect costs up to 15% of the total value of the contract.

If the proposal were presented by a consultant established in Mexico, the applicable value-added tax will be 0%, in accordance with Article 29, section IV, paragraph a) of Mexico's VAT Act, as these are technical services that were engaged from abroad.

If a currency other than Canadian dollars is used, the consultant should indicate the total cost of the professional services in Canadian dollars as well as the currency of choice, for comparison purposes.

F. Basis of Payment Required

The consultant will be paid according to the table on deliverables and milestones in the "Description of Services" and "Estimated level of resources required" sections above.

Payment shall be made only for *bona fide* consultant fees and legitimate expenses incurred in accordance with the contract for professional services, and only upon receipt and documented acceptance by the Secretariat of statement(s) of account/invoice(s) from the consultant. Settlement of invoices that are acceptable for payment will normally be made 30 days from the date of receipt by the Commission.

G. Conflict of Interest

"Conflict of interest" means, but is not limited to, a situation where a consultant's personal interest is sufficiently connected with professional duties under the contract, such that it results in a reasonable apprehension that said personal interest may influence the exercise of professional responsibilities under the contract. For example, a direct conflict of interest exists when the consultant is also a CEC government official, or is related to or closely affiliated with a CEC government official, CEC staff member or third party involved with the performance of the services.

The consultant will inform the CEC Secretariat of any circumstance that existed prior to the execution of this contract, or that could manifest during the performance of this contract, which could constitute a conflict of interest. The consultant will complete and sign, on behalf of all his or her personnel, the attached *Declaration of Acceptance and Impartiality and Independence* (see Annex V). The Consultant will also take note of the [CEC Consultant Services Procurement Manual](#).

H. Deadlines for Proposal Submission and Decision

The proposal, including all relevant attachments, must be received by the CEC Secretariat offices by **12:00 EST on 29 April**. Proposals submitted after this deadline will not be considered.

Proposals must be submitted via e-mail to aandugar@cec.org. Proposal format may be in Microsoft Word or Adobe PDF format. Once the proposal has been submitted electronically, the CEC will confirm receipt within three business days. If receipt is not confirmed by e-mail within this time, **applicants must contact the CEC**. The contact person is:

Antonia Andúgar Miñarro

Project Lead

Commission for Environmental Cooperation

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Montreal, Quebec, Canada H3B 5M2

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The CEC Secretariat intends to select the consultant and notify the applicants within a reasonable period of time following the proposal submission deadline.

Annex I. Circular Economy Definitions

Currently, there is no standard, internationally-recognized definition of “circular economy.” Below are several appropriate definitions to provide guidance and reference for carrying out this RFP.

Domestic

1. Government of Canada:

The circular economy is a different way of doing business.

The way our economies extract, use, then dispose of resources is putting pressure on our natural systems, communities, and public health. This is a linear economy—it moves in a straight line from resource extraction to waste disposal.

In a circular economy, nothing is waste. The circular economy retains and recovers as much value as possible from resources by reusing, repairing, refurbishing, remanufacturing, repurposing, or recycling products and materials.

It’s about using valuable resources wisely, thinking about waste as a resource instead of a cost, and finding innovative ways to better the environment and the economy.

Source: <https://www.canada.ca/en/services/environment/conservation/sustainability/circular-economy.html>

2. Government of the United States:

The term “circular economy” means: an economy that uses a systems-focused approach and involves industrial processes and economic activities that; are restorative or regenerative by design; enable resources used in such processes and activities to maintain their highest values for as long as possible; and aim for the elimination of waste through the superior design of materials, products, and systems (including business models).

Source: **Save Our Seas 2.0 Act** - [United States law enacted on December 18, 2020](#)

Reports/Studies

3. Closed Loop Partners Report (2020)

Put simply, the circular economy eliminates the concept of waste and makes the most of materials that are already in play, much like natural systems in which nutrients are continually cycled. Resource efficiency, and the resulting opportunities for savings and profit, is at its core.

Source: [The Circular Shift: Four Key Drivers of Circularity in North America Report](#)

4. McCarthy et al. (part of OECD Environment Working Papers series):

There is no single commonly accepted definition of the term “circular economy”, but different definitions share the basic concept of decoupling of natural resource extraction and use from economic output, i.e. increased resource efficiency as outcome. One core view of the circular economy is that it can be defined relative to a traditional linear economic system, i.e. one that focuses on closing resource loops. A second, slightly broader, view of the circular economy stresses the importance of slower material flows, either within an economy with some degree of material circularity, or within one that is more linear. The third, and broadest, view of the circular economy is that it involves a more efficient use of natural resources, materials, and products

within an existing linear system. This broad view of the circular economy affects potentially all economic activities, not only those that have a high material use profile, and is the one applied in most modelling assessments and in this review.

Source: [McCarthy, A., Dellink, R. and Bibas, R., 2018. The macroeconomics of the circular economy transition: A critical review of modelling approaches.](#)

5. Circle Economy – Circularity Gap Report (2018):

At the heart of the circular economy is the idea of moving away from linear value chains that we have had in place for more than 200 years. It means breaking with the ‘take-make-waste’ tradition and transitioning towards a circular approach that is much less heavily reliant on raw material extraction and much more focused on minimising and eliminating waste. The broader benefit of this circular model is to separate things we do want from our economic system - such as equally distributed prosperity and a bright future for the next generations - from those we do not want – like wasteful use of scarce natural resources and adverse effects on our environment and society. A circular economy is thereby a decoupling strategy aimed at growing prosperity, whilst intelligently managing resources within the boundaries of our planet.

Source: <https://www.circularity-gap.world/>

Organizations

6. Ellen MacArthur Foundation:

Systems solution framework that tackles global challenges like climate change, biodiversity loss, waste, and pollution. It is based on three principles, driven by design: eliminate waste and pollution, circulate products and materials (at their highest value), and regenerate nature. It is underpinned by a transition to renewable energy and materials. Transitioning to a circular economy entails decoupling economic activity from the consumption of finite resources. This represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits.

Source: <https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/glossary>

7. International Resource Panel (IRP) & United Nations Environment Programme (UNEP):

The circular economy is one in which the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste is minimized. This is in contrast to a ‘linear economy’, which is based on the “extract, make and dispose” model of production and consumption.

Source: <https://www.resourcepanel.org/glossary>

8. United Nations:

Whilst there is no universally agreed definition of a circular economy, the 2019 United Nations Environment Assembly, the UN’s flagship environment conference, described it as a model in which products and materials are “designed in such a way that they can be reused, remanufactured, recycled or recovered and thus maintained in the economy for as long as possible”.

Source: <https://news.un.org/en/story/2021/06/1093802>

Events and related communications

9. Sitra / World Circular Economy Forum (WCEF):

The circular economy is not a new idea. Indigenous communities across North America and beyond have been practicing principles of circularity, including regeneration and reciprocity, since time immemorial.

Source: <https://www.sitra.fi/en/publications/wcef2021-summary-report/>

An economic model which does not focus on producing more and more goods, but in which consumption is based on using services – sharing, renting and recycling – instead of owning. Materials are not destroyed in the end, but are used to make new products over and over again.

Source: <https://www.sitra.fi/en/dictionary/the-circular-economy/>

The circular economy is part of the glue that binds together the need to tackle climate change, the loss of biodiversity and the overconsumption of natural resources with an inclusive democracy, economic growth and increasing social well-being.

Source: <https://www.sitra.fi/en/blogs/circular-economy-makes-business-sense-and-can-help-tackle-global-crises/>

10. Circular North America – Discussion Paper and Event Summary (May 2021)

The circular economy has come to the forefront as a solution for moving away from today's linear 'take-make-waste' society, addressing growing environmental and social challenges and risks while generating significant economic benefits. Defining the opportunities for North America requires an understanding of where things are today, what the end goal is, and how to get there – identifying relevant natural resource industry strengths while leveraging service-based sectors and the broader innovation ecosystem.

Source: https://www.canada.ca/content/dam/eccc/documents/pdf/circular-economy/north-america-paper/WCEF-Circular-North-America_Report_2021_EN.pdf and <https://circulareconomyleaders.ca/circular-north-america/>

Annex II. Definitions

It is important to take a step beyond the general definitions used for reporting purposes at national or regional level, as these definitions could vary from country to country and do not reflect the definitions used by industry to trade in paper waste. To help identify specific subsets of paper waste with limited recycling utility, we suggest following the industry definitions for the common post-consumer municipal waste streams.

Please note that the list below is not an exhaustive list and will have to be verified for accuracy and completeness.

A. Institute of Scrap Recycling Industries, Inc. (ISRI) Scrap Specifications Circular [page 31-35]

(11) **Old Corrugated Containers (OCC)** Consist of corrugated containers having liners of either test liner or kraft paper. Prohibitive Materials may not exceed 1%. Outthrows plus prohibitives may not exceed 5%.

(12) **Double-Sorted Old Corrugated (DS OCC)** Consist of double-sorted corrugated containers, generated from supermarkets and/or industrial or commercial facilities, having liners of test liner or kraft. Material has been specially sorted to be free of boxboard, offshore corrugated, plastic, and wax. Prohibitive Materials may not exceed 1/2 of 1%. Outthrows plus prohibitives may not exceed 2%.

(36) **Unsorted Office Paper (UOP)** Consists of printed or unprinted paper typically generated in an office environment that may include a document destruction process. This grade may contain white, colored, coated and uncoated papers, manila and pastel colored file folders. Prohibitive Materials may not exceed 2%. Outthrows plus prohibitives may not exceed 10%.

(37) **Sorted Office Paper (SOP)** Consists of paper, as typically generated by offices, containing primarily white and colored groundwood-free paper, free of unbleached fiber. May include a small percentage of groundwood computer printout and facsimile paper. Prohibitive Materials may not exceed 1%. Outthrows plus prohibitives may not exceed 5%.

(54) **Mixed Paper (MP)** Consists of all paper and paperboard of various qualities not limited to the type of fiber content, sorted and processed at a recycling facility. Prohibitive Materials may not exceed 2%. Outthrows may not exceed 3%.

(56) **Sorted Residential Papers & News (SRPN)** Consists of sorted newspapers, mail, magazines, printing and writing papers and other acceptable papers generated from residential programs (such as residential household and apartment collections and drop-off centers) sorted and processed at a recycling facility. Containerboard and brown grades (OCC, Kraft bags, boxboard and Kraft carrier board) will be considered as "Outthrows." Due to some technical questions, a clarification to the language above was made in August 2019. Prohibitive Materials may not exceed 2%. Outthrows may not exceed 3%.

(58) **Sorted Clean News (SCN)** Consists of sorted newspapers from source separated collection programs, converters, drop-off centers and paper drives containing the normal percentages of roto gravure, colored and coated sections. May contain inserts that would normally be included in the newspaper in the proper proportions. Grade must be free of excessive ink, brown grades and non-paper material. (Some mills may require pack to be free of flexographic inks.) Prohibitive Materials may not exceed 1/2 of 1%. Outthrows plus prohibitives may not exceed 1%. Other papers may not exceed 10%.

B. ISRI Scrap Specifications Circular - Glossary of Paper Stock Terms [page 34]

Boxboard: Paperboard made from a variety of recovered fibers having sufficient folding properties and thickness to be used to manufacture folding or set-up boxes.

Corrugated Containers: Shipping containers made with kraft paper linerboard and corrugated medium.

Kraft: Paper made from the sulfate (pulping process) pulp.

Paperboard: Denotes paper products used for packaging (corrugated boxes, folding cartons, set-up boxes, etc.).

C. WCO Harmonized System Codes for paper waste and scrap

Four Harmonized System (HS) Codes are relevant to paper waste as defined below through the Canadian International Trade Database [consistent with US Census Bureau]. These codes would allow for tracking of trade flows for specific sub-streams outside North America, as a secondary measure to assess recycling capacity on the continent.

HS 4707 Recovered (**waste and scrap**) paper or paperboard:

- HS 470710 – **Unbleached Kraft paper or paperboard or corrugated paper or paperboard**
- HS 470720 – Other paper or paperboard made mainly of **bleached chemical pulp, not coloured in the mass**
- HS 470730 – Paper or paperboard made mainly of **mechanical pulp** (for example, newspapers, journals and similar printed matter)
- HS 470790 – Other not elsewhere specified, **including unsorted waste and scrap**

D. Definitions for paper, cardboard and waste according to Mexico regulations

Cardboard: Sheets made primarily of cellulose material with a weight greater than (base weight) 240 g/m².

Folding Carton: Material used for the fabrication of foldable containers and commercially defined by its gauge or thickness. Includes materials covered with one or more layers, appearing natural, grey, or brown, and with one or two layers of white fibre, along with non-covered materials.

Compact Cardboard: Laminate made up of a number of paper or cardboard sheets that are joined under pressure using an adhesive.

Corrugated Cardboard: A structure made up of one or several sheets of corrugated paper (Medium), adhered to one or several sheets of flat paper or cardboard (liner). The three following primary classes stand out:

- **Simple Corrugated Cardboard:** A structure made up of one sheet of corrugated paper, adhered between two sheets of paper or cardboard (liner).
- **Single Face Corrugated Cardboard:** A structure made up of one sheet of corrugated paper, adhered to one sheet of paper or cardboard (liner).

- **Double Wall Corrugated Cardboard:** A structure made up of two sheets of corrugated paper, adhered between two sheets of paper or cardboard (liners).

Rolled Cardboard. (Water Cardboard): Generic term to designate a homogenous cardboard, with a thickness normally greater than 1 mm, usually manufactured using a mixture of paper waste on a rotary drum machine, obtained intermittently.

Duplex, Triplex, or Multiplex Cardboard: Cardboard that is normally called folding carton, made up of two or more fibrous layers with compression in the wet part of the manufacturing process.

Grey Cardboard: Cardboard made of secondary fibers when quality specifications generally only include weight and gauge.

Solid Cardboard: Cardboard that is made up of only one layer of cellulose material and fabricated in a flat machine.

Paperboard: Sheets made primarily of cellulose material with a weight greater than (base weight) 160 g/m² and up to 240 g/m².

Paper: Sheets made primarily of cellulose material with a maximum weight of (base weight) 160 g/m².

Kraft Paper: Paper made with paste coming exclusively from chemical sulfate cellulose (Kraft Process), generally obtained from wood and having characteristics of being very resistant to mechanical forces.

Manila Paper: Originally this term was used for paper made of rope fibers (jute, manila, etc.), but now used as a term to describe paper or cardboard with “Manila” colour characteristics (yellowish brown).

Semikraft Paper: Paper made by mixing Kraft chemical cellulose and secondary fibers that contain this fibre, or manufactured exclusively with these secondary fibers.

Couchée Paper: Cellulose sheets covered on one or both sides with a layer of pigments and binding materials that generally give the sheets qualities that are ideal for printing.

Crepe or Tissue Paper: A substrate manufactured using cellulose and/or secondary or recycled fibers, with soft, absorbent, resistant, and flexible characteristics, available in a semi-crepe or raised finish (stamped or micro stamped), or with a smooth finish, used for personal care.

Liner Paper: Used for the flat surfaces, outside or inside, of corrugated laminates. Also includes paper used for solid fiber laminates. Its characteristics depend on the final use and formulas used, including white, manila, and grey faces.

Medium Paper: Used for the manufacture of flutes, waves, or corrugations to create thickness in corrugated laminates.

Waste: Material or product whose owner or holder throws out and is in either a solid or semi-solid state. It can also be a liquid or a gas contained in buckets or tanks, and can be put up for sale and which may be capable of being covered or it may require treatment or final disposal in accord with

the General Law for Integral Waste Prevention and Management and other legislation derived from this law.

Recycled: Transformation of waste using special processes that allow for the restoration of economic value, avoiding final disposal, under the condition that the restoration creates a savings in energy and raw materials without damaging health, ecosystems, or their elements.

Note: The term commonly used in Mexico is “paper and cardboard waste,” although no specific definition exists.

SOURCES (Available only in Spanish):

- NMX-N-106-SCFI-2010: LIST OF FIBROUS RECYCLED PAPER MATERIAL QUALITIES (CARDBOARD, CONSTRUCTION PAPER, PAPER, FILE PAPER, SHREDDED PAPER, AND SIMILAR), FOR THE MANUFACTURE OF PAPER - CLASSIFICATION AND TESTING METHODS (<https://www.camaradelpapel.com.mx/pdf/normas/NMX-N-106-SCFI-2010.pdf>)
- NMX-EE-74-1980 “CRATING AND PACKAGING.- PAPER AND CARDBOARD. TERMINOLOGY (https://caisatech.net/uploads/XXI_2_MXD_H52_NMX-EE-074-1980_R0_9JUL1980.pdf)
- General Law for Integral Waste Prevention and Management. (https://www.diputados.gob.mx/LeyesBiblio/ref/lqpgir/LGPGIR_orig_08oct03.pdf)

Annex III. Outline of the fieldwork to be carried out in Mexico

Objective: Develop an analysis of the current state of recycling of paper in Mexico, considering industrial and collector's associations statistics, and an estimation of the contribution of the informal sector through interviews

The following activities are only an example for designing the interviews and the collection of information, such as:

- 1. Design of surveys for interviews for the compilation of information on paper waste recycling from industry and collector's associations, in order to provide knowledge for the analysis of industrial statistics:**
 - 1.1 Sources of data
 - 1.2 Contact and information of Collectors' associations
 - 1.3 Information of recycling process
 - 1.4 Inputs
 - 1.5 Recycled material used (if used)
 - 1.6 Production
 - 1.7 Market
 - 1.8 Best practices
 - 1.9 Personnel
 - 1.10 Challenges and opportunities
 - 1.11 Recommendations (depending on the restrictions due to the COVID-19)

- 2. Estimation of the contribution of the informal sector - Interviews with collectors' associations (*asociaciones de pepenadores*) to request information on:**
 - 2.1 Paper collection
 - 2.2 Number of people employed in the activity
 - 2.3 Working conditions
 - 2.4 Volume collected
 - 2.5 Market
 - 2.6 Challenges and opportunities
 - 2.7 Recommendations

Recommended but not limiting content of surveys and interviews:

- **Recycling programs:** Start of operations, characteristics, program managers, volume of waste collected and partners
- **Description process:** equipment, sort systems, supplies and process efficiency
- **Recycling Process Inputs:** Quantity of energy, material, water, transportation, labor and capital inputs to recycling processes
- **Recyclable Material Production:** Quantity and types of waste collected, recyclable materials produced, and production history

- **Market of recyclable materials:** Sectors to which recyclable materials produced are distributed, prices, supply and demand, synergies with governments, chambers or associations
- **Personnel:** Number of people employed in the activity (men and women), working conditions and functions
- **Obligations:** regulatory instruments, certifications, official Mexican standards that regulate the production/distribution/sale/recycling of paper
- **Best practices and recommendations**

Annex IV. The Informal Sector in Mexico

It is possible to distinguish between the formal and informal sectors in Mexico. The formal sector refers to productive activities that respect fiscal, labor and social laws in general in all senses. The product or service, as well as the production and commercial trade, in this sector complies with the governmental regulations in force and a record related to the process is kept. However, not all laws in the informal sector are respected, mainly those that refer to taxation, labor standards and the social rights of workers.

In the informal sector, the manufactured product is considered legal (just like a service provided), but its production and marketing are not. For example, in the field of municipal solid waste handling, unofficial collectors or *pepenadores* (not part of an organized, official service) who collect from dumps and on the streets are not committing any crime, since the collection of recyclable material in the dump or from discarded material on the street is not illegal, but hiring collectors who lack the due recognition of social rights is indeed illegal.

Annex V (see also Schedule D in CEC standard contract)

CONSULTANT'S DECLARATION OF ACCEPTANCE AND IMPARTIALITY AND INDEPENDENCE FOR CONTRACT

I, the undersigned,

Last Name: _____ First Name: _____

ACCEPTANCE

hereby declare that I accept to serve as consultant in the subject contract.

IMPARTIALITY AND INDEPENDENCE

(If you accept to serve as a consultant, please check one of the two following boxes. The choice of which box to check will be determined after you have taken into account, inter alia, whether there exists any past or present relationship, direct or indirect, with any of the Parties to the Environmental Cooperation Agreement (ECA) or their Commission for Environmental Cooperation ("CEC") representatives, Secretariat staff, and/or third parties involved in the performance of this contract, whether financial, professional, familial, or of another kind and whether the nature of any such relationship is such that disclosure is called for pursuant to the criteria set out below. Any doubt should be resolved in favor of disclosure.)

I am impartial and independent with respect to the ECA Parties and their CEC representatives, CEC Secretariat staff, and third parties involved in the performance of this contract and intend to remain so; to the best of my knowledge, there are no facts or circumstances, past or present that need be disclosed because they are likely to give rise to justifiable doubts as to my impartiality or independence, and that may constitute a conflict of interest.

OR

I am impartial and independent with respect to the ECA Parties and their CEC representatives, Secretariat staff, and/or third parties involved in the performance of this contract, and intend to remain so; **however**, I wish to call your attention to the following facts or circumstances which I hereafter disclose because they might be of such a nature as to give rise to justifiable doubts as to my impartiality or independence, and that may constitute a conflict of interest. Where facts or circumstances exist that might give rise to the latter such doubts, I may set out measures I intend to take to mitigate or eliminate any doubts regarding my impartiality and independence, and/or a possible conflict of interest. (Use separate sheet and attach.)

Date: _____

Signature: _____