JPAC PUBLIC CONSULTATION AND FORUM H-2030 BACKGROUNDER

This document aims to provide general information about the Commission for Environmental Cooperation's (CEC) Reaching Horizon 2030: An Environmental Outlook for North American Cooperation (H-2030) initiative, outlining its goals and significance. It also emphasizes the crucial role of public participation in ensuring the success and sustainability of the initiative, while offering a brief context about the priority topics.

I. CONTEXT

The triple planetary crisis encompasses three interconnected challenges facing humanity today: climate change, pollution, and biodiversity loss. The global community recognizes that we are in a critical decade, where meeting the 2030 climate change and biodiversity goals is essential to keeping global warming within 1.5°C and addressing biodiversity loss.

II. THE ROLE OF THE CEC AND THE H-2030 INITIATIVE

The initiative Reaching Horizon 2030: An Environmental Outlook for North American Cooperation (H-2030) was announced in June 2023 to detail how the North American region can prepare for the environment and climate challenges it is expected to face until 2030 and beyond. Moreover, it will identify how the Commission for Environmental Cooperation (CEC) can support the international commitments of Canada, Mexico and the United States on key climate, pollution, and biodiversity loss targets for 2030.

The CEC's role is to facilitate environmental cooperation between the three countries for the conservation, protection and enhancement of the environment. For the last 30 years, the cooperative work program of the CEC has been supporting communities and governments in addressing common environmental challenges and helped position North America as a global leader on a number of issues.

The H-2030 initiative aims to provide critical information and input to chart the future of CEC's work and help identify priority actions to accelerate progress to 2030. The H-2030 will focus more specifically on three priority topics: Earth Observation Technologies and Other Geographic Information System (GIS) Tools, Sustainable Transportation, and Ecosystem Services / Sustainable Use and Management of Biodiversity. These topics were selected by the three governments as they represent areas where regional collaboration could be highly beneficial.

For each priority topic, it is important to consider the differential impacts of the triple planetary crisis on vulnerable, disadvantaged, and/or underserved communities and gain the perspective and develop deep partnerships and collaborative action with key actors. Hence, the following cross-cutting themes will be examined: Indigenous Knowledge (IK) / Traditional Ecological Knowledge (TEK), Environmental Justice, Subnational Governance/Action (including cities/urban dimensions), and Corporate Social Responsibility and Private Sector Engagement.

Through regional expert engagement and public consultations, the H-2030 initiative will identify and issue recommendations on how the CEC could contribute to addressing these challenges through its strategies, programs, and partnerships. The collective analytical work of the experts will inform the development of a comprehensive H-2030 report, which will include: 1) an overarching assessment of key environmental issues, challenges, and emerging trends leading to 2030; and 2) special sections/chapters providing strategic recommendations outlining concrete actions for the North American region to take by 2030 on the three priority topics. The initiative will also include a set of pilot projects in response to these recommendations. A

first draft of the main findings of the H-2030 report will be made publicly available for comments in May 2025 and presented at the CEC Council Session[1] in 2025.

III. THE IMPORTANCE OF THE PUBLIC

Consistent with the H-2030 initiative, the CEC's Joint Public Advisory Committee (JPAC) will host a public forum to advance discussions on addressing the triple planetary crisis. JPAC is the organization's core mechanism for stakeholder engagement and public participation in CEC activities. Comprised of a diverse group of experts from the three countries (representatives from private sector, NGOs, Indigenous Peoples, youth, etc.), JPAC provides advice to the Council on matters related to environmental cooperation in North America and contributes to strengthening environmental governance for the CEC across the region.

This open forum will bring together experts on the elements of the triple planetary crisis, as well as the initiative's priority topics and cross-cutting themes. JPAC will subsequently provide its recommendations to the Council on the H-2030 topics in the form of an Advice. This forum is a unique opportunity for the public to participate and individuals to add their voice on addressing these critical issues we are facing. The H-2030 JPAC forum will be livestreamed for all members of the public who wish to participate and who cannot join the event in person. To register for the JPAC public forum (in person or virtually), please go to http://www.cec.org/events/jpac-public-forum-on-reaching-horizon-2030/.

We also encourage you to participate in the online consultation process at http://www.cec.org/consultations/reaching-horizon-2030/.

IV. DIVING DEEPER INTO THE PRIORITY TOPICS

Priority Topic 1: Earth Observation (EO) Technologies and Other GIS Tools to Address Climate Change

Context and Focus

Climate change is affecting the peoples and environment of North America in unprecedented and accelerating ways. Extreme weather events, extreme heat, forest fires, diminishing air quality and a host of other ecosystem changes are being felt across the region. The National Oceanic and Atmospheric Administration (NOAA) reports that the Earth's temperature has risen by an average of 0.11° Fahrenheit (0.06° Celsius) per decade since 1850 and that the rate of warming since 1982 is more than three times as fast per decade.[2] The United Nations notes that ocean temperatures are warming due in part to absorbing between 20 to 30 percent of human-induced carbon dioxide emissions since the 1980s.[3] The World Health Organization notes that climate change now presents a "fundamental threat to human health" experienced through a diverse array of climate-caused health outcomes: injury and mortality from extreme weather events, heat-related illness, respiratory illness from air pollution, water-borne diseases, zoonoses, vector-borne diseases, malnutrition and food-borne diseases, noncommunicable diseases and mental and psycho-social health events.[4]

How can we work collaboratively to mitigate and adapt to these realities in a just and equitable way? How can we better understand the changes afflicting us so we can make better place-based decisions? What are the opportunities for the private sector and subnational governments to advance mitigation and adaptation solutions in North America? How can mitigation and adaptation solutions integrate Indigenous Knowledge, including Traditional Ecological Knowledge, and promote environmental justice?

[1] The CEC Council is composed of the highest-level environmental authorities (cabinet-level or equivalent) from Canada, Mexico, and the United States.
[2] Source: https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature
[3] Source: https://www.un.org/en/climatechange/science/key-findings
[4] Source: https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health

Through the H-2030 initiative we will investigate these questions and explore more specifically the existing and emerging earth observation (EO) technologies and other GIS tools that can map and inventory key climate indicators, events and impacts. We will examine how they can be used to provide relevant and timely data; how the addition of other data sources—social, cultural, socio-economic, citizen-captured, etc.—can enrich the understanding of trends and observations so that decision-making and action-taking can be inclusive, just and equitable. Ultimately our goal will be to identify strategies, pilot initiatives and concrete actions that can help actors from across the region develop and institute more robust climate strategies for more effective adaptation and resilience over the next five years and which will accelerate our progress and ability to meet 2030 climate targets.

Highlight of National Strategies (examples)

In 2022, Canada released a national strategy for satellite earth observation "Resourceful, Resilient, Ready" with a focus on "equipping Canada with as many tools as possible to confront climate change." Its principles and commitments include a process for "whole-of-society" collaboration through free, open and accessible data (openly available and easy-to-use) and a recognition of the importance of international collaboration to tackle and contribute to climate change. In addition, the strategy prioritizes the need for "end-to-end" data integration and innovation that brings together satellite data with complementary ground-based and socio-economic data for improved environmental management and public health monitoring. The strategy also focuses on reducing risk to those who are most vulnerable to the impacts of climate change—ensuring that we develop responses and approaches that are mindful of the need for preservation of peoples, cultures, and environment. The strategy calls for activation, engagement and leadership by local communities, Indigenous Peoples, academia, the aerospace and high-tech sectors, and governments at all levels to work together to build resilience to climate change.

In the United States there are several key national strategy papers directed to satellite earth observation technologies and/or GIS tools. These include: the US Environmental Protection Agency (EPA) Geospatial Strategic Plan 2023–2027, US Department of State Geospatial Data Strategy, US Department of the Interior Geospatial Strategic Plan, and the USAID Geospatial Strategy 2024–2028. While the first three of these strategy papers speak to such issues as data creation, integrity, quality, structure, interoperability, and architectures for enhanced data sharing and support services, the latter strategy paper (USAID) addresses the opportunities for the use of such data, seeking to leverage the power of geospatial data and technologies for program delivery, illumination of areas of needs, assessment of program efficacy and facilitation of on-the-ground decision-making. Several guiding principles of note within this strategy point to enriching evidence-based decision-making through integration of GIS data with other social, economic and environmental data; a focus on expanding FAIR (findable, accessible, interoperable and reusable) geospatial data; advancing equity by leveraging geospatial insights to better understand patterns of inequality and the systems and structures that perpetuate them; and co-creating context-appropriate geospatial products and data through engagement and partnership with key stakeholders.

In 2023, Mexico began operation of a new Atmospheric Composition Observatory (OMECCA) in response to a growing need for systematic data to better understand the impacts of climate change. Focused on the measurement of carbon dioxide and other pollutants, data from OMECCA will be exchanged with other global networks and provide invaluable information to the multiplex of commissions and agencies in Mexico,[5] whose portfolio of responsibilities steward and manage the environment in all its forms.[6] In October 2024, Mexico's new Secretary of Environment and Natural Resources, Alicia Bárcena, announced the new government's

[5] These commissions and agencies include AEM, ASEA, CAMe, Conabio, Conafor, Conagua, Conanp, IMTA, INECC, Profepa, INEGI and INAAC, among others.

[6] Source: https://mexicobusiness.news/aerospace/news/omecca-advances-climate-science-space-infrastructure-mexico

humanist ecological and environmental policy focused on restoration, remediation, rivers and waste that has at its heart a centrality for environmental safeguarding and natural resources management based on evidence, knowledge and measurable data and principles of rights, equality, social participation, and shared prosperity for present and future generations.[7] Data from earth observation observatories, GIS tools, and other data sources will be essential in this regard.

Examples of Trilateral Cooperation through the CEC

The CEC has long prioritized climate change as an area for trilateral cooperation and action. Through this theme, two areas serve as focal points: emissions reduction and community adaptation to extreme weather events. Within these two focal points, four areas have been explored to date: increasing energy efficiency, improving resilience to extreme events and climate impacts, improving access to climate change information, and quantifying carbon sources and storage. In many instances, trilateral understanding and initiatives are centrally supported by two geospatial initiatives that stand as exemplars of what can be achieved through trinational collaboration.

- North American Environmental Atlas. The Atlas is a unique tool that combines and harmonizes geospatial data from Canada, Mexico and the United States to provide a continental and regional perspective on environmental issues that cross boundaries. The Atlas consists of a series of thematic map layers—terrestrial ecoregions, industrial pollution, watersheds, human influence factors—to base land mapping so it provides insight into the ways our environment is changing (ecosystems and biodiversity across land and water) and how it is impacting human health, well-being and the places we call home. Since its inception, more than 1,100 publications and articles have been produced by researchers and organizations to inform science, policy and action across North America.
- North American Land Change Monitoring System. NALCMS is a collaborative initiative with Natural Resources Canada (NRCan)'s Canada Centre for Mapping and Earth Observation (CCMEO), the United States Geological Survey (USGS), and three Mexican agencies: the National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía*—INEGI), the National Commission for the Knowledge and Use of Biodiversity (*Comisión Nacional para el Conocimiento y Uso de la Biodiversidad*—Conabio), and the National Forestry Commission (*Comisión Nacional Forestal*—Conafor). The NALCMS harmonized land cover products can be used for a variety of applications, including: carbon sequestration analysis, wildlife habitat mapping, ecosystem monitoring, environmental planning, water quality assessments, and evaluation of biofuels production potential

Priority Topic 2: Sustainable Transportation for Pollution and Emissions Reduction

Context and Focus

Sustainable transport is generally defined as the use of low- and zero-emission, energy-efficient, and affordable transportation options, highlighting modes such as electric vehicles and alternative-fuel transportation, alongside the promotion of domestic fuels, as key components of this approach.[8] Similarly, the United Nations defines sustainable transport as a system that facilitates the safe, affordable, accessible, and efficient movement of people and goods, while fostering economic and social development and minimizing emissions and environmental impact, to ensure long-term resilience for future generations.[9]

[7] Source: https://www.gob.mx/semarnat/prensa/se-compromete-alicia-barcena-a-continuar-y-fortalecer-la-politica-ambiental-del-pais-379602
[8] Source: https://www.energy.gov/eere/sustainable-transportation-and-fuels
[9] Source: https://www.un.org/en/observances/sustainable-transport-day

Globally, the transportation sector is responsible for the equivalent of approximately 8.4 billion metric tons of carbon dioxide-equivalent ($GtCO_2e$) emissions, accounting for 16% of global greenhouse (GHG) emissions in 2023 and making the transportation sector the second-largest source of emissions worldwide.[10] The contributions, as a proportion of national emissions is even greater within North America. In the United States, GHG emissions from transportation account for 33% of total US GHG emissions, making it the largest contributing sector.[11] One-quarter (26%) of Mexico's total 737 $MtCO_2eq$ emissions in 2022 were attributed to the transportation sector.[12] In Canada, the transport sector accounted for 22% of total national emissions (156 $MtCO_2eq$) in 2022.[13]

The H-2030 initiative aims to identify strategies to define and achieve common regional objectives between now and 2030, and support national efforts to decarbonize the transport sector while accelerating collective efforts that will reduce pollutant and GHG emissions so they are in line with international and national reduction targets. Through the initiative we will seek to better understand which transport subsectors are key contributors to air pollutants and greenhouse gas emissions and examine the ways in which these impact global warming, local air quality, and public health.

Particularly, we will be looking to identify where pollution and emissions are most concentrated along transportation routes, in order to ascertain targeted actions that can reduce these emissions effectively. We will map novel, collaborative, and empowering strategies to accelerate the transition to cleaner, more sustainable transportation modes, while ensuring that these solutions are inclusive and benefitting of disadvantaged, vulnerable, and marginalized communities. We will also aim to create mechanisms for ongoing collaboration between government, private sector entities, and local communities to monitor and adjust strategies that will meet national and international GHG reduction targets, improve local health and accessibility to sustainable transportation modes to support local and intercommunity mobility for all.

Highlight of National Strategies (examples)

The Departments of Energy, Transportation, Housing and Urban Development and the Environmental Protection Agency in the United States have collaborated to develop a far-reaching strategy for cutting all greenhouse emissions for the transportation sector by 2050. Known as the US National Blueprint for Transportation Decarbonization, the plan aims to decarbonize the entire US Transportation sector through a whole-of-government approach focused on three core strategies: Increasing convenience through the improvement of community design and land-use planning, improving efficiency through increased options to travel more efficiently, and transitioning to clean options through zero emission vehicles and fuels, taking into consideration the full life-cycle vehicle and fuel solutions life-cycles emissions. The strategy is targeted toward all transportation systems, vehicles and technologies and spans seven sub-sectors of modes of travel: light-duty vehicles, medium- and heavy-duty trucks and buses, off-road vehicles and mobile equipment, rail, maritime vessels, aviation, and pipelines.

Canada has similarly developed a broad brushed and multi-faceted strategy for its transportation sector, known as "Transportation 2030: A Strategic Plan for the Future of Transportation in Canada." Central to the H-2030 initiative is one of the five themes in this strategy: Green and Innovative Transportation. The goal for this theme is "to improve Canadians' lives by using new technologies and reducing the environmental impacts of transportation including greenhouse gas emissions and air pollution." Specific directions of action to be

[10] Source: https://www.statista.com/topics/7476/transportation-emissions-worldwide/#topicOverview
[11] Source: https://www.epa.gov/greenvehicles/why-we-need-decarbonize-transportation
[12] Source: https://mexicomlogistics.com/action-on-climate-change-freight-consolidation-to-reduce-the-amount-of-co2emissions/#:~:text=Greenhouse%20gases%20emissions%20from%20transportation%20in%20Mexico,which%20cargo%20transportation%20is%2018.5%25.
[13] Source: https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/greenhouse-gas-emissions.html#transport

undertaken through this initiative include making zero emission vehicles more affordable, reducing emissions from the aviation, rail and on-road freight sectors, investigating cooperative truck platooning, and investing in renewable and next-generation clean energy and technology.

Mexico has developed an equally far-reaching *National Strategy of Mobility and Road Safety (Estrategia Nacional de Movilidad y Seguridad Vial* or Enamov). The strategy paper reflects that, in 2019, Mexico's "land transport subsector was responsible for 92.2% of net CO_2 emissions and 97.4% of black carbon emissions from the entire transport sector." Priorities within the Enamov establish public transport and active mobility as central areas for action. Equally, the need to strengthen goods transfer systems, connectivity to North America (and elsewhere) and development of decarbonized, intelligent and interconnected transportation solutions. The approach notes that decarbonizing transportation solutions must go hand-in-hand with decarbonization of the energy matrix as the latter is mainly based on fossil fuels and thus electrification of mobility may result in higher economic and environmental costs in the medium- and long-term, which in turn would reduce the benefit of these transitions and adoptions. Importantly, this strategy is backgrounded by a 2020 Constitutional reform that entrenched "the right to mobility in conditions of road safety, accessibility, efficiency, sustainability, quality, inclusion and equality" (Article 4 of the "Political Constitution of the United Mexican States"). Twinning mobility with notions of sustainability and equity is pivotal for thinking about the opportunities that might be pursued through the H-2030 initiative and in bringing together the initiative's cross-cutting themes with specialist areas of action.

Examples of Trinational Cooperation through the CEC

Since 2013, the CEC has undertaken a series of projects focused on reducing emissions from the transportation sector. Examples include:

- Greening Transportation at North American Land Ports of Entry (2013–2014). This project analyzed vehicle emissions associated with border waiting times and health-related impacts, proposing viable options and practices to reduce vehicle emissions due to traffic congestion.
- Reducing Emissions from Goods Movement via Maritime Transportation in North America (2013–2014) and Phase II (2016). This project worked to establish a common North American approach to Emission Control Areas (ECA) for ships, looking at development and adoption of ship emission control technologies, fuel quality, and best practices for the reduction of air pollutants, including nitrogen oxides, sulfur oxides, and particular matter.
- Fuel Sulfur Emission Control Areas: Assisting Mexico (2015–2016). Aimed at increasing the regional capacity to comply with international fuel sulfur standards and help establishing Emission Control Areas in Mexican Waters.
- Increasing Sustainability in the Transport Manufacturing Sector (2008–2015). This initiative led to new partnerships, supply chain networks and framework documents, as well as a pilot project dedicated to "Improving the Economic and Environmental Performance of the North American Truck and Bus Manufacturing Supply Chain" which, among other deliverables, reviewed environmental benchmarks and certification in the areas of waste management, water use, chemicals management, air quality and energy efficiency.
- Maritime Transport: Reducing its Environmental Impact (2017–2018). This project shares capacity to improve efficiency, environmental performance, and competitiveness of this sector and support the anticipated growth in trade and transport while reducing the environmental footprint.

Priority Topic 3: Ecosystem Services and the Sustainable Use and Management of Biodiversity

Context and H-2030 Focus

Biodiversity and climate change are incontrovertibly interlinked, with climate change and changes in land use being the primary drivers of biodiversity loss while simultaneously acting as "our strongest natural defense

against climate change."[14] The Convention on Biodiversity COP 16, held recently in Cali, Colombia, has once again drawn the world's attention to the "global vision of a world living in harmony with nature by 2050."[15] It builds upon COP 15, which saw the historic adoption of the Kunming-Montreal Global Biodiversity Framework (GBF) that set four biodiversity goals for 2050 and 23 targets for 2030. These targets are clustered under three broad action areas: 1) reducing threats to biodiversity, 2) meeting people's needs through sustainable use and benefit-sharing, and 3) tools and solutions for implementation and mainstreaming. The recent COP16 led to an agreement for "an expanded role of Indigenous Peoples and local communities in saving biodiversity and a groundbreaking agreement on the operationalization a of a new global mechanism to share benefits from digital genetic information."[16] As Parties to the CBD, both Canada and Mexico are committed to implementing the GBF. The United States is not a Party to the CBD but has developed the America the Beautiful strategy (often referred to as *30x30*), which shares many overlaps with the GBF objectives.

The H-2030 initiative aims to identify opportunities and strategies to implement actions that increase the provision of ecosystem services across the North American region and to seek opportunities for improving management of the biodiversity. It aims to identify specific domains where trilateral collaboration can accelerate our progress towards shared biodiversity objectives and in so doing find effective, sustainable, inclusive ways of better accounting for (socially, culturally and economically) our region's biodiversity and those who steward it and conserve it. We strive also to identify new mechanisms and facilitate the sharing of existing community-driven approaches that can scale across the region, and which acknowledge the leadership role that Indigenous, Tribal and Traditional land stewardship approaches have had in maintaining the planet's ecosystems, waters, and species.

Highlight of National Strategies (examples)

Through Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, President Biden issued a call to action to the US Department of the Interior and other agencies across the federal government "to conserve, connect and restore at least 30% of lands and waters in the United States by 2030 for the sake of [the US] economy, health, and wellbeing." This "30x30" mandate has been encoded and transcribed into a national strategy, America the Beautiful. Dedicated to conservation, connection, and restoration of lands, waters and wildlife, the strategy is committed to an evidence-based approach, support for locally led and designed conservation, honoring of Tribal sovereignty and support for priorities of Tribal Nations, and approaches that recognize and balance voluntary stewardship efforts, sustainable use and management for sustainable livelihoods, and the importance of improving community resilience through access to nature.

In addition to being committed to the GBF and working toward its 2050 goals and 23 targets for 2030, Canada is moving forward to achieve its biodiversity commitments through Canada's 2030 Nature Strategy: Halting and Reversing Biodiversity Loss in Canada released earlier this year (2024). The priorities echo many of those of the United States, including recognition, upholding and implementing the rights of Indigenous peoples; a whole-of-society approach; empowerment of on-the-ground community-located action; evidence-based actions driven by science and knowledge; and supportive of a resilient economy.

Contributing to the United Nations 2021-2030 Decade on Ecosystem Restoration and Decade of Ocean Science for Sustainable Development as well as the GBF, Mexico is actively working on many fronts for conservation, stewardship, restoration and protection of its lands, waters and species. On October 30, 2024, the Secretary of the Environment and Natural Resources announced initiative MEx30x30 which aims to guarantee conservation of 30% of Mexico's territory by 2030. It builds on Mexico's National Biodiversity Strategy (*Estrategia Nacional sobre Biodiversidad de México*—ENBioMex); a guiding document that presents the main elements for

[14] Source: https://www.un.org/en/climatechange/science/climate-issues/biodiversity
[15] Source: https://www.cbd.int/gbf
[16] Source: https://www.cbd.int/conferences/2024

conserving, restoring, and sustainably managing biodiversity and the services it provides in the short, medium, and long term. The approach will be achieved through collaboration with local and Indigenous communities across Mexico.

Examples of Trinational Cooperation through the CEC

A central pillar of the CEC's Strategic Plan 2021–2025, the conservation and sustainable use of biological diversity and protection of ecosystems, has been a long-standing area of CEC focus and trilateral action. With more than 30 years of activity, the CEC website now hosts more than 150 publications dedicated to a wide variety of topics that demonstrate the CEC's work with communities to conserve and restore North America's terrestrial and marine ecosystems and priority species. Examples of work under this strategic pillar include:

- Monarch and Pollinator Conservation efforts to support regional collaboration for pollinator and Monarch butterfly conservation through a variety of projects, tools, networks, and publications.
- Working to help conserve the central grasslands of the Great Plains by joining existing efforts such as the Central Grasslands Roadmap Initiative, filling knowledge and information gaps while facilitating inclusive and diverse collaboration.
- Partnering with Indigenous and local communities to gather information about the changing environment so as to inform climate change adaptation strategies that respect and recognize the unique nature of these knowledge systems, resulting in projects such as "Resilience of Indigenous Peoples Traditional Food Systems" or "Indigenous Approaches to Freshwater Management in North America";
- Efforts to make Marine Protected Areas more resilient to climate change while enhancing their natural and socio-economic co-benefits, and to support implementation of nature-based solutions to address flood risk in coastal cities by providing guidance for practitioners and decision-makers.