Canada Energy Regulator | Régie de l'énergie du Canada

Greenhouse Gas Emissions and Climate Change Supplemental Guidance (draft)

1. Regulatory Context and Background

The *Canadian Energy Regulator Act*[1] (**CER Act**), which came into force in 2019, outlines the factors that the Commission of the Canada Energy Regulator (Commission) must consider when making a decision or recommendation for certain projects, including pipeline and powerline projects. In particular, new to the CER Act, a factor that the Commission must take into account is the consideration of environmental obligations and climate change commitments (Factor), as stated below:

> "The extent to which the effects of the [project] hinder or contribute to the Government of Canada's ability to meet its environmental obligations and its commitments in respect of climate change." [2]

A similar factor was added to the federal *Impact Assessment Act*[3], which was enacted at the same time as the CER Act. In January 2020, the Impact Assessment Agency of Canada outlined the policy context for this Factor. The document provides information on the requirements and expectations that the Impact Assessment Agency has when it considers the Factor.

In October 2020, Environment and Climate Change Canada (**ECCC**) published the Strategic Assessment of Climate Change (**SACC**); the related draft Technical Guides were published in 2021 and 2022. These documents provide guidance for designated projects under the *Impact Assessment Act*, and the consideration of Canada's climate change commitments. The SACC states that guidance for projects regulated by the Canada Energy Regulator (**CER**) will similarly consider the principles and objectives of the SACC.

The CER Filing Manual was updated following the publication of the SACC. The Filing Manual requires proponents to consider the principles and objectives of the SACC in their facilities applications. While the SACC provides broad direction on all types of project applications, the CER Filing Manual sets out specific requirements that need to be met for CER-regulated projects.

2. Purpose

The CER recognizes that transparency, predictability, and efficiency in its regulatory processes can contribute to enhancing Canada's global competitiveness, while driving innovation in support of the transition to a low carbon economy. The CER has worked, and continues to work, closely with ECCC in the developing of guidance around climate change considerations, and to provide clarity for proponents of pipeline and power line projects.

[1] S.C. 2019, c.28, s.10
[2] This language appears in CER Act s.183(2)(j), s.262(2)(f), s.298(3)(f)
[3] S.C. 2019, c.28, s.1

This document outlines how the new Factor may be considered by the Commission of the CER when undertaking its assessment of new facilities projects. Although the Factor contains two distinct considerations (environmental obligations and climate change commitments), the focus of this document is Canada's climate change commitments (see section 3.5 for further discussion on Canada's climate change commitments).

The following sections provide additional context for proponents on greenhouse gas (**GHG**) commitments in relation to CER-regulated projects. This includes considerations around whether a project's effects could hinder or contribute to the Government of Canada's ability to meet climate change commitments.

The Commission assesses each application on its merits pursuant to the CER Act. The information provided in this document is guidance only and is meant to complement, not replace, the requirements specified in the Filing Manual.

3. Considerations for assessing the Factor

The consideration of GHG emissions is not new to the CER or its predecessor, the National Energy Board. The CER has updated the Filing Manual to reflect the inclusion of this Factor in the CER Act.

This guidance is intended to be considered along with the draft revisions to the filing requirements and guidance in the Guide A of the Filing Manual [add hyperlink here]. These revisions provide further details and expectations for project applications and are based on expectations as set out in the SACC and associated draft Technical Guide.

Key elements that the Commission may take into consideration on a project's potential hindrance or contribution to Canada's climate change commitments include:

- magnitude of GHG emissions;
- mitigation measures for GHG emissions;
- applicability of relevant laws, regulations and policies;
- net-zero plan;
- project's contribution to climate change commitments; and
- upstream emissions

The following sections expand on each element above. Guiding questions for each element are also provided.

3.1 Magnitude of GHG emissions

GHGs are cumulative in nature and global in impact. Canada has committed to reducing GHG emissions by 40 to 45 per cent below 2005 levels by 2030.

In assessing the magnitude of emissions, the Commission considers the sources of direct and indirect third-party emissions that would be expected throughout the entire lifecycle of a project. The potential GHG emission sources for a proposed project or activity will vary, depending on the type of facility and planned activities.

GHG emissions associated with **project construction** generally stem from operation of construction equipment, land clearing, and biomass burning. Emissions from construction equipment are dependent on variables such as terrain complexity and season. Clearing-related emissions are more difficult to quantify and are based mainly on fuel loading assumptions for the ecotype and hectares to be cleared, minus any salvageable timber.

GHG emissions associated with **project operation** vary based on product carried, throughput capacity, individual design, and component counts. Line compression is typically the largest direct GHG emission source for natural gas pipeline projects, and operational emissions associated with natural gas pipeline projects are generally larger than those associated with operating oil pipeline projects (depending on the electrical grid drawn from). Other sources of operational emissions may include: maintenance and inspection activities (including aerial patrols); additional process equipment (such as glycol heating boilers or onsite generators, dependent on project design); and fugitive emissions from valves, connectors, pumps, and tanks. For facilities with electrically driven equipment (such as pumps on oil pipelines), GHG emissions could stem from onsite power generation (direct emissions) or from tie-in to the grid (indirect GHG emissions)[4].

The SACC and draft Technical Guides provide further details on quantification methodologies for these sources.

As explained in the Filing Manual, proponents are expected to provide the methods and assumptions used to quantify project-related GHG emissions. Proponents are expected to use recent and reputable emission estimate equations and emission factors. Proponents are also encouraged to use ECCC's National Inventory Report's emission factors when calculating estimated vehicle and equipment emissions.

Proponents should provide a comparison of the project's predicted GHG emission intensity to the emission intensity of similar energy efficient project types in Canada. It may be useful to provide a comparison of the project's magnitude of predicted project emissions with federal, provincial, and sector totals, as well as to Canada's GHG reduction targets (discussed below).

Magnitude of GHG emissions: Possible Guiding Questions that the Commission may consider in its assessment

- *Is the Project likely to generate high, medium or low volumes of GHG emissions during any phase of the Project when compared to similar projects in nature, scope and scale?*
- *How does the GHG emissions intensity for the proposed facility compare with industry and technology performance?*
- *Are the methods, data sources, rationale for the chosen method, and assumptions to estimate the Project emissions appropriate?*
- *How does the project's predicted emissions compare to federal, provincial, sector totals and to Canada's GHG reduction targets?*

[4] Indirect GHG emissions associated with electricity generation may be subject to provincial regulation.

3.2 Mitigation measures

Proponents are expected to undertake a comprehensive assessment of the various mitigation measures, and best available technologies and environmental practices to minimize GHG emissions in each phase of construction, from clearing through to abandonment. Considering potential mitigation measures early in the design and planning phase offers opportunities to identify and plan GHG reductions. For example, in a Project application, a proponent may propose situating a project in a location that requires less biomass removal or propose capturing or flaring natural gas instead of venting.

As efforts to mitigate GHG emissions continue to evolve and improve, proponents are encouraged to include a discussion of alternative measures or means that were considered and the rationale for selecting or eliminating certain measures.

Where GHG emissions cannot be avoided or reduced, the additional measures above and beyond standard mitigation (i.e., offset measures) to further reduce GHG emissions, including carbon dioxide captured and stored, corporate-level initiatives and use of offset credits, may be considered.

Mitigation Measures: Possible Guiding Questions that the Commission may consider in its assessment

- *How were GHG emissions considered in the project design?*
- *What mitigation measures are proposed to avoid, reduce or capture GHG emissions from the project and how do these compare to current best practices?*
- *Were innovative approaches proposed for managing emissions over the life of the project?*
- *Are there any additional measures (i.e., offset measures) being implemented for the project?*

3.3 Applicability of relevant climate change laws, regulations and policies

The Filing Manual sets out that proponents are expected to provide a list of the federal, provincial, or territorial GHG legislation, regulations, and polices that will apply to the project, and explain any implications for the project.

Given the rapidly evolving space of climate change policy within Canada and internationally, proponents are encouraged to plan for how further changes to laws, regulations and policies may potentially impact the economic feasibility of a project. Potential risks of changes to the regulatory environment that could require adaptive management by the proponent could include a project's available supply, market demand, utilization, costs, and financing.

Relevant Climate Change Laws, Regulations and Policies: Possible Guiding Questions that the Commission may consider in its assessment

- *How are the applicable provincial or federal carbon pricing requirements (including reporting) being managed for the project?*
- *How have the potential risks associated with future changes to climate change laws, regulations and policies been quantified and planned for? Are there adaptive management plans in place for these risks?*

3.4 Net-zero Plan

Unless clearly articulated in a project application, the CER assumes that all new project applications will have a lifetime beyond 2050. As such, proponents are expected to provide a credible net-zero plan for projects beyond 2050. Both the SACC and the Filing Manual specify that proponents may submit either a project-specific or a corporate net-zero plan, depending on the nature, scope and scale of the project.

The level of detail expected in a net-zero plan by the Commission will depend on the nature of the project. For example, a compressor station that has significant point source GHG emissions released continually over the operating life are likely to require a credible net-zero plan to explain how the proponent will avoid, reduce, mitigate or offset these emissions in either a stepwise or gradual manner by the year 2050. For projects where the primary GHG emission sources are more driven by the system of which it is a part (such as maintenance inspections, aerial patrols) or are managed at a corporate level (such as compliance with a company-wide fugitive emission management program), adherence to a corporate plan for achieving net-zero emissions by 2050 may be more appropriate.

Net-zero Plan: Possible Guiding Questions that the Commission may consider in its assessment

- *What specific actions or measures will be undertaken to achieve net-zero emissions by 2050?*
- *What are: the associated costs of implementing each action or measure; potential impacts on tolls; technical challenges; risks; infrastructure requirements; and any other relevant considerations?*
- *Has the proponent committed to providing periodic project milestones that demonstrate progress in GHG reductions towards net-zero?*
- *How does the credible plan to achieve net-zero emissions by 2050 impact the economic feasibility of the project?*

3.5 Project's contribution to climate change commitments

In recent years, there has been a substantial evolution in Canada's climate policy environment, shaping the future context for Canadian energy supply, demand, trade, and infrastructure. Among these commitments are the Paris Agreement, Canada's 2030 target, and the goal of Canada achieving net-zero

emissions by 2050.[5] Given the magnitude of change required for Canada and the world to reach net-zero emissions by 2050, future policy, market, and technology changes will continue to shape energy in Canada over the next three decades. Examples of key developments include the *Canadian Net-Zero Emissions Accountability Act* (including the 2030 Emissions Reduction Plan.)[6] and the 2016 Pan-Canadian Framework on Clean Growth and Climate Change.

The Commission recognizes that certain projects may have the potential to reduce emissions by either displacing high emission intensity projects with lower emission intensity projects, or by facilitating GHG removals, thereby contributing to Canada's climate change commitments.

Project's Contribution to Climate Change Commitments: Possible Guiding Question that the Commission may consider in its assessment

- *Is the Project contributing to the Government of Canada's ability to meet its commitments in respect of climate change by reducing or eliminating GHG emissions, or facilitating GHG removals?*

3.6 Upstream emissions

The Filing Manual sets out when proponents are required to provide an estimate of upstream emissions and the extent to which those emissions would be incremental as a result of the project. The SACC provides guidance on the thresholds for consideration of upstream emissions, and these thresholds are applied in the context of CER-regulated projects. Consideration of upstream emissions will typically include quantitative estimates of emissions, as well as the qualitative discussion about the incrementality of these emissions. The qualitative discussion provides a context for which the project will be operating in, and whether the estimated upstream emissions would occur with or without the project.

Upstream emission assessments may also be a key element in the considering the overall cumulative effects of any proposed project. The Commission expects that the upstream assessment, when submitted by the proponent, be scoped to be consistent with the development assumptions that support a given project. Further, the Commission expects the assessment to be consistent with the long term economic, financial, and engineering assumptions made in an application.

[5] See Strategic Assessment of Climate Change

[6] For additional and updated information, please see ECCC's Canada's climate plans and targets - Canada.ca

Upstream Emissions: Possible Guiding Questions that the Commission may consider in its assessment

- *Are the project-related upstream emissions above the thresholds outlined in the SACC? If yes, did the proponent undertake a quantitative assessment of upstream GHG emissions associated with the project?*
- *Did the proponent follow the methodology outlined in ECCC's draft Technical Guides?*
- *How have the potential risks associated with future changes to climate change laws, regulations, and policies applicable to upstream emissions been quantified and planned for?*

4. Decision-making and conditions

The GHG and the climate change Factor is one of several factors that the Commission considers when making a public interest decision or recommendation for a proposed project. The information provided in an application and related submissions addressing GHGs and the climate change Factor will support the Commission in determining the extent to which the effects of the project may hinder or contribute to Canada's climate change commitments.

The Commission may impose conditions related to the Factor. These conditions would vary based on the scope, scale, and nature of projects under review. Conditions may refer to mitigation measures and other requirements to avoid or reduce a project's GHG emissions. Conditions may also include a reporting requirement in which the proponent would be expected to demonstrate progress toward implementing these mitigation measures as well as the plan for reaching net-zero emissions by 2050 (for projects with a lifetime beyond 2050). Given the evolving regulatory environment related to GHG emissions and climate change in Canada, the Commission's conditions can be expected to evolve.