

Net-Zero New Industry Intentions Paper



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Summary

B.C.'s industrial sector is a major employer in communities across B.C. and generates significant economic benefits and government revenue. The Province is committed to maintaining and further strengthening the competitiveness of the sector while ensuring that its legislated greenhouse gas emissions targets are met. A competitive, low carbon industrial sector aligns with B.C.'s climate commitments, attracts clean industries from around the world and positions companies operating here to thrive in a global economy that increasingly values clean, low carbon resource development and manufacturing jobs.

In October 2021, the Province published the [CleanBC Roadmap to 2030](#) (Roadmap), detailing its plan to achieve its legislated 2030 emissions reduction target of 40 percent below 2007 levels and put it on the path to meet future emissions reduction targets. To ensure new industrial development aligns with B.C.'s climate targets, the Roadmap introduced a commitment to require that all new large industrial facilities develop a plan to achieve net-zero greenhouse gas (GHG) emissions by 2050¹.

Further to the commitments set out in the Roadmap, in March 2023, the Province introduced its New Energy Action Framework (NEAF), which among other commitments, requires all proposed liquefied natural gas (LNG) facilities in or entering the Environmental Assessment (EA) process to pass an emissions test with a credible plan to be net-zero by 2030. The Roadmap commitment and NEAF collectively establish a Net-Zero New Industry Policy.

B.C. is proposing to amend the Greenhouse Gas Industrial Reporting and Control Act (GGIRCA) and its regulations to implement the Net-Zero New Industry Policy. New facilities will be required to develop net-zero plans that must be approved by the Climate Action Secretariat before the facility is permitted to proceed. The net-zero plan will show how the facility considered the best available technologies and practices to minimize on-site emissions in its design to support achievement of 2030 and 2040 targets. The plan will also present how the facility will mitigate the balance of remaining emissions through options such as offsets. In 2050 (2030 for new LNG facilities) and each year thereafter, facilities will be required to achieve net-zero emissions.

Under the Declaration on the Rights of Indigenous Peoples Act, the Province has a commitment to develop policy and legislation in consultation and cooperation with Indigenous Peoples. Consultation and cooperation with Indigenous Peoples will occur in 2023 and take multiple formats (webinars and meetings with individual First Nations) and will reflect the different protocols in place with a distinctions-based approach.

¹ Net-zero emissions means that any GHG emissions are balanced by equivalent amounts of GHG removals from the atmosphere.

Background

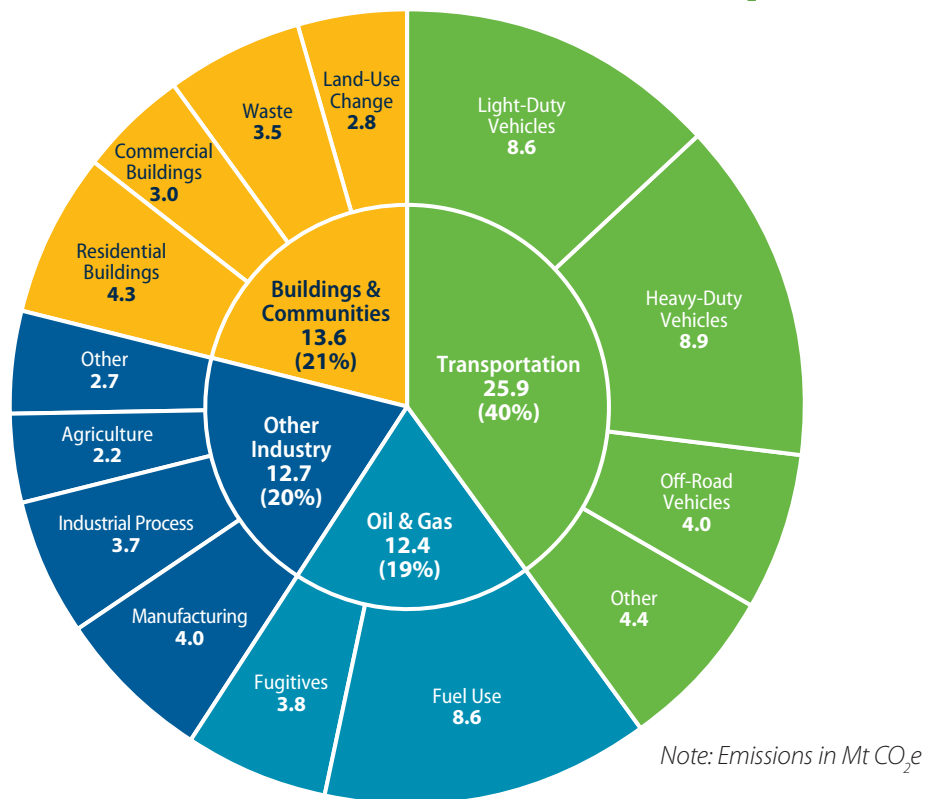
B.C. has established emission reduction targets under the Climate Change Accountability Act to reduce province-wide emissions by 16 percent by 2025 (an interim target not specified in the Act, to guide process towards later, legislated targets), and 40 percent, 60 percent and 80 percent below 2007 levels by 2030, 2040 and 2050 respectively. The Government also pledged to legislate a province-wide net-zero 2050 emissions target; the Climate Action Secretariat (CAS) will consult on the addition of this new emission reduction target to the Climate Change Accountability Act.

To keep the Province on track to achieve its province-wide targets, B.C. established sectoral targets, including for the oil and gas sector (33 to 38 percent reduction from 2007 levels by 2030) and other industry (38 to 43 percent reduction). These sectoral targets were established based on the most feasible and cost-effective way to achieve our province-wide target.

Industrial emissions are a significant part of the Province's greenhouse gas emissions. In 2020, industrial emissions made up approximately 40 percent of the Province's total emissions.

Sector-specific emissions

B.C.'s 2020 Gross Emissions by Sector – 64.6 Mt CO₂e





The [Climate Change Accountability Report \(CCAR\)](#) reports annually on the Province’s progress towards its legislated targets. GHG emissions modeling in the 2022 CCAR forecast that B.C.’s plan can achieve 97 percent of its 2030 target, with a shortfall of 0.8 million tonnes carbon dioxide equivalent (CO₂e)². This shortfall is predominantly attributable to changes in the federal government’s accounting of emissions in the 2007 baseline year. It also stated that B.C.’s progress to the 2030 target could be significantly impacted if new, high-emitting industrial projects begin operations without planned measures to mitigate emissions.

In March 2023, B.C.’s Climate Solutions Council (CSC) provided written advice on the proposed Net-Zero New Industry Policy. Their key recommendations were the need to 1) assess feasibility for net-zero technology for each sector; 2) ensure that new industry development also aligned with 2030 and 2040 targets; 3) support net-zero through facilitation of electrification, carbon capture and sequestration (CCS) and offsets; 4) reconsider the inclusion of upstream and downstream emissions under the net-zero policy; and 5) continue development of climate policy for new and existing facilities to achieve Province-wide net-zero emissions. CAS has incorporated the feedback into the development of its net-zero new industry and other climate policies.

² Carbon dioxide equivalent (CO₂e) means the mass of carbon dioxide that would produce the same global warming impact as a given mass of another greenhouse gas, as prescribed in the Carbon Neutral Government Regulation.

Proposed legislative and policy framework

B.C. proposes to amend GGIRCA and its regulations to implement the Net-Zero New Industry Policy. GGIRCA lays out the requirements for large industrial facilities (those with annual facility emissions above 10,000 tonnes CO₂e) to report and limit their GHG emissions. GGIRCA allows the establishment of a maximum level of emissions per unit of production. Facilities have the option to meet this limit through various compliance options including offsets and compliance charges, however limitations may be placed on the use of compliance options.

Amendments proposed will require:

- new, large industrial facilities to achieve net-zero emissions in 2050 (2030 for LNG projects) and every year thereafter
- develop a net-zero plan detailing how the facility will achieve net-zero emissions and demonstrate alignment with 2030 and 2040 targets
- an analysis of best available technologies (BATs) / best environmental practices (BEPs) considered, including a rationale for technologies or practices not being adopted
- approval of the plan by CAS before the project may be issued with an Environmental Assessment Certificate (EAC) or other project approvals
- review and update of the approved plan every 5 years

Emissions scope

Emissions subject to net-zero requirements will be all GHG emissions located at the new industrial facility, including those from stationary combustion, venting, flaring, fugitives, industrial processes and on-site transportation. Emissions from land-use change associated with the construction of the facility are not included in the scope of the policy. Off-site transportation emissions (such as from logging trucks) are not covered by the policy, but will be covered by the increasing carbon tax.

Facilities will also be responsible for the emissions associated with the generation of purchased electricity, heat, steam, and hydrogen. This is consistent with the scope of emissions included in the net-zero plans under the federal [Strategic Assessment of Climate Change](#) (SACC).

The production (for example extraction, processing and transmission) of fossil fuels used at B.C.'s facilities creates emissions. Although these midstream and upstream fossil fuel emissions will not be included in the net-zero calculations, consistent with SACC, forecast upstream and midstream emissions will need to be reported if they are above a specified threshold. These emissions sources will also be addressed by the regulatory oil and gas cap.

Facility scope

This policy is applicable to new, large industrial projects. “New” is defined as not yet having obtained an EAC (or not yet having obtained the required approvals for construction or operation of the facility for projects outside of the EA process). To align with existing regulatory obligations under GGIRCA, “large” industrial projects are defined as facilities expected to have annual GHG emissions of more than 10,000 tonnes CO₂e. Facilities that have received EACs prior to March 31, 2023 will not be covered by this policy.

Questions



- Should this policy apply to significant expansions of existing facilities that are expected to increase emissions to more than 10,000 tonnes annually? Why or why not?
- What is an appropriate equivalent to issuance of an EAC for those projects that do not trigger the EA process?

Covered facilities include, but are not limited to, larger oil and gas, mining, pulp and paper and manufacturing facilities; clean energy projects like geothermal, small hydro and wind projects are not expected to be included, as their emissions are not likely to exceed the 10,000 tonnes CO₂e threshold.

This policy will apply to projects regardless of whether they are required to undergo an EA process.

Expansion of existing facilities can cause significant GHG emission increases. The Province is seeking input on whether the net-zero policy should also be applied to expansions of existing facilities.

Net-zero plans

A net-zero plan must show how the project will achieve net-zero emissions in 2050 (2030 for LNG facilities) and each year thereafter, as well as align with the achievement of our 2030 and 2040 legislated targets. The plan must prioritize on-site emission reductions over other compliance tools, with consideration for BAT/BEPs. BAT/BEPs are the lowest emission technologies, techniques, or practices, including emerging technologies, that are technically and economically feasible. The plan must also consider making the project able to adopt, at a later point, technologies and practices that are not currently feasible (for example making an off-grid facility able to be electrified should a grid connection become available.)

For projects undergoing the EA process, the plan must be developed before the Readiness Decision is made by the Environmental Assessment Office (EAO); for projects outside the EA process, the plan must be completed prior to receiving necessary approvals under other relevant legislation.

Plans must be updated at least every five years from the commencement of operations, unless otherwise authorized by the Director appointed under GGIRCA. Each update must:

- include an analysis of best available technologies and processes to minimize GHG emissions
- provide an explanation and rationale for the technologies and measures that will be implemented and those that were deemed unfeasible

A proposed draft outline (see appendix A) provides the proposed net-zero plan elements. This draft builds on the SACC net-zero plan requirements. It will continue to be refined as the policy is developed.

Compliance options

Most facilities are expected to have some residual emissions in 2050 (or 2030 for LNG facilities) even after being designed to have the lowest possible emissions. To mitigate these emissions, some facilities may be able to adopt CCS technology on site. To provide some flexibility, the Province is also considering offering facilities additional compliance options: the purchase of high-quality offsets (compliant with BC-eligible, internationally recognized standards) or compliance payments.

The retirement of offsets could be used for compliance under the net-zero policy, with potential limitations such as the number of offsets permissible, eligible vintage (for example year of issuance) and type (for example offsets issued under future protocols for direct air capture). Limitations on the quantity, type, and vintage of offsets can help support the prioritization of on-site emissions reductions.

Questions



- How should the assessment of technical and economic feasibility of BAT/BEP be conducted and updated over time?
- What should be the minimum expectations for a new facility's immediate adoption of clean fuels and technologies in their net-zero plans?
- What should be the implications/consequences for a facility if their net-zero plans are behind schedule or not implemented?

Questions



- What type of offsets should be eligible as a compliance option?
- Should there be limitations on how many offsets facilities can use?
- Should facilities be allowed to bank a limited number of offsets ahead of the year of obligation, and if so, under what terms?
- Are there restrictions to the use of CCS emissions reductions outside of B.C.'s offset system that would ensure their credibility?
- Should compliance payments be used as a compliance option? Why or why not?
 - How should the compliance payment rate be determined (for example aligned with the carbon price level)?
 - Should there be a limit on the extent to which this compliance option can be used?

Other considerations

Questions



- How can the Province support equity between new and existing industrial facilities?
- How can the Province continue to foster industrial development under the Net-Zero New Industry Policy?
- What support does new industry need to thrive within a Net-Zero New Industry Policy context?
- How can the Province best ensure complementarity among various carbon reduction tools, including the OBPS, oil and gas sector cap, methane regulations, and net-zero new industry requirements?

The Net-Zero New Industry Policy will apply requirements and costs on new, but not existing, industrial facilities. This will add capital, operating and compliance costs to new facilities, that are not faced by existing facilities. These costs may reduce new facilities' competitiveness against already existing industrial facilities and those in other jurisdictions that don't face the same requirements, however, carbon pricing policy design is intended to balance these possibilities to provide equity across new and existing facilities.

The Net-Zero New Industry Policy is being implemented along with other industrial climate policies; including the transition to a made-in-B.C. Output-Based Pricing System (OBPS); the implementation of an oil and gas sector cap; and an industrial methane reduction policy. The Province will examine the interactions between these and seek to find efficiencies and minimize compliance and administrative burden by aligning policies to the degree possible.



Enhancing the current industrial facility approval process

Industrial facilities can reduce their GHG emissions at different stages of their lifecycle. The proposed policy outlined is intended to build on the existing, well-established, design and approval processes for construction of new, large industrial facilities.

In general, the lowest-cost and most-efficient emissions reductions are achieved in the design stage before a facility is built and operational. In some cases, deeper reductions may not be immediately possible due to infrastructure or technology constraints (for example when clean electricity is not available). Sometimes future emission reduction measures can be anticipated and planned for at the design stage (for example building a facility that is grid interconnection-ready).

Environmental assessments

EAO assesses major projects in B.C. for potential environmental, economic, social, cultural and health effects and effects on Indigenous nations and their rights. An EA applies to many large industrial projects and explicitly considers a project's GHG emissions, including the potential effects on the Province being able to meet its targets under the Greenhouse Gas Reduction Targets Act. The EA process includes the identification and evaluation of mitigation measures, including emission reduction measures that would be required for a project to proceed.

Similarly, the federal government, in approving major projects, also considers whether the project's GHG emissions are in line with their economy-wide net-zero 2050 target. The federal SACC policy applies to large industrial facilities listed within the Impact Assessment Act which have a lifespan beyond 2050. Under SACC, covered industrial facilities must develop a plan to achieve net-zero emissions by 2050. Emissions included are scope 1 (those from the facility and on-site transportation) and scope 2 (those from the generation of acquired electricity, heat and hydrogen). These facilities are also required to report on the forecasted upstream emissions associated with the production of fossil fuels used by the facility if they are above a threshold, including emissions associated with transmission and transport.

When a project is required to conduct an environmental assessment under both the Provincial Environmental Assessment Act and the federal Impact Assessment Act, there is an agreement in place that ensures the two governments will carry out a single, cooperative environmental assessment while retaining their respective decision-making powers. This means provincial and federal ministers make independent decisions from a single process.

Some projects may not trigger an EA under either the Environmental Assessment Act or the Impact Assessment Act. Those facilities will, if their emissions are greater than 10,000 tCO₂e, be covered by the net-zero policy.

Major project approval process

The Early Engagement phase is the start of the regulatory process with the EAO in which proponents identify the primary emission reduction measures through project design. At the end of the Early Engagement phase, the proponent submits a Detailed Project Description. Based on the description, the EAO will make a Readiness Decision to determine if the project should a) be exempted from the EA process and allowed to go directly to permitting reviews conducted by other agencies; b) proceed to an EA; c) be terminated from the EA process (not be allowed to continue development); or d) be required to provide more information prior to making this decision (figure 1). The Readiness Decision is based on the project's level of potential or known adverse effects, the ability to mitigate such effects and its alignment with government policy. EAO officials must seek to achieve consensus with participating Indigenous nations before making a Readiness Decision.

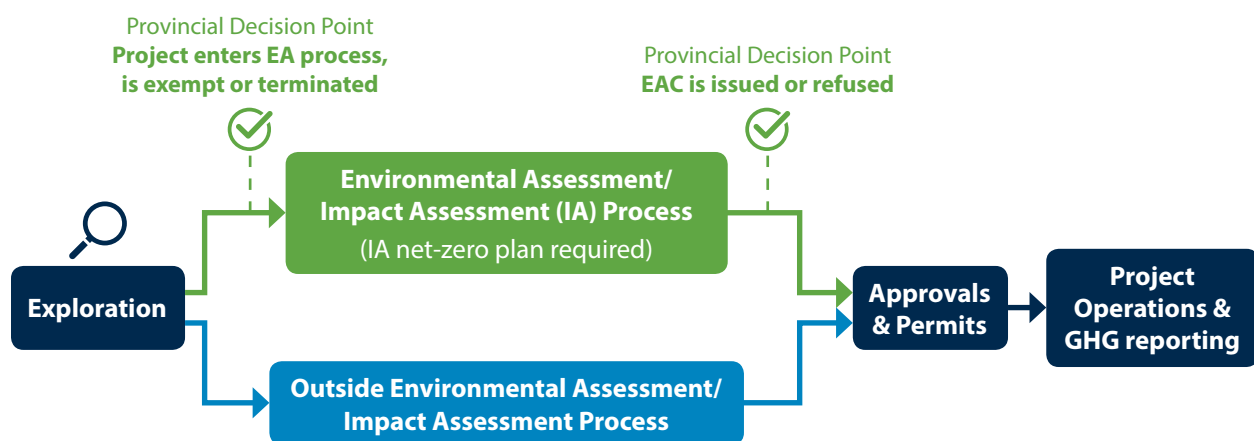


Figure 1. Current regulatory process for B.C. industrial projects

The processes under the provincial Environmental Assessment Act and the federal Impact Assessment Act require that every EA consider a project's GHG emissions and provide additional information (listed in the [Application Information Requirement Guidelines and SACC guidance](#), where applicable) including, but not limited to:

- a description of each of the project's main sources of GHG emissions, by GHG type
- measures identified to mitigate GHG emissions, including through project design and the use of best available technologies
- identification of emissions offsetting and CCS options

If a project is approved, binding conditions can be placed on a project including requiring the management or mitigation of GHG emissions. The Environmental Assessment Act stipulates that failure to meet a project condition could lead to the suspension, cancellation, or amendment of the EAC. Emission conditions are determined on a project-by-project basis based on several factors, including the project's potential effect on the Province's emission reduction targets and/or its ability to reduce emissions later in its lifecycle.

Appendix A: Draft outline of net-zero plan content requirements

As noted above, this is an initial draft building on the requirements of a net-zero plan under the SACC, and will continue to be refined as feedback is received and the policy is developed.

Plan structure

- Net-zero plans must be:
 - **Timebound:** must have different phases in the project life to demonstrate ability to meet 2030, 2040 and 2050 targets (for example current, near horizon, future operation)
 - **Measurable:** must have milestones based on the expected GHG emissions and project phases that the proponent can track
 - **Evergreen:** must be a living document and be reviewed and updated at least every five years including current BATs/BEPs
- Plans must account for the following phases:
 - Initial:**
 - the expected/current operational GHG emissions and the expected GHG reductions for any BATs/ BEPs that were deemed unfeasible
 - Current:**
 - the expected/current operational GHG emissions and the expected GHG reductions for any BATs/BEPs that were deemed unfeasible
 - an assessment of the previous cycle, most immediate and/or recent milestone, assessment of risk of missing net-zero GHG target, and a current BAT analysis
 - Near Horizon:**
 - actionable and measurable objectives and an end-of-cycle emissions target
 - a detailed plan over the following cycle, covering five years
 - Future Operation:**
 - a high-level plan/approach for the remaining years of operation to 2050
 - the required GHG reductions under each pathway identified to reach net-zero by 2050 and a high-level justification for why the GHG reduction is realistic

The plan must include at a minimum:

Project description

- A brief qualitative explanation of the project scope

Engagement with Indigenous Peoples

- Early and ongoing engagement with First Nations title and rights holders and indigenous groups should inform plans. Input received and how it has been actioned or addressed should be included in the plan

GHG emissions

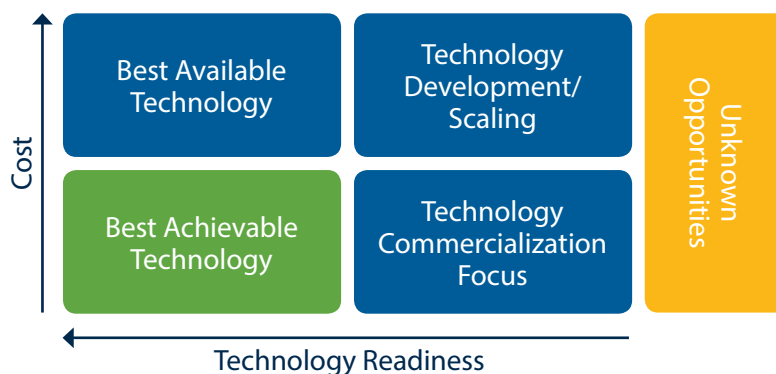
- A quantitative description of the project's estimated annual net GHG emissions over the lifetime of the project and associated emissions intensity (EI)
 - must include facility emissions and acquired energy emissions
 - emissions identified must align with the project's maximum design capacity, and the expected operation capacity
- A set of EI targets (and/or emission targets if EI is not relevant) at specified time intervals until the project achieves net-zero emissions
 - target emissions must align with the applicable net-zero target timeline based on type of facility (2030 for new large LNG facilities, or 2050 for all other facilities)
- A quantitative description of the project's estimated annual upstream GHG emissions over the lifetime of the project

An assessment of the impact of the project's emissions on B.C.'s ability to meet its GHG targets.

Technology scope

- An analysis of the BATs and BEPs considered, including:
 - a list of all potential GHG mitigation measures considered
 - a list of potential GHG mitigation measures selected that are to be implemented in the project, including the following:
 - the potential quantity and percentage reduction in GHGs associated with each technology or measure
 - the level of technology maturity
 - planned timeline for technology implementation
 - the potential barriers, and proposed solutions, to implementing the selected mitigation measures

- considerations must be provided for the cost, geographic location, technology readiness, etc. of the technologies proposed as per the chart below
- a rationale must be provided for eliminating each technology or practice that was not selected for implementation



Other GHG mitigation measures

- A description of any additional mitigation measures that will be implemented to achieve net-zero emissions targets
- If applicable, this must include:
 - a description of CCS technologies to be implemented
 - identification of the type of eligible offset credits that will be targeted and procurement plan for acquiring those offsets
- For each mitigation measure used, the percentage utilized relative to the projected total annual project emissions must be provided

Implementation plan

- An outline of the project schedule including construction and operational timelines
- A description of:
 - the relevant data sources, assumptions, and information to support a feasible implementation plan;
 - factors associated with the schedule such as schedule dependencies, constraints, and risk
 - supportive actions needed (for example infrastructure needs for electrification)
- The plan may describe the process the proponent will follow in order to make the decisions and investments needed to achieve net-zero emissions by 2050 (and 2030/2040 targets), where specific technologies are not yet certain



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