REVIEW OF THE OBPS REGULATIONS:

Consultation Paper

Environment and Climate Change Canada
Environnement et Changement climatique Canada

Canada

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1 Introduction

The federal *Output-Based Pricing System Regulations* (the OBPS Regulations) published in the *Canada Gazette,* Part II, on July 10, 2019 set out the rules for the federal industrial carbon pricing system. The accompanying regulatory impact analysis statement (RIAS) contains a commitment to review the OBPS Regulations in 2022. As part of this review, this consultation paper describes key proposed amendments to the OBPS Regulations as a basis for stakeholder engagement.

- *Section 1* defines concepts central to the review of the OBPS Regulations, provides background to the review, and sets out the review scope;
- *Section 2* highlights themes emerging from stakeholder engagement on the scope of the review;
- *Sections 3 – 6* describe proposed amendments to the OBPS Regulations;
- *Section 7* sets out the next steps and timelines for the review.

1.1 Definitions

The concepts of standards, stringency and benchmarks are central to the proposed changes to the OBPS Regulations and can be used differently in different contexts. The meaning of these terms for the purpose of the review are as follows:

Output-based standards are the emissions-intensity performance standards for specific activities covered under the Output-Based Pricing System (OBPS), expressed as a set level of greenhouse gas (GHG) emissions per unit of output for a given product or activity. These standards are, for the most part, set as a percentage of the production-weighted average emissions intensity of all large emitter facilities producing similar products across Canada.

Stringency refers to the strength of a policy signal. Greater stringency in carbon pricing policy means stronger incentives to reduce GHG emissions.[1] Many parts of the design of the OBPS Regulations affect the overall stringency of the carbon price on industry. In this consultation paper on the Review of the OBPS Regulations, references to stringency refer specifically to the level of output-based standards. When the OBPS was first developed, standards were set at a stringency level of 80% of the production-weighted average emissions intensity of all large emitter facilities producing similar products across Canada for most sectors. Based on an assessment of risks of carbon leakage and adverse competitiveness impacts due to carbon pricing, the stringency of some standards was adjusted to 90% or 95% of the national production-weighted average emissions intensity for the activity. These adjustments included sectors with an average proportion of industrial process emissions of 30% or greater.

[1] *The Pan-Canadian Framework on Clean Growth and* Climate *Change* (PCF) and Canada's strengthened climate plan, A *Healthy Environment and a Healthy Economy,* refer to stringency in a general sense. A number of design factors influence the stringency of carbon pricing policy, including the price trajectory in an explicit price-based system; the coverage of the system; the level of the cap in a cap-and-trade system; and the free allocations provided to industry.

The federal **benchmark** refers to the minimum national stringency criteria used by the Government of Canada to assess provincial and territorial carbon pricing systems to ensure that they are fair, consistent and effective.

1.2 Background

Pricing carbon pollution is widely recognized as the most efficient way to reduce GHG emissions while driving innovation to provide consumers and businesses with low-carbon options. Since 2019, every jurisdiction in Canada has had a price on carbon pollution.

The Government's approach to pricing carbon pollution gives provinces and territories the flexibility to implement a carbon pricing system that makes sense for their circumstances, provided that the system meets minimum national stringency criteria, as defined in the federal benchmark, to ensure systems across Canada are comparable and effective. The benchmark includes a minimum national price per tonne of carbon dioxide equivalent (CO_2e) emissions for direct pricing systems. The initial carbon price trajectory to 2022 was set in 2016 from $20 in 2019 to $50 in 2022.

In December 2020, the Government of Canada released its strengthened climate plan, *A Healthy Environment and a Healthy Economy,* outlining federal policies, proposals, programs and $15 billion in investments to build a stronger, cleaner, more resilient and inclusive economy. The plan confirmed that the Government of Canada will continue to put a price on carbon pollution and proposed that the minimum price increase by $15 per year starting in 2023 to reach $170 in 2030.

This strengthened price trajectory was confirmed in July 2021 in *Canada's Climate Actions for a Healthy Environment and a Healthy Economy* and reflected in the updated federal benchmark requirements for provincial and territorial pricing systems for the 2023-2030 period. The price trajectory and updated benchmark requirements are critical to driving the reductions required to meet Canada's target of reducing GHG emissions to 40-45% below 2005 levels by 2030 and reaching net-zero emissions by 2050. All carbon pricing systems will be required to meet the updated federal benchmark requirements for 2023.

A federal backstop carbon pollution pricing system applies in any jurisdiction that requests it or does not meet the federal benchmark. The federal government returns all direct proceeds from the federal carbon pollution pricing system to the province or territory of origin.

The *Greenhouse Gas Pollution Pricing Act* (GGPPA), adopted on June 21, 2018, establishes the framework for the federal carbon pollution pricing backstop system consisting of two main parts:

- a regulatory charge on fossil fuels (fuel charge); and
- a regulatory trading system for industry, known as the Output-Based Pricing System.

The OBPS is designed to put a price on the carbon pollution of large industrial facilities, while mitigating the risks of carbon leakage and adverse competitiveness impacts due to carbon pollution pricing under the federal fuel charge or in certain cases, a provincial fuel charge or levy. Covered facilities are required to provide compensation for GHG emissions that exceed an emissions limit and are issued surplus credits if their emissions are lower than the applicable emissions limit. Facilities can sell surplus credits or bank them for use in future years.

The federal OBPS applies in Manitoba, Prince Edward Island, Yukon, Nunavut and partially in Saskatchewan. The federal OBPS also applies in Ontario but a transition to the provincial carbon pricing system for industry is planned for January 1, 2022.[2]

1.3 Review principles and scope

The July 2019 RIAS for the OBPS Regulations contains a commitment to review the Regulations in 2022. Building on this commitment, Environment and Climate Change Canada (ECCC) launched the review of the OBPS Regulations with a February 2021 scoping paper, *Review of the Federal Output-Based Pricing System Regulations*. The scoping paper outlined the following principles to guide the review:

- ensure the OBPS continues to contribute to Canada's GHG emissions reduction goals while minimizing competitiveness and carbon leakage risks due to carbon pollution pricing;
- ensure the OBPS Regulations can effectively function as a backstop and apply in any jurisdiction in Canada, if required; and
- reduce administrative burden, where feasible.

The paper proposed to focus the review on four issues:

- **Contribution to Canada's GHG emissions reduction goals**, including considering adding a post-2022 annual tightening rate to output-based standards. See *Section 3* for the proposed amendments.
- **New output-based standards** for activities with three or more facilities emitting 10 kilotonnes (kt) or more of CO_2e in Canada, including a test of the sector's competiveness and carbon leakage risks due to carbon pricing. See *Section 4* for the proposed amendments.
- **Current output-based standards** to be reviewed in cases where the activity definition no longer aligns with current or planned activities by the affected facilities, or where a significant error in the baseline data has become known since the OBPS Regulations were put in place. The review will not reassess competitiveness and carbon leakage risks for the purposes of setting the initial stringency of output-based standards for sectors that were previously assessed. See *Section 4* for the proposed amendments.
- **Explore opportunities to reduce administrative burden**, including improving harmonization of quantification methods for GHG emissions between the OBPS Regulations and the federal Greenhouse Gas Reporting Program (GHGRP). See *Section 5* for the proposed amendments.

Since the publication of the scoping paper, ECCC has identified additional areas for review related to the opt-in policy and to ensure accurate reporting. See *Section 6* for the proposed amendments. In addition, the review will ensure the federal OBPS is designed to align with the updated federal benchmark.

Several other reviews and processes relevant to carbon pricing have recently been completed or are ongoing in parallel but are not in the scope of the review. These include the Interim Report on Carbon

[2]New Brunswick is deemed to have been removed from the federal OBPS as of January 1, 2021: Canada Gazette, Part 2, Volume 155, Number 18: Order Amending Part 2 of Schedule 1 to the Greenhouse Gas Pollution Pricing Act

Pricing (winter 2021) and independent expert assessment of carbon pricing systems in Canada led by the Canadian Institute for Climate Choices (CICC) and published in spring 2021,[3] the exploration of border carbon adjustments for Canada,[4] and the process to reach net-zero electricity generation.[5]

[3] This independent expert assessment by the CICC, combined with federal engagement with provinces, territories, and Indigenous Organizations informed the minimum national stringency criteria (federal benchmark) for the 2023 to 2030 period.

[4] The Government of Canada has launched the first phase of consultations on border carbon adjustments (BCAs), which are expected to continue over the coming months, with a paper framing BCAs in a Canadian and international context. The paper can be found here: Exploring Border Carbon Adjustments for Canada - Canada.ca.

[5] The treatment of electricity generation in the OBPS is not being considered in this review. ECCC will consider revisions to the treatment of electricity generation under the OBPS as part of the process to introduce a Clean Electricity Standard that will set Canada on a path to cut more emissions by 2030 and to achieve a 100% net-zero emitting electricity system by 2035.

2 Engagement

Since 2017, Environment and Climate Change Canada has held over 800 hours of engagement sessions with stakeholders and provincial/territorial partners to inform the development of the OBPS Regulations.

Provincial and territorial governments, industry, environmental non-governmental organizations (ENGOs) and other stakeholders submitted over 50 responses to the scoping paper on the review of the OBPS Regulations during the comment period. ECCC has reviewed these submissions and used them to inform the content of this proposal. Engagement on the review of the OPBS Regulations has also included technical working groups for impacted industry sectors identified in the scoping paper. Comments that are not addressed in this review of the OBPS Regulations will be reconsidered in future reviews.

The submissions addressed a variety of themes, including:

Proposed tightening rate: Some stakeholders indicated concerns over introducing a tightening rate at this time, while emphasizing the need for further analysis and consultation on the costs and potential impacts of the OBPS. Others supported the proposal to continue driving GHG emission reductions and ensure a strong credit market. Some stakeholders recommended that when considering a tightening rate, risks of carbon leakage and adverse competitiveness impacts should be reassessed in light of the strengthened price trajectory.

Industrial process emissions under the OBPS: Stakeholders highlighted the unique challenges to reducing industrial process emissions, while identifying a need for predictable and transparent policy tools to help reduce these emissions and access low-carbon technologies. Some stakeholders opposed applying a tightening rate to industrial process emissions given limited opportunities to reduce these emissions. Other stakeholders supported continuing to impose a price on industrial process emissions to help drive innovation.

Development of new output-based standards: Stakeholders generally supported the development of new output-based standards. Some stakeholders recommended using baseline years consistent with the original output-based standards, with flexibility where needed.

Existing output-based standards: Stakeholders supported reassessing risks of carbon leakage and adverse competitiveness impacts, some citing the strengthened price trajectory and the need for additional mitigation of the risks of carbon leakage and adverse competitiveness impacts for industry, while others proposed a stricter application of the OBPS, such as reducing the number of sectors covered and increasing the stringency of output-based standards. There were also calls for expanding the scope of emissions covered, and requests by industry to review specific standards.

Minimizing administrative burden: Stakeholders supported the proposal to harmonize quantification methods under the OBPS with the most recent version of the GHGRP.

Opt-in: Several stakeholders raised concerns over the 10kt of CO_2e threshold for voluntary participation in the OBPS, citing the need for smaller facilities to mitigate risks of carbon leakage and adverse competitiveness impacts as a result of carbon pricing. There were also comments related to site-level analysis and flexibility around reference years to set output-based standards for opt-in facilities.

Carbon capture, utilization and storage (CCUS): Stakeholders proposed clarifying existing rules on deductions related to carbon capture and storage in the OBPS Regulations and to recognize other forms of carbon utilization as eligible for deduction.

Compliance units: Several stakeholders requested a review of the requirement to provide a minimum of 25% of compensation using the excess emissions charge, with some arguing that it is too low and others arguing that it is too high.

Verification: Stakeholders supported clarifying requirements for third-party verifications, including either removing the limit on the number of reports that can be performed by the same body, or extending the timeframe to 10 years.

Stakeholder comments included items outside of the scope of the review of the OBPS Regulations, such as the review of electricity standards. These comments will be considered under the appropriate process.

3 Contribution to Canada's emission reduction goals

3.1 Tightening rate

3.1.1 Context

The objective of the OBPS is to retain a price on carbon pollution that creates an incentive for emissions-intensive and trade-exposed (EITE) facilities to reduce emissions per unit of output, while mitigating risks of carbon leakage and adverse competitiveness impacts due to carbon pricing. Full carbon pollution pricing can pose competitiveness risks to facilities in EITE sectors if they are competing with facilities producing similar products in countries without equivalent carbon pricing in place, both in domestic and export markets. Carbon leakage occurs when production and investment shift to jurisdictions with similar or relatively higher emissions intensity of production due to less stringent carbon pricing. This weakens emissions reductions at the global level, together with a loss of economic activity in the jurisdiction with more stringent carbon pricing.

To address these risks, systems such as the OBPS limit the costs of carbon pricing for EITE sectors while maintaining the price signal on every tonne of emissions. Over time, as facilities improve their emissions performance in response to the carbon price and other supporting measures, and as the climate ambition of trading partners increases, the risk of carbon leakage will likely decline.

Tightening rates are planned annual reductions to standards, to make carbon pricing systems more stringent over time and ensure that the marginal price signal is maintained and emissions continue to decline. Tightening rates account for ongoing efficiency improvements and increasing climate ambition, supporting a healthy market for surplus credits and helping to fund even deeper decarbonization of industry.

The OBPS Regulations do not currently include a tightening rate, with the exception of certain electricity generation activities. However, increasing the stringency of output-based standards over time has been part of the design of the OBPS from the very beginning, in line with the Pan Canadian Framework and the benchmark. The 2018 Regulatory Framework for the OBPS first introduced the notion that the standards would increase in stringency over time. The 2021 scoping paper on the review of the OBPS Regulations indicated that considering an annual tightening rate would be part of the 2022 review.

3.1.1.1 Other systems

The tightening of standards aligns with international best practice. Tightening rates are built into several industrial emitter systems, including most provincial and territorial carbon pricing systems in Canada.

The European Union Emissions Trading System (EU ETS) currently has a maximum decline in free allocations of 1.6 % per year provided to sectors at risk of carbon leakage. As part of the EU fit for 55 package, the European Commission is considering increasing the maximum decline in free allocations for sectors not covered by the Carbon Border Adjustment Mechanism (CBAM) to 2.5% per year starting in 2026. Sectors that may face a higher decline in free allocations are those targeted by the EU CBAM: electricity, fertilizers, cement, aluminium, and iron and steel. The newly launched United Kingdom (UK) Emissions Trading Scheme will align its tightening rate with its net-zero target emissions trajectory.

Canada's main trading partner, the United States (U.S.), does not have a national carbon pricing system. In California's cap-and-trade system, free allocations for industrial sectors decline by 4% per year for the 2021-2031 period, with the exception of sectors assessed as having high carbon leakage risk, high emissions intensity and a significant share of industrial process emissions. The free allocation for these sectors, coke calcination, nitrogen fertilizer production, cement manufacturing and lime manufacturing; declines by around 2% per year.

In Canada, it is common practice in provincial output-based carbon pricing systems and cap and trade systems to include some form of tightening rate. In some systems, different tightening rates apply to different sectors, and some systems provide exemptions or zero tightening for best performers, facilities below certain emissions thresholds, sectors that choose stringent standards to start instead of a tightening rate, or for industrial process emissions for an initial period.[6]

Many pricing systems also or alternatively include planned reviews of their standards as a mechanism to adjust stringency over time. A tightening rate has the major advantage of providing greater transparency and policy certainty.

3.1.1.2 Increasing stringency globally

More and more governments are implementing stringent climate policies. As climate ambition increases globally, the risks of carbon leakage and adverse competitiveness impacts decrease.

The recent global wave of national target announcements signal the speed and magnitude at which climate change ambition is increasing. Of the 191 Parties to the Paris Agreement, more than 110 Parties had submitted a new or updated Nationally Determined Contribution to the United Nations Framework Convention on Climate Change (UNFCCC) as of October, 2021. Leaders of the U.S., UK, China, Japan, among others, announced significant ramping up of their climate commitments, around the 2021 Leaders Summit on Climate, and the UK made achieving net-zero emission targets a top priority for the G7 Summit that was held this June. More than 130 countries have set or are considering adopting a 2050 net-zero target and commitments are also being made by subnational jurisdictions, cities, coalitions, and businesses around the world, including financial institutions. China, the world's biggest emitter, also pledged to reach carbon neutrality by 2060.

Analysis by the International Energy Agency finds that at least 110 companies involved in energy intensive production or production of energy have set net-zero targets, representing roughly 60-70% of the world's production of cooling and heating equipment, vehicles, cement and electricity. Increasing the stringency of carbon pricing and other climate policies helps to create mutually reinforcing commitments and signals between these pledges and mandated requirements.

According to the World Bank, 64 carbon pricing instruments covering 21.5% of global emissions are in place in 2021, representing a significant increase over 2020. While price levels remain low in general, the expansion of net-zero pledges and increasingly ambitious 2030 commitments suggest carbon price levels will only rise.

3.1.1.3 Ensuring a robust market for credits

The marginal price incentive created by the OBPS is a crucial decision factor for firms investing in emissions reductions. The post-2022 carbon price trajectory sends a strong price signal, increasing

[6] See, Dave Sawyer et al., *2020 Expert Assessment of Carbon Pricing Systems*, Canadian Institute for Climate Choices, (Gatineau, QC: Environment and Climate Change Canada, 2021), 67-71.

annually by $15/tonne of CO_2e to reach $170/tonne of CO_2e in 2030. However, this price level is not the only determinant of the price incentive. Surplus credits are generated by facilities that perform better than their output-based standard. As facilities plan decarbonization investments, the future market price of any surplus credits that they will be able to generate is an important factor, as it represents a revenue stream to help fund or defray the cost of projects. As in any market, there is uncertainty and risk: it is not possible to know for sure what the future market price will be. Tightening standards along a predictable schedule is one action the government can take to reduce uncertainty. Tightening standards reduces the risk of having too many credits in the market, which would drive down the price of surplus credits and weaken the price signal.

The importance of a robust credit market is reflected in the updated benchmark stringency criteria for pricing systems in Canada for the 2023-2030 period. Under the updated benchmark, all systems must create a strong incentive to cut emissions by sending a clear price signal across all emissions, including in credit markets. More specifically, output-based pricing systems must be designed to ensure there is net demand for credits; that is, the total compliance obligation must exceed the total credits available.

Box 1: Linking of OBPS Systems

The scope of this review is limited to the design of the federal OBPS. However, linking OBPS systems across domestic jurisdictions has the potential to provide considerable benefits in the longer term. Linking would enable trading of compliance units or credits across any linked system. Linking of systems reduces the total cost of achieving emissions reductions and with it the total compliance cost. A bigger system expands the available options for emissions reductions with varying costs, allowing for a more cost effective allocation of abatement among a larger number of abatement opportunities. A lower cost of compliance also mitigates carbon leakage to jurisdictions outside of the linked systems.

Credit prices between fully linked systems converge, resulting in a consistent marginal price signal to all facilities covered under the linked systems. The Government of Canada is open to initiating discussions on a roadmap to the linking of systems with interested provinces and territories and encourages voluntary efforts to link systems. Any linking of systems would need to align with the updated benchmark criteria.

3.1.1.4 Aligning with industrial decarbonization programs

The Government of Canada is providing direct support to industrial sectors to help them decarbonize through programs like the Net Zero Accelerator and Strategic Investment Fund, which will support EITE sectors to adopt clean technology and aims to catalyze the large scale investments required to achieve Canada's net-zero goal. The Clean Fuel Fund and the tax incentive for CCUS are other examples of decarbonization programs. These investments will make additional GHG reductions possible and will contribute to Canada's clean industrial advantage internationally. Proceeds collected from the OBPS will be returned to the jurisdictions of origin. In jurisdictions where the federal OBPS proceeds are returned directly through programs, they will support low-carbon technology and clean electricity projects and further the decarbonization of Canada's industrial sectors.

Tightening OBPS standards helps reinforce the goals of these and other programs. It helps ensure that even as these government-supported projects start to reduce industrial emissions, the OBPS maintains a strong market for surplus credits and continues to provide an incentive for even greater reductions.

3.1.2 Proposed approach

3.1.2.1 Tightening all standards starting in 2023

An annual tightening rate of 2% would apply to most output-based standards, starting in the 2023 compliance period. This rate is set to maintain sufficient demand for credits in the OBPS to ensure the marginal price holds, taking into account expected improvements in response to the carbon price and other supporting measures. The rate plays an important role in ensuring the federal OBPS is designed to align with the updated federal benchmark.

To ensure the OBPS continues to mitigate risks of carbon leakage and adverse competitiveness impacts, the EITE competitiveness analysis has been updated to reflect the strengthened price trajectory and the proposed tightening rate. Preliminary analysis finds that most sectors remain at low or medium risk in 2030, apart from aluminium, cement, and iron and steel. For standards related to the aluminium, cement, and iron and steel sectors ECCC is proposing that the tightening rate would be set at a level below 2%. Based on preliminary modelling, this could be 1% or less. This would apply to the standards listed in Items 7, 19, 20 and 22 of Schedule 1 to the OBPS Regulations as well as the new standards being developed for the aluminium sector as part of this review.

The proposed tightening rate does not apply to the standards for the electricity sector (item 38 of Schedule 1 to the OBPS Regulations). The broad approach to electricity will be considered as part of the process to reach net-zero electricity generation. For all other activities listed in Schedule 1 to the OBPS Regulations, as well as for any other specified industrial activities under the Regulations, standards would be tightened by 2% per year. The proposed formula to calculate an output-based standard would be:

$$OBS_n = OBS\ - [OBS * TR * (n - 2022)]$$

Where,

OBS_n is the output-based standard applicable for compliance period n

OBS = output-based standard set out in column 3 of Schedule 1 to the OBPS Regulations or calculated in accordance with s. 37 of the OBPSR

n = compliance period for which the emissions limit is calculated, n ≥ 2023

TR = tightening rate applicable to the industrial activity, expressed in %

For example, for an illustrative output-based standard of 100 t/unit, in a sector where a 2% tightening rate would apply, the output-based standard applicable for the 2023 compliance period would be calculated as follows:

= 100 t/unit - [100 t/unit * 2% * (2023 – 2022)]

= 98 t/unit

The tightening rate would apply to all emissions, including industrial process emissions. The original competitiveness adjustment for sectors with high industrial process emissions, as described in *Section 3.2*, recognizes the near-term challenge of addressing these emissions sources. Applying the tightening

rate to these sources sends a signal that effort should be made to reduce these emissions over the longer-term, either through capture and storage or process innovation.

3.1.2.2 Analysis

As indicated in the previous section, preliminary ECCC modeling found that most OBPS sectors remain at low or medium risk of carbon leakage and adverse competitiveness impacts under a $170/tonne of CO_2e price in 2030, and with 2% tightening of standards from 2023-2030. Three OBPS sectors were found to be at high risk in 2030 under this scenario: aluminium, cement, and iron and steel.

This analysis is based on dynamic modelling using EC-Pro that accounts for changes in industrial emissions over time (e.g., due to behavioural change, government investments, and other factors).[7] *Annex 1* provides further detail on the modelling background and assumptions.

3.2 Industrial process emissions

The Government of Canada committed to assessing the current approach to industrial process emissions from industry in the OBPS Regulations, as part of the scheduled 2022 review.

Industry stakeholders have raised concerns over the inherent difficulty to reduce industrial process emissions, citing the time and investment needed to develop new technologies and processes over the longer term. Other stakeholders have stressed the importance of maintaining an incentive to reduce these emissions as part of the OBPS.

During the initial development of the OBPS Regulations, the stringency level of output-based standards was adjusted for sectors with high industrial process emissions in tandem with the three-phase competitiveness analysis, described in *Section 4.1.1*. This approach recognized the limited near-term options to reduce these emissions, while maintaining a price signal on industrial process emissions to drive longer-term reductions through innovation and capture.

There are a number of emerging technologies to reduce industrial process emissions in OBPS sectors,[8] however, they are primarily in the research and pilot phase of development. For example, CCUS technologies feature increasingly in net-zero strategies in light of limitations to reducing industrial process emissions. As CCUS technologies continue to evolve, the Government of Canada is supporting CCUS by recognizing certain types of capture and storage in the OBPS, and announced a new CCUS tax credit in Budget 2021. Retaining the price signal on industrial process emissions incentivizes further development and deployment of CCUS.

ECCC is not proposing to modify the current approach to industrial process emissions at this time. Industrial process emissions would continue to be considered in setting the initial stringency for a new output-based standard but would be subject to the tightening rate applied to standards. This approach

[7] The analysis used the same modelling approach as the Phase 2 analysis to set output-based standards' stringency levels.
[8] See, for example: Christopher G. F. Bataille, "Physical and policy pathways to net-zero emissions industry," WIREs Climate Change 11(20) (March/April 2020), https://doi.org/10.1002/wcc.633.

reflects the challenges associated with reducing industrial process emissions but continues to incentivize all GHG emissions reductions over time.

3.3 Provisions related to compliance flexibility

The RIAS to the OBPS Regulations committed to reassess the requirement to provide at least 25% of compensation via the excess emissions charge, starting with the 2022 compliance period. This requirement is part of a suite of limitations on the use of compliance units included in the OBPS. Other rules include expiry dates for different types of credits and limitations on the use of surplus credits generated in provinces that are subsequently removed from the OBPS. These types of rules are commonly included in emissions trading systems and help to ensure the carbon pollution price signal is maintained and the expected emission reductions are achieved.

So far, the 2019 and 2020 compliance periods have seen significant net-demand in the OBPS. However, the scope of the OBPS is changing with the exit of Ontario and New Brunswick and in its role as a backstop system, it may change further over time. Other factors may also influence the supply and demand within the OBPS emissions trading market, such as the supply of recognized units and federal GHG offset credits.

As such, ECCC is not proposing to change provisions related to the requirement to provide a minimum of 25% of compensation through excess emissions charge payments starting in 2022. ECCC will continue to monitor the OBPS emissions trading market and consider the importance of this requirement in future reviews.

4 Output-based standards

The OBPS Regulations includes 78 output-based standards covering more than 30 industrial sectors across Canada. As indicated in the 2021 scoping paper, ECCC is developing new output-based standards and reviewing certain current output-based standards.

4.1 Approach to setting output-based standards

4.1.1 Setting the stringency level based on risks of carbon leakage and adverse competitiveness impacts

Output-based standards are, for the most part, set according to the production-weighted average emissions intensity of all large emitter facilities producing similar products across Canada. For current output-based standards, ECCC adjusted the starting stringency level based on:

- A three-phase assessment of the sector's risks of carbon leakage and adverse competitiveness impacts (emissions-intensive and trade exposed level, or "EITE risk level"), using a carbon price of $50/tonne of CO_2e; and
- Each sector's level of industrial process emissions, which are more challenging to reduce than other emissions.

The three-phase assessment included:

- Phase 1: static analysis based on historic emissions and economic data;
- Phase 2: dynamic analysis using economic modelling; and
- Phase 3: consideration of additional information and supporting analysis relevant to understanding competitiveness issues associated with carbon pricing, including evidence of significant facility-level impacts due to carbon pricing, where widely available for facilities in that sector.

Output-based standards were set at 80% of the sector's average emissions intensity for sectors assessed to be at low or medium risk. Standards for sectors assessed to be at high risk were adjusted to 90%. For sectors that continued to be assessed at high risk at 90%, a second adjustment was made to 95%.[9] Sectors with a high proportion of industrial process emissions were also adjusted.

ECCC intends to maintain the same stringency factor (e.g., 80%, 90%, or 95%) for current output-based standards and to set the stringency for new standards using the same 3-phase approach. This includes assessing the EITE risk level at $50/tonne of CO_2e. Maintaining the same approach ensures fairness between sectors with current standards and those with proposed new standards. A second dynamic EITE analysis at $170/tonne is performed as part of the analysis used to inform tightening rates for both current and new standards.

[9] The level of emissions intensive and trade exposure was examined by measuring emissions intensity (EI), where EI = Direct Carbon Cost / Gross Value Added, and trade exposure (TE), where TE = (Imports + Exports) / (Imports + Sales). High EITE sectors are sectors with EI over 3% and TE over 20%, or EI over 15% and TE between 10% and 20%, or EI over 30% and TE at any level.

4.1.2 Setting standards based on national production-weighted averages

To reflect Canadian performance and incent domestic reductions, ECCC sets output-based standards based on the national production-weighted average emissions intensity for a given activity. During the engagement on the review of the OBPS, some stakeholders expressed concern that standards may not reflect the emissions profile of a sector in a given province. As the OBPS is a federal backstop system, it must be designed to apply in any jurisdiction in Canada if required, and ECCC plans to continue to use national production-weighted average emissions intensities.

4.1.3 Reference years

ECCC set existing numeric output-based standards based on the most recent data available at the time the output-based standards were set. Some stakeholders requested an adjustment to an existing standard to recognize emission reductions before the reference period. In general, reference years are set using recent years for which data is available to incent incremental emission reductions over time. ECCC does not intend to revise standards to take into account emission reductions that occurred in the past.

4.1.4 Timeline for the review of standards

Some stakeholders commented that standards should be reviewed upon request, or according to a specific review timeline, for example, to align with innovations or changes in product mix or when a new facility comes online. ECCC will consider reviewing standards as part of regular review processes, rather than upon request. This approach provides certainty and supports the incentive to decarbonize.

4.1.5 Thermal energy

Stakeholders expressed concern over thermal energy sellers' ability to pass on compliance costs to OBPS facilities purchasing thermal energy. There were also requests for an output-based standard specific to thermal energy, for example, thermal energy that is produced by district heating facilities.

The OBPS is designed to guard against risks of carbon leakage and adverse competitiveness impacts, with output-based standards provided only to facilities in at-risk sectors. The OBPS system design provides an allocation to EITE users of thermal energy, with an expectation that suppliers will renegotiate contracts with end users to pass on additional costs. Non-EITE sectors also consume thermal energy, for example, from district heating. For these users, the carbon price on fuels is expected to incentivize consumers to use lower emission energy options, potentially including district heating.

4.1.6 Scope of emissions covered by output-based standards

Some stakeholders requested that the scope of emissions covered by the output-based standards be expanded to include all emissions (combustion, process, fugitives and indirect emissions). Output-based standards generally include all emissions from a facility, including combustion, process and fugitive emissions sources, with the exception of emissions of methane from venting and leakage from some oil and gas activities.[10] Output-based standards were adjusted to account for material transfers of thermal energy. Emissions from electricity generation are also covered under the OBPS, but at the point of generation of electricity. ECCC is not contemplating a change in this approach at this time.

[10] At the time of the publication of the OBPS Regulations, work was underway to develop federal regulations targeting methane from oil and gas sectors. ECCC may re-evaluate coverage of these emissions under the OBPS Regulations as part of future reviews.

4.2 New output-based standards

To function effectively as a backstop system, the OBPS Regulations must be structured to apply in any jurisdiction in Canada, if required, including prescribing output-based standards for all major industrial activities. ECCC is developing additional output-based standards for activities with three or more facilities emitting 10 kt of CO_2e or more per year in Canada. The scoping paper included a preliminary list of these activities.

The OBPS Regulations include activities that were determined by identifying the industrial sectors in which at least one facility had reported 50 kt of CO_2e or more to the GHGRP in any year from 2014 to 2016 in jurisdictions that did not have carbon pollution pricing. The RIAS to the OBPS Regulations stated the intent to add output-based standards over time.

Table 1 shows the proposed activity definitions and units of measurement for proposed new output-based standards, where available. These were developed in consultation with industry working groups. Provinces and territories were also invited to participate.

Table 1: Proposed activity definitions and units of measurement

Sector	**Activity definition**	**Unit of measurement**
Oil and Gas	Surface mining of oil sands and extraction of bitumen	barrels of bitumen produced
Mining	Production of evaporated sodium chloride (NaCl) salt through solution mining, except the production of sodium chloride (NaCl) salt that is a by-product of other processes	tonne of evaporated sodium chloride (NaCl)
Metal Manufacturing	Aluminium production from alumina	tonnes of liquid aluminium
	Anode production for use in aluminium production from alumina	tonnes of baked anodes
	Calcined petroleum coke production for use in aluminium production from alumina	tonnes of calcined coke
	Hot steel rolling	tonne of hot rolled steel
Chemicals	Production of ethylene glycol	tonnes of ethylene glycol
	Production of tires	tonnes of tires
Food Processing	Production of malt	tonnes of finished malt

Sector	Activity definition	Unit of measurement
Wood Products	Production of softwood and hardwood veneer and plywood	cubic meter (m^3) of finished softwood and hardwood veneer and plywood
	Production of softwood and hardwood lumber	cubic meter (m^3) of finished softwood and hardwood lumber
	Production of particle board and medium density fibreboards (excluding oriented strand board)	cubic meter (m^3) of finished particle board and medium density fibreboards (excluding oriented strand board)

4.2.1 Considerations in the addition of new output-based standards

4.2.1.1 Number of facilities

Based on the proposal to develop additional output-based standards where three or more facilities emitting 10 kt of CO_2e or more per year undertake an activity, the vast majority of facilities that could be covered by the OBPS will have a standard listed in Schedule 1 to the OBPS Regulations that would apply to them. Using data from less than three facilities to set a numeric standard to be listed in Schedule 1 to the OBPS Regulations may raise confidentiality concerns.

Where there are less than three facilities emitting 10 kt of CO_2e or more per year that undertake an industrial activity in a sector at risk of carbon leakage and adverse competitiveness impacts, ECCC does not anticipate adding the activity to Schedule 1 to the OBPS Regulations. Facilities that meet the criteria to voluntarily participate in the OBPS will still be able to participate in the OBPS in jurisdictions where it applies based on a calculated output-based standard with an emission reduction factor of 80%. An 80% emission reduction factor is the consistent starting point for activities not listed on Schedule 1. Some stakeholders highlighted that this approach does not adjust for sectoral risks of carbon leakage and adverse competitiveness impacts. ECCC will continue to consider adding activities to the OBPS Regulations in future reviews.

The scoping paper identified biodiesel production as a potential activity to add to Schedule 1 to the OBPS Regulations. Working group engagement has indicated that, following the closure of a facility, fewer than three biodiesel production facilities emit more than 10 kt of CO_2e. Biodiesel production facilities may still apply to opt-in to the OBPS Regulations provided they meet the criteria to voluntarily participate. In this case, facilities would receive a facility-specific calculated output-based standard.

4.2.1.2 Availability of data

The amount of data available to ECCC varies by sector. Based on engagement to date, ECCC does not have sufficient data from public or industry sources to develop numeric output-based standards to be added to Schedule 1 of the OBPS Regulations for two activities identified in the scoping paper: the slaughtering and dressing of livestock (except poultry), and the production of oriented strand board.

Facilities undertaking these activities may still apply to opt-in to the OBPS Regulations provided they meet the opt-in criteria. In this case, facilities would receive a facility-specific calculated output-based standard.

4.2.1.3 Data years

ECCC is developing output-based standards for a number of activities with a large number of facilities emitting in the range of 10-50 kt of CO_2e. Facilities emitting less than 50 kt of CO_2e were not required to report to the GHGRP until 2017. To ensure that data is available for all facilities, ECCC proposes to use GHGRP data for the years 2017-2019.

A number of stakeholders have requested to use data for the years 2014-2016 to set new standards, for consistency with the existing standards. One rationale is that some facilities may already be subject to an existing output-based standard based on 2014-2016 data. Two examples include: facilities that undertake oil sands mining as well as upgrading of bitumen or heavy oil to produce synthetic crude oil; and facilities that produce ethylene glycol as well as other petrochemicals. Similarly, as outlined in *Section 4.3.1*, integrated steel mills and mini-mills with standards based on 2014-2016 data undertake the hot steel rolling activity, but so do stand-alone rolling facilities that only began reporting emissions in 2017.

To consider the impacts of the choice of years on these standards, ECCC is collecting data from the years 2014-2019 for these activities. ECCC will consider using 2014-2016 data in cases where a new output-based standard would apply mostly to facilities with an existing output-based standard.

Other stakeholders have requested flexibility to provide data for years other than 2017-2019 for reasons such as process disruptions. ECCC will consider such requests on a case-by-case basis.

4.2.1.4 Methane emissions from oil sands

ECCC proposes to include methane emissions from area fugitives in the oil sands mining output-based standards. The OBPS Regulations do not currently cover emissions of methane from venting and leakage for some oil and gas sectors because they were targeted for inclusion in federal regulations related to methane emissions from the upstream oil and gas sector. However, ECCC proposes to include area fugitive methane emissions from the oil sands mining activity because they are not currently covered by federal methane regulations.

4.2.1.5 Other new output-based standards under consideration

Facilities affected by a new standard or where an existing standard is being reviewed may have an activity on-site that is not being considered for addition to Schedule 1 to the OBPS Regulations. For completeness of coverage for these facilities, ECCC proposes to add standards for these activities to Schedule 1, even where they do not meet the criterion of three or more facilities emitting 10 kt of CO_2e or more. In these cases, the activity will be added to Schedule 1 and a calculated output-based standard will apply. These additional activities include alumina production from bauxite, the production of direct reduced iron, and the production of titanium slag and/ or the production of metal powder.

4.3 Review of existing standards

ECCC is reviewing output-based standards currently listed in Schedule 1 to the OBPS Regulations only in cases where:

- the activity definition in the OBPS Regulations does not align with the activity undertaken by the affected facilities;
- a sector is undertaking or planning to undertake activities not currently accounted for during the development of the output-based standards; or
- a significant error in the baseline data has become known since the OBPS Regulations were put in place.

ECCC has engaged industry stakeholders, provinces and territories in working groups targeting existing output-based standards identified for review.

4.3.1 Iron and steel sector standards

Based on the review work conducted so far, ECCC proposes to:

- Revise the structure of existing activities and activity definitions to better reflect the activities undertaken by facilities affected by the existing standards;
- Enable iron and steel facilities to access the existing lime production output-based standards; and
- Enable iron and steel facilities to access the existing electricity output-based standard for electricity produced from fossil fuels other than blast furnace gas or other gases produced as part of the iron and steel process.

ECCC is also considering the addition of a hot rolling activity that would apply to both stand-alone hot rolling facilities and those activities when they occur at steel mills (discussed further in *Section 4.2* on proposed new output-based standards).

ECCC formed a working group to review these standards, with participation mostly from facilities covered under the existing iron and steel output-based standards as well as facilities undertaking hot steel rolling at stand-alone operations.

4.3.2 Urea liquor standard

Responding to an industry request, ECCC is considering the development of a separate standard for the production of granular urea, currently covered by the existing urea liquor standard. The OBPS Regulations currently include a standard for urea liquor, a nitrogen based fertilizer, when it is produced after producing anhydrous ammonia or aqueous ammonia by the steam reforming of hydrocarbons. Some facilities that produce urea liquor further process it into granular urea. The current standard treats these distinct products the same; however, the production of granular urea is more emission intensive. The introduction of a distinct standard for granular urea would require a revision to the existing urea liquor standard to no longer include the additional emissions associated with producing granular urea.

4.3.3 Changes to the activity definition of other standards

ECCC is considering minor changes to the wording of certain activities to provide additional clarity, consistent with the intent of the standards.

Automotive manufacturing - ECCC is proposing to revise the existing activity definition to limit it, such that it will not apply to the production of zero emission vehicles. The automotive sector is in transition to the production of zero emission vehicles, which are expected to displace vehicles powered solely by internal combustion engines over time. The current activity definition does not consider engine technology, applying to these new products even though they are distinct. Facilities producing zero emission vehicles may still apply to opt-in to the OBPS Regulations provided they meet the opt-in criteria. In this case, facilities would receive a facility-specific calculated output-based standard.

Production of metal or diamonds from the mining or milling of ore or kimberlite - ECCC is proposing to clarify the definition of item 26 in the OBPS Regulations. The changes will specify a definition for milling based on the definition included in the Metal and Diamond Mining Effluent Regulations. It will also clarify that the sub-items are for the mining and milling of a product. Facilities doing only one or the other are still eligible to opt-in to the OBPS Regulations as this sector is considered to be at significant risk of carbon leakage and adverse competitiveness impacts. In this case, facilities would receive a facility-specific calculated output-based standard.

4.3.4 Requests for the review of additional existing standards

Industrial processing of potatoes –ECCC will consider revisions to existing standards for sectors comprised predominantly of facilities with emissions in the range of 10 to 50 kt of CO_2e, when taking these facilities into account would substantially impact the standard. Facilities undertaking the industrial processing of potatoes in this range have indicated that they should be included in the output-based standards for this activity. ECCC is inviting potato processing facilities to provide data to assist in the assessment of this standard.

High value chemicals (HVCs) – Hydrogen is produced as a by-product in the steam cracking process to produce HVCs. The HVC standard was designed such that the by-product hydrogen is only eligible for the HVC standard and is not eligible for the output-based standard that applies to hydrogen produced from steam methane reforming. Stakeholders indicated that, since the two OBS values are different, this impacts the treatment of by-product hydrogen in the market. ECCC is aware of the growing demand for hydrogen and ongoing initiatives regarding hydrogen. Once such initiatives advance, ECCC will consider reviewing the components specific to hydrogen under the OBPS Regulations.

Natural gas production and processing – Stakeholders raised concerns that the current standard for natural gas production and processing does not account for all natural gas liquids produced by these facilities and that the current standard may not take into account the variability in the quality of the resource that affects emissions profiles. Output-based standards are designed to be technology and geology neutral wherever possible. Therefore, ECCC is not considering further adjustments to account for differences in the quality of natural gas reserves being accessed, but may consider adjustments for different natural gas liquids in future.

Upgraders – Stakeholders requested changes to the upgrader standard to take a complexity-weighted barrel approach, similar to that in place for petroleum refineries. ECCC may consider reviewing this standard in the future, but is not proposing changes at this time.

5 Opportunities to reduce administrative burden

ECCC is considering including a mechanism in the OBPS Regulations to allow the Minister of Environment and Climate Change to specify and amend required emissions quantification methodologies on an annual basis. This type of mechanism would allow ECCC to work with other GHG reporting programs to harmonize GHG emissions quantification methodologies under the OBPS on a more timely basis.

A number of GHG emissions reporting programs exist across the country. While many of these programs exist for different purposes, it is important to streamline quantification requirements for annual GHG reporting programs. The need for consistency between quantification methodologies used in different reporting years must also be balanced with the accuracy of using the latest quantification methods available.

Over the coming year, ECCC will continue to evaluate quantification methodologies to improve consistency in reporting requirements, with the objective to further harmonize with the GHGRP and other reporting programs to the extent possible for the 2023 reporting period.

6 Other proposed amendments to the OBPS Regulations

ECCC is proposing a series of changes to improve the implementation of the OBPS. As ECCC continues to implement the OBPS and receive stakeholder feedback, additional changes may be proposed.

6.1 Voluntary participation in the OBPS

Under section 172 of the GGPPA, a person responsible for a facility may request that the facility be designated as a covered facility under the GGPPA. Currently, the Policy regarding voluntary participation in the OBPS (the Policy) outlines the considerations the Minister will take into account when making a determination in this regard. ECCC proposes to incorporate key elements of the Policy into the OBPS Regulations to provide greater certainty, with some adjustments to improve implementation and respond to stakeholder comments.

6.1.1 Adding voluntary participation rules to the OBPS Regulations

Key elements of the Policy will remain as is and will be incorporated, to the degree possible, in the OBPS Regulations. These unchanged elements include:

- Criteria for voluntary participation:
    - being located in a backstop jurisdiction;
    - having reported emissions of 10 kt of CO_2e or more in 2017 or later, or in the case of a new, retrofitted or expanded facility, demonstrate that it expects to emit 10 kt of CO_2e or more within three years of its date of first production; and
    - either, being engaged in an industrial activity listed on Schedule 1 of the OBPS Regulations (Schedule 1 activity), or an eligible activity.
- Eligible activities are those that take place at facilities in sectors at significant risk of carbon leakage and adverse competitiveness impacts.
- The criteria used to determine which sectors are at significant risk of carbon leakage and adverse competitiveness impacts, as described in Appendix A of the Policy.
- The information that facilities not engaged in a Schedule 1 activity (as outlined in Appendix B of the Policy) are required to submit.

6.1.2 Timing of application for designation

ECCC proposes changes to the timing of the application for designation, based on stakeholder concerns that the process is lengthy and creates uncertainty. Currently, opt-in facilities can request designation at any point during the year. This aspect of the policy would be changed to:

- require applications on or before a specific date, e.g. April 1 of the year preceding the year in which the designation will be effective; and
- start the compliance period on January 1 of the year after a request for designation is submitted and accepted.

6.1.3 Criteria for designation as a covered facility

Under the current Policy, a facility engaged in a Schedule 1 activity as a secondary activity can opt-in but a facility that is only engaged in an eligible activity as a secondary activity cannot. ECCC proposes to make changes to allow a facility engaged in an eligible activity as a secondary activity to opt in, regardless of whether it is engaged in a Schedule 1 activity, as long as the eligible activity has been previously recognized under the Regulations. To support facilities who may wish to opt-in under these new rules, ECCC proposes to publish a list of the eligible activities that have been specified for facilities to date under Part 2 of the Policy. New eligible activities will be added to the list based on criteria established in the Regulations. These criteria will reflect how eligible activities are defined under the current Policy.

The relevant formula for the calculated output-based standard for the activity identified in section 37 of the OBPS Regulations would be amended to require the emissions for any non-Schedule 1, non-eligible activity that makes up a substantive portion[11] of a facility's revenue or emissions, to be subtracted from the facility's emissions. The changes would apply to new applicants and not to covered facilities that have already established their output-based standard prior to the regulatory amendments as long as they are not changing or adding activities.

6.1.4 Cancellation of designation

ECCC proposes that the OBPS Regulations specify that an opt-in designation could be cancelled under three additional circumstances to those currently specified:

a) where the facility was designated as a covered facility on the basis of false or misleading information;
b) where the sector of the covered facility is no longer considered to be at risk of carbon leakage and competitiveness impacts due to carbon pollution pricing;
c) where a request is received for cancellation from the covered facility on or before November 1 of the year preceding the year the cancellation is requested. In this case, the cancellation of designation would be effective December 31 of the year that the designation is cancelled.

The proposed amendment would include a requirement to provide a covered facility notice of the intent to cancel its designation at least 30 days before cancelling the designation in the case of the circumstance described under a) above, and 90 days in the case of the circumstance described under b) above.

[11] For example, 20% or more of revenue or emissions.

6.1.5 Sections with no proposed changes

ECCC acknowledges stakeholder comments on a number of other aspects of the Policy, but is not considering addressing the following at this time:

- **Opt-in threshold** - A number of stakeholders requested to lower the 10 kt of CO_2e threshold to opt in. ECCC maintains that the OBPS is the appropriate mechanism to address risks of carbon leakage and adverse competitiveness impacts for facilities with higher emissions. Other mechanisms are more appropriate to serve smaller facilities.
- **Reference years** – Stakeholders would like flexibility to determine the reference years used to set output-based standards under the Policy. The approach to date has been to apply a consistent method to developing standards, including which reference years are used. ECCC does not intend to change the approach to reference years or to change the reference years for facilities that have standards.
- **Aggregation of oil and gas facilities** – The OBPS Regulations currently allow multiple sites to apply as a single facility if they are integrated such that they meet the facility definition under the Regulations. Stakeholders requested provisions to enable upstream oil and gas sites that are considered multiple facilities under the OBPS Regulations to aggregate for the purposes of opt-in. ECCC is not currently proposing to make this change but will continue to consider such an approach as it completes this review or as part of future reviews.
- **Aim of the policy** – ECCC is not considering stakeholder requests to broaden the scope of eligibility for opt-in for facilities that have access to other federal exemptions from the fuel charge that limit carbon pricing costs, such as greenhouses.

6.2 Ensuring accurate reporting

The GGPPA requires covered facilities to submit both an annual report containing the information outlined in sections 11, 12, and Schedule 2 to the OBPS Regulations, and an accompanying verification report for each compliance period. The annual report must include the quantity of GHG emissions and the quantity of production, determined using the prescribed quantification methodologies in the Regulations.

The quantities reported in the annual report directly define the core legal obligation of covered facilities under the federal OBPS. This legal obligation is the required compensation for GHG emissions that exceed the covered facility's annual emissions limit, either by making an excess emissions charge payment or by remitting compliance units.

Several components work together to ensure quality reporting and promote high levels of regulatory compliance. Like most carbon pricing systems, the OBPS Regulations require that an independent third party verify the accuracy of the reported information. ECCC conducts a risk-based review of annual reports and verification reports submitted. Corrected reports address errors or omissions identified by the covered facility or the Minister. The GGPPA also gives ECCC enforcement officers the authority to proactively inspect facilities. ECCC, in accordance with its compliance and enforcement policies, will undertake implementation and enforcement actions as necessary.

6.2.1 Materiality thresholds

Section 49 of the OBPS Regulations establishes materiality thresholds for quantitative discrepancies for both GHG emissions and production from specified industrial activities (see *Table 2).*

In a covered facility's verification report, verification bodies must make a determination to a reasonable level of assurance, as defined in *Greenhouse Gas – Part 3: Specification with guidance for the verification and validation of greenhouse gas statements* (ISO Standard 14064-3), on whether:

> (i) a material discrepancy exists with respect to the total quantity of GHGs and production reported in the annual report from each specified industrial activity that is used in the calculation of the emissions limit, and
>
> (ii) in the verification body's opinion, the annual report or corrected report was prepared in accordance with the OBPS Regulations.

Verification bodies must conduct their verifications in accordance with ISO Standard 14064-3 published by the International Organization for Standardization. In the ISO Standards, the concept of materiality is a risk assessment tool, indicating whether an individual error or the aggregation of errors, omissions, or misrepresentations could affect the decisions of those using the reported information.

The materiality threshold is a requirement guiding the verification process and report. Verification bodies design the nature and extent of their activities, for example sampling plans, based on the necessary level of refinement to assess a particular threshold to a reasonable level of assurance. A higher materiality threshold would not require the same level of risk-based sample as a lower, more stringent, materiality threshold.

The prescribed materiality threshold ensures that all verification bodies apply consistent materiality thresholds when reviewing annual reports submitted under the OBPS Regulations. The OBPS Regulations also prescribe certain implications of errors, omissions, or misstatements above the prescribed materiality thresholds. First, when a corrected report is required, an error that would have been a material discrepancy if identified in the verification of the annual report triggers the requirement that the corrected report be submitted along with the associated verification report. Second, the Minister may determine the quantity of GHGs emitted or the emissions limit from a covered facility if there is a material discrepancy in an annual report with respect to the total quantity of GHGs or the production. Third, the Minister will not issue surplus credits to any covered facility based on an annual report that contains a material discrepancy.

As the prescribed materiality thresholds in the OBPS Regulations are important tools for consistent and accurate reporting, ECCC proposes to update the thresholds as shown in *Table 2*.

Table 2: Proposed amendments to materiality thresholds in the OBPS Regulations

Covered facility GHG emissions	**Individual and aggregate errors or omissions for GHG emissions**		**Individual error or omission for production from each specified industrial activity**	
	Current	**Proposed**	**Current**	**Proposed**
< 50 kt of CO_2e	8%	5%	5%	0.1%
50 to < 500 kt of CO_2e	5%	No change	5%	0.1%
≥ 500 kt of CO_2e	2%	No change	5%	0.1%

6.2.1.1 Material discrepancy for GHG emissions

ECCC proposes to maintain the 2% materiality threshold for GHG emissions for facilities that emit over 500kt of CO_2e and set a 5% materiality threshold for all other facilities. This would align with many other Canadian provincial jurisdictions, and, based on the reports submitted for the 2019 and 2020 compliance periods, would have no impact on the results of verification reports.

6.2.1.2 Material discrepancy for production

ECCC proposes to lower the materiality threshold for production to 0.1%. Production quantities are multiplied by the applicable output-based standard to determine a covered facility's emissions limit. Any inaccuracies in production values have a multiplying effect on the emissions limit and reduce considerably the accuracy of compensation and surplus credits values. This would align with most other Canadian jurisdictions, and, based on the reports submitted for the 2019 and 2020 compliance periods, would have a limited effect on the results of verification reports.

6.2.2 Corrected reports

Under section 176 of the GGPPA, if a person responsible for a covered facility becomes aware of an error or omission within five years after submitting the annual report, they must notify the Minister. Under section 62 of the OBPS Regulations, they must then submit a corrected report within 60 days (if the error or emission would not have constituted a material discrepancy if it had been identified during the verification of the annual report) or a corrected report and a verification report within 90 days (if the error or omission would have constituted a material discrepancy).

Section 177 of the GGPPA also gives the Minister the discretionary authority to request a corrected report within five years after the submission of an annual report if he is of the opinion that there is an error or omission. The Minister may also require verification of the corrected report. The OBPS Regulations set out timelines of 60 or 90 days, depending on whether the Minister requests the verification of the corrected report.

Based on a review of annual and verification reports received for the 2019 and 2020 compliance periods, ECCC has made the following observations:

- Many annual reports were submitted to ECCC even though they contain "correctable" errors or omissions identified by the verification body. Correctable errors or omissions include those related to the use of the wrong emissions factor or quantification method or the omission of a GHG emissions source.
- Many annual reports for the 2020 compliance period contain the same errors that verification bodies identified in the 2019 compliance period.

The reporting requirements outlined in the GGPPA and the OBPS Regulations are mandatory.

The materiality threshold should not be confused with the limited list of reporting exceptions, including the de minimis exception found in section 23 to the OBPS Regulations. Under this rule, the annual report does not need to include GHGs from certain emissions types if they are under 0.5% of the total emissions.

ECCC is considering the following approach:

- Clarifying that, prior to submitting the annual report, persons responsible for covered facilities correct any “correctable” errors or omissions. ECCC invites input on the types of errors that are currently corrected prior to submission, the reasons for not correcting errors prior to submission, and the challenges in correcting errors identified by verification bodies prior to submitting annual report.
- Removing the automatic requirement to submit a corrected report where a person responsible for a covered facility becomes aware of an error or omission after an annual report has been submitted. ECCC proposes to provide authorities to allow the Minister to determine whether or not to require a corrected report once notice of an error or omission is received. The decisions would be based on a review of the information provided by the person responsible for the facility. For example, very minor errors may not warrant the correction of previously submitted annual reports, especially if corrected in future years. This change would allow important errors or omissions to be corrected while also reducing some administrative burden.
- Clarifying that all errors and omissions be corrected on a go forward basis so they are not repeated from one compliance period to another.

7 Next steps

ECCC is targeting the following timelines for the review of the OBPS Regulations:

- Ongoing engagement with key stakeholders on technical issues, as needed;
- A 45-day comment period on this consultation paper;
- Draft regulations published in the *Canada Gazette*, Part I, in the first half of 2022, followed by a 30-day comment period;
- Final regulations published in the *Canada Gazette*, Part II, before the end of 2022; and
- Amendments to come into force on January 1st 2023 and to apply starting with the 2023 compliance period.

Interested parties are invited to provide written comments by email by January 24 2022 to: tarificationducarbone-carbonpricing@ec.gc.ca. ECCC will review feedback received and continue engagement through winter 2022.

Annex 1: Modelling background and assumptions

Environment and Climate Change Canada (ECCC) modelled the post-2022 carbon price trajectory and assessed risks of carbon leakage and adverse competitiveness impacts by examining emissions-intensive and trade-exposed (EITE) levels for each sector. The modelling included, for the most part, the same assumptions as were used in *A Healthy Environment and a Healthy Economy*, Canada's strengthened climate plan (SCP) released on December 11, 2020.[12] The EC-Pro analysis builds off the 2020 Reference Case, which includes all policies and measures funded, legislated and implemented by federal, provincial and territorial governments as of September 2020. The modelling includes the complementary sectoral measures and the clean fuel standard as modelled under the SCP. This analysis does not account for land use, land-use change and forestry (LULUCF) activities, nature-based solutions or agriculture measures as outlined in the modelling Annex of the SCP.

In addition, ECCC altered the carbon pricing assumptions slightly to assess the impacts in the context of the OBPS as a federal backstop. In the SCP, the modelling assumed consistent carbon pricing systems for all provinces and territories apart from Quebec.[13] Quebec was assumed to maintain its current cap-and-trade carbon pricing regime. However, the modelling used to assess the impacts of the proposed tightening rate assumed that all provinces and territories, including Quebec, were covered under the federal Output-Based Pricing System (OBPS) for a nationally consistent system. The OBPS is designed so that it can apply anywhere in Canada and so it is necessary to analyze the economic impacts of the OBPS as if it applied in all jurisdictions. This also enables analysis of the impacts on sectors that exist only or primarily in certain regions, for example, aluminium in Quebec.

To assess the EITE levels, ECCC used its unique suite of models that support the Government of Canada's policy development process in the areas of air quality and climate change mitigation. These models support evidence-based analysis and policy decisions regarding the energy sector and its impact on the economy and the environment. The modelling capacity is robust and has been peer reviewed domestically and internationally.

ECCC conducted the modelling analysis of the impact of the plan using two ECCC models:

- E3MC – a modelling framework that combines Energy 2020 and a macroeconomic model working in tandem. Energy 2020 is a 10-province and three-territory, bottom-up, energy technology simulation model. Its granularity allows for the analysis of a wide range of complementary measures and targeted performance standards and regulations. The model is used to develop Canada's energy and emissions reference case projections that are submitted to the United Nations and frame the development of Canada's environmental policies.

[12] For more information of ECCC modelling of the SCP, please see: https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/climate-plan/annex_modelling_analysis_healthy_environment_healthy_economy.pdf

[13] For the SCP, OBPS-type systems were applied everywhere but Quebec as a proxy for provincial systems that meet the benchmark, since Quebec's cap is already sufficiently stringent to reflect the price trajectory it was left in as is.

- EC-Pro is a 10-province and three-territory multi-sector, multi-region, computable general equilibrium model. The model includes more than 25 sectors, with a focus on energy and energy-intensive industries. Its underlying economic structure, in combination with this level of detail, enables the model to produce robust results related to competitiveness that could arise from policies.