



Low Carbon Economy Challenge

Applicant Guide 2023



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada

Canada 

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1. Purpose of this guide

The purpose of this Applicant Guide is to assist applicants in completing and submitting their application to the Low Carbon Economy Challenge (the Challenge Fund).

This guide outlines key program details, including eligibility criteria for applicants and projects, and provides detailed instructions for completing and submitting an application through the online application system.

An application must include answers to all mandatory questions in the application form and two completed mandatory Excel workbooks available for download in the application form:

- **Work Breakdown Structure & Budget Workbook (WBS):** the required template to provide the project workplan, budget, and funding request calculations; and
- **Greenhouse Gas (GHG) Workbook:** the required template to provide [GHG emissions](#) reduction estimates.

2. Program overview

2.1. What is the Low Carbon Economy Fund

Launched in 2017, the Government of Canada's Low Carbon Economy Fund (LCEF) leverages Canadian ingenuity to reduce Canada's GHG emissions, generate clean growth, build resilient communities, and help create jobs for Canadians. The LCEF supports the Government of Canada's plans to achieve GHG emissions reductions in 2030 and goals for [net-zero](#) emissions by 2050.

In 2022, the Government of Canada released the first 2030 Emissions Reduction Plan (ERP) issued under the *Canadian Net-Zero Emissions Accountability Act*. The 2030 ERP includes a recapitalization of the LCEF starting in 2022-23.

The recapitalized LCEF is delivered through four streams:

- **The Indigenous Leadership Fund** provides funding for renewable energy, energy efficiency, and low-carbon heating projects led by First Nations, Inuit, and Métis governments, communities, and organizations. Funding is available for a variety of project phases, including planning, feasibility, and deployment, along with capacity-building activities.
- **The Implementation Readiness Fund** provides funding for activities and investments that increase readiness to deploy GHG emissions reduction projects from lower capacity entities and organizations.
- **The Leadership Fund** provides funding to provinces and territories to stimulate ambitious provincial and territorial climate action, with a focus on deploying proven, low-carbon technologies that will result in GHG emissions reductions in 2030 and align with Canada's net-zero by 2050 goals.

- **The Challenge Fund** provides funding to a wide range of applicants to support the deployment of proven, low-carbon technologies that will result in material GHG emissions across sectors. There is now only one stream under the Challenge Fund. There will no longer be multiple streams (e.g., Champions and Partnerships).
 - The recapitalized LCEF provides an investment of up to \$170 million to the Challenge Fund. This guide is for the Challenge Fund. To be eligible for Challenge funding, projects will be required to result in GHG emissions reductions in 2030 and align with Canada’s goals for net-zero emissions by 2050.

2.2. Key dates

- **November 7, 2023:** Invitation to submit applications.
- **February 8, 2024, 8:00 pm Eastern Standard Time (EST):** Deadline to submit applications (submission is only via the online application system).
- **February 2024 – April 2024:** Clarifications Process – Environment and Climate Change Canada (ECCC) program officers will reach out to applicants to clarify any significant outstanding issues related to project applications where necessary. ECCC will provide applicants with updates on the status of their application during the assessment process.
- **Summer 2024:** Funding decision notifications sent to all applicants. Those selected for funding will receive an approval-in-principle (AIP) letter and start the process towards signing a [funding agreement](#).
- **Fall 2024:** Expected start of project implementation (projects can start once a funding agreement is signed by ECCC and the recipient).
 - At ECCC’s discretion, successful applicants may be able to start incurring eligible expenditures from the date that an AIP letter is sent.
- **March 31, 2028:** Projects must be complete on or before this date.
 - Failure to complete the project by this date may result in a termination of the funding agreement and/or clawback of funds.

2.3. Application process

Applications must be submitted through the online application system called Program Information Management System (PIMS). To access PIMS, applicants will need to create a Single Window Information Manager (SWIM) profile. Instructions on how to complete a user profile are on the [SWIM website](#), including a [step-by-step walk through](#) and [instructional videos](#).

Unlike with previous intakes, applicants will not submit expressions of interest, but are instead encouraged to use the **self-screening tool** to help determine if their project may be eligible and likely to be competitive prior to starting the application process.

Applicants must include answers to all mandatory questions in the application form and two completed mandatory Excel workbooks available for download in the application form through SWIM:

- **Work Breakdown Structure & Budget Workbook (WBS):** the required template to provide project workplan, budget, and funding request calculations.
- **GHG Workbook:** the required template to provide GHG emissions reduction estimates. For projects involving organic waste, a waste sector GHG Workbook is also provided.

A separate guidance document (the *GHG Estimation Guide for Projects: GHG accounting guidance for applicants to ECCC's climate change mitigation programs*) is available for download in PIMS to support applicants in developing project GHG emissions reductions to complete the GHG Workbook.

Applicants may also provide supplementary material to support their application; however, essential information should be provided in response to application questions in the application form or contained in the workbooks. ECCC evaluators will not necessarily review supporting documents. It is the responsibility of the applicant to provide comprehensive, clear and complete information in the application. It should be assumed that applications will be reviewed as submitted only. In some cases, and where details need to be confirmed in order to assess an application that is otherwise complete, ECCC may contact applicants for more information.

Additionally, some projects may be required to complete a sector-specific questionnaire as part of ECCC's risk assessment process. Completing the questionnaire will not impact project eligibility. ECCC works with Global Affairs Canada to collect information for their analysis and assessment of any potential trade-related risks to ensure that Challenge funding does not expose recipients to potential risks.

Please note that ECCC reserves the right to direct applications from an applicant to alternative Government of Canada funding sources and opportunities for consideration. In these cases, applicants will be contacted and informed of these actions.

2.4. Service standards and point of contact

A service standard is a public commitment to a measurable level of performance that clients can expect under normal circumstances. Circumstances outside of ECCC's control may result in delays and would be communicated to applicants. ECCC has set three service standards for the timely and accurate delivery of the Challenge Fund:

Table 1: Service standards

Service	Standard
General email acknowledgement of application submission	Within 2 business days of receipt Note these responses are automated and should be received immediately after submission
Application funding result	Within 120 business days of the deadline to submit the application
Provision of a draft Funding Agreement	Within 10 business days of approval-in-principle

If applicants are unable to find the information they require on the [Challenge Fund webpage](#) or in this guide, or if they encounter any technical issues related to website functionality and access (e.g., GCKey), they can contact ECCC via email at lcef-fefec@ec.gc.ca. For SWIM technical assistance and website support, applicants can contact ECCC via email at gigu-swim@ec.gc.ca.

2.5. Key definitions

When describing the project, applicants should use the following language:

- **Project:** The set of activities for which funding is being sought in the application. A project should be functionally distinct from other activities in terms of implementation, outcomes, budget, and work plan. Projects can include different activities at different sites, as long as the project activities are located within a single province or territory and the sites have the same owner.
 - Please note that for public sector applicants who have oversight but not ownership over different project sites, there are different conditions for a multi-site project. This is explained in more detail in Section 3.2.3.
- **Activity:** A specific action or intervention targeted at changing GHG emissions, which could involve reductions, [removals](#), or storage. It may include modifications to existing production, process, consumption, service, delivery or management systems, as well as the introduction of new systems.
- **Project phase** (i.e., planning, execution, monitoring and control or closure): The specific events/milestones that form an activity of the project with a defined set of tasks. A project phase represents sequential tasks required to complete or implement a project activity.
- **Task:** A key action or step of an activity required for project implementation. The work plan and the budget must be clearly broken down by tasks, and where necessary, sub-tasks.

If the project is approved, ECCC, on behalf of the Government of Canada, will enter into a funding agreement with the lead applicant only, who will be referred to as the “recipient.”

- **Lead applicant:** The main point of contact with ECCC and the recipient in the funding agreement. The lead applicant will assume financial and legal responsibility for the implementation of the project in relation to ECCC, including any potential liabilities in the event of cancelled projects or non-compliance with any of the terms and conditions of the funding agreement. The lead applicant will be responsible for project related monitoring and reporting requirements and concluding ultimate recipient agreement(s) which will mirror the funding agreement.

Applicants may submit an application involving two or more entities to seek funding for a project. In this scenario, a lead applicant must be identified to be the main point of contact for ECCC and be responsible for the application. It should be noted that a lead applicant is not required to own any of the assets benefitting from Challenge funding. For projects involving more than one organization, applications can involve two types of entities:

- **Ultimate recipient:** an organization who will be an owner of any or all of the asset(s) benefitting from Challenge funding.
- **Other participating organization:** a specific organization whose participation in the project is necessary for the project to proceed but who does not own any asset(s) benefitting from Challenge funding. For example, an “other participating organization” could include (but is not limited to) project partners, owners of the land the project will occur on, or project co-funders.

Organizations that provide contract services, such as contractors, engineering and design firms, and construction companies, are not considered “other participating organizations.” Payments to contractors or organizations that provide contract services necessary for project implementation will only be considered eligible expenditures if contracts are executed after the project is approved. Successful applicants will be notified if contracts executed from the date of the approval-in-principle can be considered eligible expenditures.

Ultimate recipients and other participating organizations are required to attest to the content of the application and their participation in the project’s implementation.

3. Program eligibility criteria

3.1. Eligible applicant and ultimate recipient types

Lead applicants, ultimate recipients, and other participating organizations must be located in and operating in Canada. When determining eligible applicant type and ultimate recipient type, please use the definitions below:

Table 2: Eligible applicant and ultimate recipient types

Short title on application form	Definition
Provinces and/or provincial entity Territories and/or territorial entity	Provinces and territories in Canada and their entities (e.g., Crown Corporations, government departments or agencies)
Regional/local/municipal government or their entities with population of 99,999 or below Regional/local/municipal government or their entities with population of 100,000 or above	Regional entities delivering municipal type services, local or regional municipal governments established by or under provincial statute or territorial statute, or regional municipal organizations
Indigenous recipient (including Indigenous for-profit organizations)	First Nations, Métis and Inuit communities; First Nations, Métis and Inuit development corporations; Indigenous organizations; modern land claim organizations; band or tribal councils; modern treaty signatories; and self-governing First Nations Please note that an Indigenous organization is defined as an Indigenous governing body or any other entity that represents the interests of an Indigenous group and its members
Public sector body or board	Public sector bodies or boards that are established by or under provincial or territorial statute or by regulation or are wholly owned by a province, territory or local or regional government in Canada (e.g., school boards/districts, health authorities, housing authorities)

Research, academic, or educational institution	Canadian public or private institutions dedicated to education and/or research, which may include: <ul style="list-style-type: none"> • Colleges, universities, or other post-secondary educational institutions • Research institutes
Not-for-profit organization	Canadian not-for-profit non-governmental organizations, such as provincial and territorial municipal associations, professional and industry associations
For-profit small business (1 to 99 employees) For-profit medium business (100 to 499 employees) For-profit large business (500 employees or more)	Canadian for-profit organizations with established businesses in Canada

3.2. Eligible and ineligible activity types

3.2.1. Eligible project activities

Examples of eligible project activities are listed in the table below. This list is not exhaustive, and project activities that are not listed that meet all other eligibility criteria are eligible for consideration. Work associated with eligible project activities that do not directly result in GHG emissions reductions may still be eligible for funding if it is required to successfully complete the project (e.g., required training to operate equipment, construction of outbuildings to house equipment, costs to upgrade grid electricity connections). Definitions of the examples in the table below can be found in [Annex A](#) to this guide.

Table 3: Example eligible project activity types

Activity category	Example activity types
Energy efficiency	Stationary equipment retrofits for energy efficiency
	Mobile equipment retrofits for energy efficiency
	Building envelope upgrades (insulation, windows, doors)
	Heat Recovery
Fuel switching	Stationary equipment retrofits for fuel switching
	Mobile equipment retrofits for fuel switching

Energy production	Clean electricity production for own use
	Low-carbon fuel production for own use
	Cogeneration or combined heat and power production (e.g., using low-carbon fuels, but not using fossil fuels)
	District energy and/or heating
Non-energy related	Organics diversion
	Landfill gas capture
	Industrial process emissions changes
	Industrial product use changes (e.g., refrigerants)
Carbon capture	Carbon capture and storage
	Carbon capture and utilization (excluding enhanced oil recovery)

3.2.2. Ineligible project activities

However, several project activities are **ineligible** for funding. These are:

- LED (light-emitting diode) lighting retrofits
- Fuel transportation infrastructure
- Electricity transmission and distribution infrastructure
- Public transit infrastructure and vehicles
- Zero-emission vehicle (ZEV) infrastructure
- Purchase of on-road zero-emission vehicles (ZEVs)
- Active transport (e.g., cycling or pedestrian infrastructure)
- Carbon capture utilization for enhanced oil recovery
- New fossil-fuel combustion equipment, including new cogeneration/combined heat and power production
- Enhancing carbon sinks (e.g., tree-planting, carbon soil sequestration)
- Activities where GHG reductions are based solely on goods and services sold by the applicant for market consumption (i.e., where GHG reductions can only be realized upon purchase, installation and/or use of the product by a third party who is a customer rather than a required partner of the project). This includes the production of electricity or low-carbon fuel that is not for own use.

Note that projects that only reduce grid electricity consumption (e.g., through renewable electricity production or efficiency activities) in provinces or territories where grid electricity is entirely or almost entirely produced by non-emitting sources are ineligible. This includes Newfoundland and Labrador, Québec, Manitoba, British Columbia, and the Northwest Territories. However, projects in these jurisdictions that reduce electricity consumption from local emitting electricity generation (e.g., in remote, off-grid, or micro-grid locations served by diesel or other emitting generation) are still eligible.

In addition to the project activities being eligible, projects must meet all other eligibility criteria.

Projects containing ineligible activities, even if other activities are eligible, will either be deemed ineligible, or applicants will be required to remove the ineligible activities from the scope of the project during the process towards signing a funding agreement.

3.2.3. Project location(s)

At the time of application, project locations should be confirmed and must be included in the application form. ECCC will not sign a funding agreement until project locations have been confirmed. In some cases, ECCC may allow changes from the location listed in the application form within the original jurisdiction if the project and outcomes are materially unchanged at the new location and limited to the same jurisdiction. Note that this program will not fund calls for proposals by other parties; all projects, locations, and ultimate recipients must be identified in the application.

Activities in different provincial or territorial jurisdictions must be submitted in separate applications and individually meet all eligibility requirements. In addition, a project cannot contain activities at multiple sites where the owners of the sites are different. Projects with activities at multiple sites with the same owner are eligible to be submitted in a single application.

A public sector applicant can apply for funding for a project with multiple sites even if it does not strictly have “ownership” of those sites if the following conditions are met:

- The lead applicant is a public organization who has oversight of the sites involved;
- Organizations that own or control operations at each site have confirm their approval of the project (e.g., with a letter of support provided in the application) and attest that the overarching authorities have their approval or the authority to coordinate these project activities;
- The sites are not owned or controlled in full or in part by the federal government, including federal crown corporations; and
- Project sites are located within one province or territory.

3.3. Project eligibility requirements

To be eligible for funding, projects must be a capital project that will lead to material and [incremental GHG reductions](#) and demonstrate sufficient readiness to proceed to implementation. These eligibility criteria are explained in Sections 3.3.1 to 3.3.3 below.

In addition, projects must meet specific eligibility criteria if they involve [avoided emissions](#) at expanded or new facilities or the production of electricity or low-carbon fuel. These eligibility criteria are outlined in Sections 3.3.4 to 3.3.6 below.

3.3.1. Material GHG reductions

Projects that do not achieve [material GHG reductions](#) will not be funded by the Challenge Fund. Material GHG reductions are those that are tangible, measurable, achievable, and sizeable enough to contribute towards Canada's GHG reduction targets relative to project size and scope. The GHG reductions must also be directly attributed to the project.

The following activities are ineligible for funding, as they do not meet this requirement:

- **Capacity building:** Standalone educational or capacity-building projects will not be funded. However, technical staff or end-user training directly related to the implementation of the project is not considered a “standalone” element and can be eligible for funding.
- **Behavioural change:** Projects with the primary aim of incenting behavioural change, either of persons working for an applicant organization or otherwise, are ineligible for funding. For example, projects that monitor energy use to encourage reductions in consumption but do not implement energy-saving technology are ineligible for funding. However, monitoring equipment associated with automated controls for other activities may be eligible for funding.
- **Research, development & demonstration:** A project cannot include research, development, and demonstration (RD&D) elements. These activities are ineligible for funding. RD&D refers to activities in the initial stages of the development of a new technology, such as testing technology viability. This is defined by the [Technology Readiness Level \(TRL\) Assessment Tool](#) within [TRL](#) levels 1 to 7. Projects must directly lead to GHG reductions in the year 2030 and beyond. Given this, a project may not include a [model](#), [prototype](#), [pilot project](#) or be a demonstration of [proof of concept](#), as defined in the Glossary.

3.3.2. Incremental GHG reductions

Projects that do not meet the requirement for incremental GHG reductions will not be funded. Incremental projects are those that obtain GHG reductions beyond current requirements and commitments. Projects that must proceed as described because of regulatory requirements, routine maintenance, or pre-existing commitments are thus ineligible for funding.

- Projects or activities that are required to be undertaken for **regulatory compliance** are ineligible for funding. Regulatory compliance is considered to be activities undertaken to meet prescribed requirements, either to implement that activity or achieve a particular environmental outcome. For example, landfill gas capture projects may be required by provincial regulations in some provinces, and thus would not be eligible for funding.
 - Projects at facilities covered by regulatory carbon pricing systems, such as the federal Output-Based Pricing System, are not considered regulatory compliance given that such pricing mechanisms do not require specific actions to be undertaken.
 - Necessary steps of project implementation that are required by regulation, such as obtaining required assessments or permits, are not considered regulatory compliance.
- Activities that must be undertaken as part of **routine maintenance** are ineligible for funding. In addition, the replacement of equipment that has failed or has reached **the end of its useful life** is ineligible for funding, unless it can be demonstrated that the replacement represents a significant improvement over an appropriate baseline. For example, a deep retrofit that would eliminate the use of traditional fossil fuels rather than increase the efficiency of the existing emitting technology may be eligible even if the equipment being replaced is at end-of-life. More information on how to account for anticipated changes to existing equipment over time can be found in the GHG Estimation Guide for Projects, available for download in PIMS.

- Projects **already underway**, where significant public or financial commitments have been made (e.g., specific announcements have been made, contracts have been signed, major expenditures have been incurred, or construction has begun), are ineligible for funding. Projects that are publicly outlined as part of potential long-term decarbonization plans or net-zero strategies may be eligible if other criteria are met.

In the application, applicants should ensure that they have provided sufficient information to justify that the project is incremental under these criteria. Applicants will be required to attest that the GHG emissions reductions resulting from the project are not required for regulatory requirements, routine maintenance, or are part of existing commitments.

3.3.3. Project implementation readiness

Projects with significant outstanding [feasibility studies](#) or design studies are unlikely to be completed within the Challenge Fund's timeline for project implementation. Projects must be completed by March 31, 2028. As such, projects must be at a reasonable level of project readiness to be eligible for funding. Below are some indicators that a project may not be ready:

- A required feasibility or pre-front-end engineering and design (pre-FEED) study has not been completed.
- The viability of the project is in question. The viability of the project cannot be dependent on any outstanding preliminary feasibility studies. Such studies must be completed before the application is submitted.
- The choice of the most appropriate technology for significant project components, such as a decision between energy sources (e.g., electricity or bioenergy), is still in question.

Note that engineering design work, such as front-end engineering and design (FEED) studies or detailed engineering, are [eligible expenditures](#) and do not need to be complete at the point of application. However, as funding is approved for the project as described in the application, changes to the nature of the project post-application may lead to the project being ineligible for funding.

Projects that do not demonstrate sufficient readiness may be found ineligible or rejected due to the high risk that the project will not be completed in the required timeframe.

3.3.4. Projects at expanded or new facilities

Projects which will [avoid new GHG emissions](#) at an expanded or new facility or building, regardless of whether they reduce emissions from any existing emission sources, may be eligible for funding. The overall [construction](#) of the initiative itself (e.g., construction of the building, re-development of a facility's decommissioned wing) is ineligible for funding; however, projects that avoid future GHG emissions from specific aspects (e.g., equipment or process) of the new or expanded facility or building may be eligible.

Projects of this type must clearly demonstrate in their application and GHG Workbook that these new emission sources at a new or expanded facility or building are highly likely to occur in the absence of the proposed project. Only projects meeting the specific requirements noted below are eligible for funding. This will ensure that the project is incremental and the GHG reductions are material. Responses to question 3.7 of the application form, the project description, and GHG Workbook are critical for ECCC's review of projects of this type.

The following criteria must be met for a project of this type to be eligible:

- **Project timeline:** The project's implementation timeline must be based on the completion timeline of the overall expansion/new facility, as projects will not be considered complete until they are operational. As such, expansions or new facilities or buildings must be completed and operational by the program end date, prior to March 31, 2028, for the project to result in 2030 GHG reductions.
- **Justification of the incremental merit of the project:** The application must include a qualitative description of the merit of the project over what is planned, or could be credibly expected, in a business-as-usual or [baseline scenario](#). Describe what is industry-standard or typical in Canada for new installations of this type, and then outline how the project will use [best available technologies](#) that are beyond what is standard. For example, if installing heat recovery systems are standard practice for a new building, installing heat recovery systems would not be an eligible project. However, if the project was to install geothermal heating instead of natural gas heating, given that geothermal heating is unlikely to be industry-standard and would be more costly than the natural gas heating system, the installation of a geothermal heating system is likely an eligible project.
- **Justification of the baseline GHG emissions:** All projects are required to demonstrate how the project activities will result in material and direct GHG emissions reductions in the GHG Workbook. Avoided GHG emissions must be specific to the facility or building and cannot involve displacing other sources of production (e.g., the comparison cannot be to industry average emissions intensity for producing a particular good). Since the emission sources at planned expansions or new facilities or buildings do not currently exist, it is particularly important that applicants provide clear and substantial information to justify the existence and level of the baseline scenario's GHG emissions in the absence of the project. Refer to Part II of the GHG Estimation Guide for Projects on guidance to develop the baseline scenario.
- **Eligible expenditures:** Projects at expansions or new facilities or buildings must not include expenditures required for the full expansion or construction (e.g., foundation, framing, building envelope). It should only include expenditures required to implement the project (e.g., equipment or process). The program will fund the full costs of the alternative option and not the difference between both options. For example, if a new building is added to a facility and the project proposes to install geothermal heating to replace the natural gas heating that was planned to support the expansion, the full cost of the geothermal heating can be included as an eligible expenditure, not the incremental cost relative to the natural gas heating.

3.3.5. Electricity production for own use

Projects producing electricity must primarily be doing so for '[own use](#)' (i.e., to offset the consumption of electricity from the grid or a third party) unless it qualifies for an exemption. A project producing electricity would be exempt from the own use criteria if it meets **either of** the following conditions:

- The project is in a **remote community**. Remote communities are those that are not connected to the North American or regional (i.e., provincial, or territorial) electrical grids nor the natural gas pipeline network. They must be a long-term settlement (5 years or more) with at least 10 dwellings.

OR

- The project increases the production of heat through [combined heat and power/cogeneration systems](#) that also produce electricity, and the additional heat produced will be used by the applicant or in a [district energy system](#) operated by the applicant.

Electricity production projects that do not fall under either exemption must meet the own use requirement. To meet the own use requirement, the following conditions must be met:

- The majority (>50%) of electricity from each electricity-producing asset is expected be used, on an average annual basis for the lifetime of the project, within the operations of an ultimate recipient;
- The ultimate recipient is required to have an ownership stake in the electricity-producing asset; and
- The electricity generating asset(s) must be located at or adjacent to the site of the operations consuming electricity such that they may be considered onsite or “behind-the-fence” installations.

In situations where electricity will be produced under a [net metering agreement](#) with a utility, the producer’s generation can be considered own use if the three above criteria are met. However, virtual net metering agreements, where generation and consumption are not co-located, are not considered to meet the own use criteria.

While the majority of the electricity must be used by an ultimate recipient, excess electricity can be sold to the market. As long as the 50% threshold for own use has been met, there is no need to adjust project expenditures or outcomes based on the percentage used versus what is sold to the grid. As such, all electricity produced should be included in the GHG Workbook to calculate the offset GHG emissions from grid electricity, as these are considered acquired (Scope 2) emission reductions and are in-scope for the program.

3.3.6. Low carbon fuel production for own use

Projects producing low-carbon fuels must primarily be doing so for ‘own use’ (i.e., to offset the fuel consumption from a third party) unless it qualifies for an exemption. A project producing low-carbon fuels would be exempt from the own use criteria if it meets the following conditions:

- The project directly leads to avoided methane emissions from organics decomposition in landfills (i.e., organics diversion or landfill gas capture projects);
- The estimated GHG reductions for the project, as submitted in the application, excludes any downstream GHG emissions reductions from the use of low-carbon fuel in place of a higher-emitting fuel; and
- The eligible expenditures for the project, as submitted in the application, excludes any equipment related solely to the upgrading or distribution of biogas or landfill gas to produce market-quality natural gas. Note that upgrading equipment would be an eligible expenditure if the low-carbon fuel is for own use.

Low-carbon fuel production projects that do not fall under this exemption must meet the own use requirement. To meet the own use requirement, the following conditions must be met:

- The majority (>50%) of fuel produced by the project is expected be used, on an average annual basis for the lifetime of the project, within the operations of an ultimate recipient;

- The ultimate recipient is required to have an ownership stake in the assets that produce the low-carbon fuel.

While the majority of the fuel must be used by an ultimate recipient, excess fuel can be sold to the market. As long as the 50% threshold for own use has been met, there is no need to adjust project expenditures or outcomes based on the percentage used versus what is sold to the market. However, emission reductions from low-carbon fuel sold to third parties are considered downstream (Scope 3) emission reductions and are considered out of scope for the program and should not be counted in the GHG estimates. For example, if a project produces renewable natural gas and uses 75% in their own operations and sells 25% to a third party, the GHG Workbook should only count the reductions associated with the 75% for own use.

4. Funding parameters and project expenditures

4.1. Minimum and maximum funding levels

Every project must request a **minimum of \$1,000,000** in federal funding through this intake. The total funding requested for a project **must not exceed \$25,000,000**. Each project must have a separate budget, costing estimate and work plan.

4.2. Cost-share and stacking limits

The **cost-share** is the maximum level of assistance for a project that a specific program (in this case, from the Challenge Fund) can provide, as a percentage of total eligible expenditures. The maximum cost-share that an applicant can request differs by lead applicant type (or ultimate recipient type(s) if the project involves more than one organization).

Applicants are not required to request the full cost-share for which they are eligible as long as the project meets the minimum [contribution](#) of \$1,000,000. For example, a for-profit organization is eligible for a 25% cost-share from the Challenge Fund, and the Challenge Fund's contribution to any project shall be no less than \$1,000,000. Therefore, a for-profit organization would need a project that will incur eligible expenditures of at least \$4,000,000 in order to request \$1,000,000 from the Challenge Fund, which represents 25% of its total eligible expenditures.

The Challenge Fund has two different types of stacking limits that the project must adhere to.

- The **federal stacking limit** is the maximum level of assistance from all federal sources of funding for a project, as a percentage of total eligible expenditures.
- The **stacking limit** is the maximum level of assistance from all levels of government funding (federal, provincial/territorial, and/or municipal) for a project, as a percentage of total eligible expenditures.

If the application involves only one organization, the Challenge Fund cost-sharing and stacking limits are determined by the applicant type of that organization. If an application involves two or more entities, the cost-share and stacking limits are determined by the applicant type of the

ultimate recipient(s) (see Section 3.1). If an asset is owned by two organizations (ultimate recipients) with different cost shares, the overall cost-share will be the weighted combination of the two. For example, if an Indigenous organization (75% cost-share) owns 50% of the asset and a private for-profit business (25% cost-share) owns 50% of the asset, the maximum federal cost-share would be $(75\% \times 50\%) + (25\% \times 50\%) = 50\%$.

Table 4: Maximum cost-share and stacking limits

Applicant type per Section 3.1 definitions	Challenge Fund cost-share	Federal stacking limit	Stacking limit
Provinces and/or provincial entities	50%	50%	100%
Territories and/or territorial entities	75%	75%	100%
Regional/local/municipal government or their entities	50% for those located in a province; 75% for those located in a territory	75%	100%
Indigenous recipients (including Indigenous for-profit organizations)	75%	75%	100%
Public sector bodies or boards	50%	75%	100%
Research, academic, or educational institutions	50%	75%	100%
Not-for-profit organizations	50%	75%	100%
For-profit organizations	25%	25%	50%

It is incumbent upon the applicant to properly account for all funding that is being provided for the implementation of the project.

For example, a for-profit organization receiving a contribution from Employment and Social Development Canada equivalent to 10% of eligible expenditures would only be eligible for up to 15% funding from the Challenge Fund to ensure the combined amount of federal funding remained no more than 25% (i.e., the maximum federal stacking limit for for-profit applicants). They would still be eligible to seek contribution(s) equivalent to 25% of eligible expenditures from provincial/territorial and/or municipal sources given the maximum overall stacking limit is 50% for for-profit applicants.

Expenditures associated with activities that are either already underway or unnecessary for the implementation of the project cannot be included as eligible expenditures. This is important in determining if the project meets cost-sharing parameters. In particular, if the project is part of a larger initiative that is already underway and will continue after the completion of the project, the expenditures associated with the larger initiative that are not specific to the project seeking federal funding in this application are ineligible expenditures.

For example, a private for-profit organization has an existing \$100 million initiative that is expected to result in 100,000 tCO₂e of GHG emissions reductions. The organization submits an application to the Challenge Fund seeking funding for a \$10 million project that will lead to an additional 10,000 tCO₂e beyond the current initiative. The Challenge Fund contribution would be up to 25% of the total eligible expenditures for a for-profit organization (according to cost-share percentages detailed in the table above), which would be, in this case, a maximum of \$2.5 million, as the expenditures associated with the existing \$100 million initiative would be ineligible.

4.2.1. Stacking with other LCEF funding and with the Decarbonization Incentive Fund

The Challenge Fund does not fund projects that have received funding from any of the other LCEF streams (Leadership Fund, Indigenous Leadership Fund, or Implementation Readiness Fund). Previous successful applicants are welcome to apply with new projects.

Applicants whose projects receive provincial or territorial funding must confirm that this does not include LCEF Leadership funds. Applicants should declare all sources of government funding (federal, provincial/territorial and municipal) for their projects. ECCC will verify if those sources of funds are permissible to be combined with federal funding under the Challenge Fund.

Stacking Challenge Fund funding with funds from the Output-Based Pricing System Proceeds Fund – Decarbonization Incentive Program (DIP) is not permitted. Applicants may apply to both programs, but an individual project will not receive funding from both DIP and the Challenge Fund.

4.3. Eligible expenditures

Eligible expenditures are those that ECCC considers necessary for the successful implementation of an eligible project. Contributions will be awarded for eligible expenditures directly related to eligible projects that, in the opinion of ECCC, are reasonable or necessary to achieve the objectives and results of the program, including but not limited to the following conditions.

Eligible expenditures cannot be incurred before the date the approval-in-principle (AIP) has been sent to the successful applicant, or after March 31, 2028. The AIP is the first letter to notify a successful applicant that they have been selected for funding. This letter will indicate whether ECCC will allow expenditures to be eligible from the date on which the AIP letter is sent. If not, expenditures eligible for reimbursement can only be incurred from the date that the funding agreement is signed by both parties. Any expenditures incurred before the AIP or after March 31, 2028, are ineligible for reimbursement by ECCC under the Challenge Fund unless otherwise communicated.

An AIP does not constitute ECCC's final funding decision or a contract, nor does it guarantee funding or that a funding agreement will be successfully concluded. ECCC reserves the right to refuse funding at any time despite the AIP, in light of any information that it considers relevant to the funding decision. The signing of the funding agreement represents the final step in ECCC's funding approval of the project. The funding agreement will outline the terms and conditions under which funding will be provided. In the event that a funding agreement is not successfully concluded after an AIP, the successful applicant would be responsible for all incurred expenditures.

Eligible expenditures include, but are not limited to, those listed in the following table:

Table 5: Eligible expenditures

Eligible expenditure	Description
Contractors	<ul style="list-style-type: none"> Costs of performing activities related to the project by contractors engaged to undertake project activities, such as general labourers.
Equipment and capital assets purchase or rental	<ul style="list-style-type: none"> Costs of acquiring, constructing, rehabilitation and improvement of assets. Leasing of equipment related to the construction of the project. Capital Assets are defined as those tangible assets costing more than \$10,000 with a useful life of more than one year. All capital expenditures, including site preparation and construction costs, only once ECCC is satisfied that the Government of Canada's obligations, if any, related to the <i>Impact Assessment Act</i> and the legal duty to consult with, and accommodate, Indigenous peoples have been met.
Hospitality expenditures for Indigenous ceremonial offerings	<ul style="list-style-type: none"> Hospitality expenditures related to Indigenous ceremonial offerings could include meals and refreshments and costs to be utilized or consumed during meetings or ceremonies such as traditional medicines, cultural foods, tea and sacred plants.
Hospitality, travel and venues/conference	<ul style="list-style-type: none"> Hospitality, travel expenditures and/or venue/conference expenditures (including the cost of accommodations, kilometric rates, bus, train, airplane or taxi fares, allowances for meals and incidentals). Of note, travel and per diem expenses cannot be more than the rates and allowances determined in the Treasury Board Secretariat's Directive on Travel, Hospitality, Conference, and Event Expenditures. This also includes vehicle rental and operation costs. A "vehicle" is generally considered to be a motorized device used chiefly for the transportation of people. Rental of other devices, such as equipment devices are better placed under the "Equipment rentals" category. The cost of vehicle rental includes expenses such as insurance and fuel. The amount ECCC would deem reasonable for vehicle rental is based on the National Joint Council Travel Directive. Canada will only contribute up to a maximum of 5% of its total contribution to the project toward these costs.
Management and professional services (external)	<ul style="list-style-type: none"> Costs associated with external management and professional services required to support a project, such as accounting, communications, translation, audit, GHG emission reductions and energy savings estimate verification, and results monitoring, measuring and reporting. This includes costs of engineering and environmental reviews, including costs related to an environmental or impact assessment carried out pursuant to the <i>Impact Assessment Act</i>, and the costs of mitigation measures, follow-up, and remedial activities identified in any environmental or impact assessment.

Materials and supplies	<ul style="list-style-type: none"> • Costs of material and supplies required for the project. • Any assets, such as tools and equipment, acquired that cost less than \$10,000 would be included in this category. • This category does not include general office supplies, which should be accounted for in the Overhead and/or Administrative Costs category.
Monetary honoraria offered to Indigenous Elders and/or Knowledge Keepers	<ul style="list-style-type: none"> • Monetary Honoraria offered to Indigenous Elders and/or Knowledge Keepers for activities such as translation and interpretative costs, traditional opening/closing ceremony and/or prayer, sharing of Indigenous knowledge and protocols, demonstrating traditional art and other practices.
Overhead and/or administrative	<ul style="list-style-type: none"> • Overhead and/or administrative costs encompasses the indirect costs, directly attributable to the carrying out of the project, including but not limited to administrative staff salaries, licenses and permits, utilities, repairs and maintenance expenses, memberships and subscriptions, insurance, computer maintenance expenses, and other indirect costs relating to the organization's office. It also includes the administrative costs of the recipient to administer the project. In general, overhead encompasses the indirect costs, necessary to support the achievement of the project objectives, that cannot normally be obviously traced to a specific project activity and/or which are not material enough to be detailed under their specific expenditure category. • Canada will only contribute up to a maximum of 20% of its total contribution to the project toward these expenditures provided that: <ul style="list-style-type: none"> ○ It can be demonstrated that the costs are required to successfully implement the project; and, ○ The arrangement is approved in advance and in writing by Canada.
Participation fees	<ul style="list-style-type: none"> • Participation fee activities may include the following activities directly related to project meetings and events: preparation time, meeting participation, conducting or leading a discussion or providing a presentation. • Indigenous specific participation fee activities may include the sharing of Indigenous knowledge and protocols, leading a traditional ceremony (including the opening and closing of meetings), providing translation services, providing spiritual advice to individuals, and demonstrating traditional art and other practices.
Planning and assessment	<ul style="list-style-type: none"> • Planning and assessment, such as surveying, engineering, architectural supervision and testing. • Canada will only contribute up to a maximum of 5% of its total contribution to the project toward these costs.
Printing, production and distribution	<ul style="list-style-type: none"> • Costs of printing, production, and distribution directly associated with joint federal communication activities (e.g., press releases, press conferences) and with project signage related to funding recognition.

Salary	<ul style="list-style-type: none"> Incremental human resource costs, including salaries and benefits of the recipient's technical, non-administrative and project-focused employees, may also be included as eligible expenditures. Canada will only contribute up to a maximum of 2% of its total contribution to the project toward these expenditures provided that: <ul style="list-style-type: none"> The recipient is able to demonstrate that it is not economically feasible to tender a contract and clearly demonstrate that there is value for money in using internal employees; The employee is engaged directly in respect of the work that would have been the subject of the contract; and The arrangement is approved in advance and in writing by Canada before expenditures are incurred.
Tax	<ul style="list-style-type: none"> Any Provincial sales tax (PST), goods and services tax (GST), or harmonized sales tax (HST) for which the recipient or a third party is not eligible for a rebate, not reimbursable by Canada Revenue Agency or the provinces, and any other costs that are ineligible for rebates.
Training fees	<ul style="list-style-type: none"> Training costs for employees related to the project's new technologies, equipment, software and systems.

4.4. Ineligible expenditures

Certain expenditures are ineligible for funding; therefore, applicants must not include them in the calculation of the total eligible expenditures and stacking limits of the proposed project. These ineligible expenditures include, but are not limited to:

Table 6: Ineligible expenditures

Ineligible expenditure	Description
Application development	<ul style="list-style-type: none"> Expenditures related to developing a business case or application for funding.
Cancelled or withdrawn projects	<ul style="list-style-type: none"> Costs incurred for cancelled or withdrawn projects and incomplete elements of projects.
Donations	<ul style="list-style-type: none"> Any goods and services which are received through donations or in-kind contributions.
Land securement and leasing	<ul style="list-style-type: none"> Land securement, leasing land, buildings and other facilities, and real estate, including fees and related costs.
Tax	<ul style="list-style-type: none"> Provincial sales tax, goods and services tax, or harmonized sales tax for which the recipient or a third party is eligible for a rebate, and any other costs eligible for rebates. This includes any GST/HST that is reimbursable by Canada Revenue Agency and any PST reimbursable by the provinces.

Calculations relating to cost-sharing, federal stacking and stacking limits must exclude ineligible expenditures.

It is important to note that all expenditures incurred **prior** to the signing (by both parties) of a funding agreement between ECCC and the recipient are considered ineligible. At ECCC's discretion recipients may be able to start incurring eligible expenditures from the date on which the approval-in-principle is sent. Applicants can choose to, at their own risk, issue requests for project-related work (i.e., tender) prior to the approval-in-principle. This undertaking would not affect the eligibility of such expenditures as long as contracts are only signed after the approval-in-principle has been sent to the successful applicants.

5. Program merit criteria

5.1. Overall merit framework

Eligible applications will be evaluated by a cross-disciplinary review committee, comprised of technical and program experts from ECCC and other federal departments. Each project will be scored out of 100 points based on a combination of the following elements:

- **GHG merit** (70% of total project score)
 - **2030 [cost-per-tonne](#)**: funding requested from the program per tonne of [carbon dioxide equivalent](#) reduced in the year 2030 (50% of total project score)
 - **Cumulative to 2050 cost-per-tonne**: funding requested from the program per tonne of cumulative carbon dioxide equivalent reduced to 2050 (20% of total project score)
- **Net-Zero 2050 alignment** (15% of total project score)
 - The degree of alignment with net-zero and the role of the project in the facility's long-term decarbonization pathway
- **Co-benefits** (15% of total project score)
 - Non-GHG benefits such as benefits to clean growth, the environment, Indigenous leadership, and health and safety

In addition, **risk and risk mitigation measures** will be evaluated for reasonableness and projects with high level of risk and insufficient risk mitigation strategies may be rejected for funding. See Section 7 for more information on project selection.

5.2. GHG merit

GHG merit is the primary merit criteria for the Challenge Fund and is measured based on the assessed federal cost-effectiveness of the GHG emissions reductions in both 2030 (50% of the total score) and cumulatively to 2050 (20% of the total score). The federal cost-effectiveness of a project is measured by calculating the funding requested from the program per tonne of carbon dioxide equivalent (tCO₂e) reduced (in 2030 or cumulatively to 2050) after the GHG methodology has been assessed. This is referred to as the [cost-per-tonne](#) of the project.

GHG emissions reductions estimates must meet the standards laid out by ECCC. These standards are described in detail in the *GHG Estimation Guide for Projects*, available for

download along with the mandatory GHG Workbook in PIMS. The GHG Workbook will support the estimation of the annual and cumulative GHG reductions for each project, as well as energy savings (if applicable for the project).

ECCC will evaluate the methodology used to prepare GHG estimates, along with an assessment of assumptions used, supporting calculations, level of uncertainty and conservativeness. ECCC reserves the right to modify GHG emissions estimates provided by applicants, either through clarification with applicants or unilaterally, to ensure these metrics are comparable between projects.

The scores awarded for GHG merit will depend on the 2030 and cumulative to 2050 cost-per-tonnes as well as the results of the evaluation of the methodology. Projects with unclear, uncertain, or poorly justified GHG estimates will receive relatively lower scores for the same cost-per-tonne when compared to a project with clear, certain, and well-justified GHG estimates.

What is a competitive 2030 cost-per-tonne?

Based on successful project applications from previous intakes of this program, a project's 2030 federal cost-per-tonne is a strong indicator of competitiveness under the program's merit framework. The following table illustrates the likelihood of projects being competitive, provided they meet all program requirements.

Table 7: What is a competitive 2030 cost-per-tonne?

2030 federal cost-per-tonne range	Likelihood of competitiveness if all program requirements are met
Below \$250/tCO ₂ e	Very likely to be competitive.
Between \$250/tCO ₂ e and \$500/tCO ₂ e	Likely to be competitive, especially if they demonstrate high co-benefits or net-zero alignment.
Between \$500/tCO ₂ e and \$1000/tCO ₂ e	Unlikely to be competitive. Depending on the pool of applicants, projects with a higher cost-per-tonne may still be competitive if they demonstrate excellent net-zero alignment and co-benefits.
Above \$1000/tCO ₂ e*	Unlikely to be competitive regardless of other project benefits. Projects exceeding \$1000/tCO ₂ e are increasingly likely to be triaged out of assessment.

*Note that ECCC recognizes that remote and/or territorial projects may have relatively higher costs. We encourage the submissions of such projects as regional representation may be considered when recommending projects for funding.

Other factors, including the accuracy and certainty of the GHG methodology, lifetime GHG reductions, alignment with net-zero objectives, co-benefits, and risk also contribute to the competitiveness of projects under the program's merit framework. In particular, projects with high risk and insufficient risk mitigation measures or that are misaligned with net-zero objectives are unlikely to be recommended for funding regardless of other project merit. See Section 7.3 for more information on the selection process.

5.3. Net-Zero 2050 alignment

To support the Government of Canada's long-term target of reaching net-zero greenhouse gas emissions by 2050, ECCC will evaluate the degree of a project's alignment with net-zero and seek to understand the broader role of the project in a long-term decarbonization pathway.

Net-zero 2050 alignment accounts for 15% of the total score that can be awarded to a project. To score well, applicants must clearly demonstrate how their project is aligned with net-zero principles. As such, several questions have been included in Section 4 of the application form to support this analysis to allow applicants to explain the role of the project in the organization's long-term transition to net-zero. The relevant indicators for these questions are explained below.

Depending on the project, answers to these questions may be brief or not applicable, or comprehensive and essential. For example, if a project fully decarbonizes a source of emissions with no negative impacts on upstream or downstream emissions, there should be no concerns about [carbon lock-in](#) and no need to justify the project's relevance for reaching net-zero, and answers can be minimal. However, if a project only supports partial decarbonization and assumes the ongoing operation of emitting assets, the application should explain how further decarbonization will be supported by the project and justify any potential carbon lock-in enabled by the project. The clarity of information provided, the level of certainty, and the justification of assumptions will impact the assessment.

Net-zero alignment will be assessed for the whole project. However, if different project activities impact different sources of emissions independently, applicants may provide separate information for each activity or group of activities.

5.3.1. Degree of decarbonization

The degree of decarbonization is a preliminary indicator that informs the importance of further assessment of the net-zero alignment of a project. Projects that completely decarbonize an independent source of emissions are likely to be considered highly net-zero aligned, as they are directly enabling an organization to achieve net-zero emissions. On the other hand, projects that only partly reduce a source of emissions – for example, through efficiency activities or waste-heat recovery activities that reduce fossil fuel demand but do not eliminate it – are considered partial decarbonization, and therefore assessment of their net-zero alignment will depend on the subsequent indicators (enabling steps to net-zero, carbon lock-in and stranded assets, and best-available technologies and practices).

When describing the degree of decarbonization for their project, applicants should consider the following:

- The relevant sources of emissions may include all emissions from a facility or building but could be limited to emissions from a particular process if that process is independent and its decarbonization can be achieved independently.
- Applicants should quantify, as a percentage, the degree of decarbonization expected to be achieved by the project, by drawing on information from their GHG Workbook. If quantification is not possible, a qualitative description must be provided which outlines the degree of decarbonization.
- Emissions from grid-purchased electricity can be assumed to be non-emitting regardless of the grid emissions intensity in the relevant jurisdiction. In other words, ECCC assumes

that electrification is fully compatible with net-zero by 2050 even if current electricity production is not fully decarbonized. Therefore, acquired electricity emissions (Scope 2 emissions) should not be included, in either the numerator or denominator, of an estimated degree of decarbonization, despite their inclusion in the GHG Workbook.

- If the project will avoid future emissions, these emissions should be included in the quantification of the degree of decarbonization.

5.3.2. Enabling steps to net-zero by 2050 and net-zero plans

Where a project does not lead to complete decarbonization of the relevant operations, applicants should explain if and how the project is an enabling step on a pathway to net-zero. Projects that are expected to directly enable additional decarbonization in the future, beyond what the project itself is expected to achieve, may be considered highly net-zero aligned.

When describing how the project is an enabling step to net-zero, consider the following:

- If future decarbonization activities are known (i.e., if this project is the first phase of a long term decarbonization plan) describe how this project is a necessary step in the plan.
- If future decarbonization activities are not known (e.g., because no technology is currently available or multiple pathways to decarbonization exist but have not been decided between), describe how activities in this project may support future actions by enabling potential future options.
- If the organization has an existing net-zero plan or other climate mitigation plan, applicants should explain the role of the project in the plan. If the plan is not publicly available, it should be provided as supplementary information to be considered. The existence of a credible net-zero plan and the projects' inclusion in the plan will improve the assessment of the project's alignment to net-zero.

Applicants that have joined the [Net Zero Challenge](#) (NZC) should indicate this in their application form. The NZC is a national initiative that encourages businesses operating in Canada to develop and implement credible and effective plans to transition their facilities and operations to net-zero emissions by 2050. Participation in the NZC provides a rigorous technical framework for achieving net-zero emissions while also providing public recognition, visibility and access to a community of practice. Participation in the NZC will not impact a project's score under the Challenge Fund, but participation will be considered as part of project recommendations. We hope to be able to more formally incorporate (e.g., as part of a project's score, mandatory for select applicants/projects) NZC or similar initiatives in future LCEF Challenge intakes. We encourage businesses and other eligible applicants to consider joining the NZC. Please see the [NZC website](#) for more information.

5.3.3. Carbon lock-in and stranded assets

Where a project does not lead to complete decarbonization of the relevant operations, applicants should provide an assessment of the likelihood and degree of carbon lock-in and potential for stranded assets caused by the project.

- [Carbon lock-in](#) occurs when an activity creates additional barriers to further decarbonization by increasing the cost or difficulty of subsequent retrofits.
- [Stranded assets](#) in general are assets that are decommissioned prior to their economic end-of-life; however, for this assessment, ECCC is particularly assessing the risk that project assets (i.e., those that would be funded by the program) could become stranded assets. Note that new emitting equipment is ineligible for funding under the program.

Projects that invest in technology that will be integrated with existing emitting equipment and is likely incompatible with non-emitting alternatives are likely to either lead to carbon lock-in, by preventing timely transitions to non-emitting alternatives, or stranded assets, if the technology is decommissioned in order to allow for a subsequent transition to net-zero technologies.

When discussing the likelihood of carbon lock-in or stranded assets from the project, consider the following:

- If there is a possibility of carbon lock-in or of stranding assets, provide an estimate of the economic and/or operable life of the relevant equipment and/or underlying facilities or buildings.
- If possible, comment on possible pathways for decarbonization that would minimize the chance of carbon lock-in or stranded assets, referencing information provided in Section 5.3.2 where relevant.
- As ECCC is assessing net-zero alignment by 2050, the likelihood of lock-in or stranded assets leading up to 2050 is most relevant. If the project lifetime is such that the technology will reach the end-of-life prior to 2050, this should be well-justified. If there is a possibility of carbon lock-in or of stranding assets, provide an estimate of the economic and/or operable life of the relevant equipment and/or underlying facilities or buildings. If possible, comment on possible pathways for decarbonization that would minimize the chance of carbon lock-in or stranded assets.
- ECCC recognizes that these activities may still be beneficial for climate mitigation, particularly where no better alternatives are currently feasible to reduce near-term GHG emissions. Section 5.3.4 therefore provides applicants the opportunity to justify possible carbon lock-in or stranded assets on the grounds that the activity represents the best current approach.

5.3.4. Best available technology and practices

If a project is not expected to achieve complete decarbonization and/or may lead to carbon lock-in or stranded assets, then applicants must justify that the project represents the best available approach for decarbonization of the relevant sources of emissions. Applicants should explain the technical or economic barriers preventing the selection of technologies that would lead to more complete decarbonization.

Projects that do represent complete decarbonization as per Section 5.3.1, or are clearly an enabling step to net-zero as per Section 5.3.2, do not need to provide this justification. However, all projects may benefit from providing this information.

When justifying the project's technologies and activities, consider the following:

- First, identify any alternative approaches that could lead to greater decarbonization and/or minimize the risks of carbon lock-in or stranded assets.
- Second, justify why these alternatives are not being pursued, specifying if the barriers are financial, technical, or market-based.
 - Financial barriers could be much higher capital costs or significant increases in operating and maintenance costs. If possible, provide high-level estimates of the differences in costs to support this justification.
 - Technical barriers could be the absence of a technically viable solution that is deployment-ready or negative impacts of an available technology on the operation of the facility.
 - Market barriers, such as the absence of an accessible market for a particular low-carbon fuel or supply chain barriers to procuring the necessary technology.
- Third, justify why the current approach is the best option and will lead to benefits that outweigh any risks of carbon lock-in or stranded assets.

5.3.5. Scope 3 emissions

The potential impact of projects on Scope 3 emissions may be considered to ensure broader compatibility of the project with Canada's goals of net-zero emissions by 2050. Scope 3 encompasses emissions that arise from sources not owned or controlled by the project applicant but are indirectly related to the applicant's operations. Typically, Scope 3 emissions occur elsewhere in the value chain. Examples include:

- **Upstream emissions:** GHG emissions associated with the production of goods or services that are inputs to an organization's operations. For projects, changes in upstream emissions due to the project, rather than the broader operations, are considered relevant for this question (e.g., emissions arising from the extraction, production, and transportation of source materials required for the project, including purchased fuels other than electricity, by a third party).
- **Downstream emissions:** GHG emissions associated with the purchase and use of goods and services that are outputs of an organization's operations. For projects, changes in downstream emissions due to the project, rather than of the broader operations, are considered relevant for this question (e.g., GHG emissions arising from the transportation/distribution of products by a third party, transportation or processing of wastes, or use of sold products).

When describing the project's impact on Scope 3 emissions, consider the following:

- Applicants are not expected to quantitatively estimate the Scope 3 emissions impact, either in their application form or in the GHG Workbook, as they are considered out-of-scope for the estimated GHG emissions reductions of the project. Emissions from purchased electricity and steam are considered Scope 2 emissions and should not be discussed here; however, they must be included in the GHG Workbook.

- However, applicants should describe potentially significant increases *or* decreases on Scope 3 emissions related to the project. If known, it can be noted if these impacts are expected to be domestic or international.
- Projects with potential increases in Scope 3 emissions should provide supporting information to justify why these are outweighed by the direct project GHG reductions to ensure the project is not rejected due to poor net-zero alignment.
- Projects with potential decreases in Scope 3 emissions may provide supporting information that these decreases are significant in order to improve their net-zero alignment.

5.4. Co-benefits

The Challenge Fund aims to support projects that will result in additional non-GHG benefits or “co-benefits.” As such, applicants are to identify whether projects will result in environmental, social, or technological benefits.

Co-benefits account for 15% of the maximum score that can be awarded to a project. A single co-benefit that earns the highest rating would earn 10/15 total points towards the project score. As such, it is not necessary for projects to score well on all co-benefits to maximize the co-benefit score; one or two strong co-benefits is more valuable than many weak co-benefits.

To earn a high score for a co-benefit, applicants should provide justification for how their project will result in as many relevant co-benefits as possible with information that is quantifiable (to the extent possible) and verifiable. Where quantitative information is not available, qualitative information should be provided. The co-benefit descriptions will be the primary source of assessment; therefore, applicants must submit comprehensive explanations.

The co-benefits include:

- Climate Change Adaption
- Other Environmental Benefits
- Indigenous Engagement or Leadership
- Clean Technology Adoption
- Energy Efficiency

For a co-benefit to score well, it must meet the following requirements:

- The co-benefit, its impact, and how the project will achieve it, has been described in detail. This description must include information that is quantitatively or qualitatively verifiable. Quantification of co-benefits is not mandatory but would strongly support assertion when possible.
- The co-benefit is directly linked or attributable to the proposed initiative (i.e., the co-benefit will occur because of the project).
- The impact of the co-benefit is meaningful and robust.

The guidance below assists applicants in providing responses for each co-benefit and presents non-exhaustive examples of strong co-benefit responses for reference.

5.4.1. Climate change adaptation

The project improves [adaptation](#) and [resiliency](#) or reduces [vulnerability](#) to the negative impacts of climate change. Improvement in any of the following five adaptation priority areas will be scored:

- Protecting and improving human health and well-being
- Supporting particularly vulnerable regions
- Reducing climate-related hazards and disaster risks
- Building climate resilience through infrastructure
- Translating scientific information and Indigenous knowledge into action

Describe how the project decreases vulnerability to climate change or increases resiliency against the negative impact of climate change. As the five adaptation priorities areas are not exhaustive, applicants may also consider increases in resilience of other climate sensitive systems. Note that climate change mitigation (i.e., the reduction in greenhouse gas emissions) is not assessed under co-benefit.

5.4.2. Other environmental benefits

The project results in meaningful environmental benefits. Describe any of the other environmental benefits listed below that are applicable to the project. As the categories outlined below are not exhaustive, applicants may also describe other environmental benefits not listed here. Note that reductions in greenhouse gas emissions will not be assessed under this co-benefit.

- **Improvement of air quality:** Describe how the project will improve indoor or outdoor air quality and/or lead to a reduction of air pollution by reducing pollutants classified as criteria air contaminants (e.g., nitrogen oxide, particulate matter). Describe the air pollutant(s) being reduced, how the project will reduce them, and provide estimates of both the level of reductions and the percentage reductions to illustrate significance. If relevant, provide the facility's National Pollutant Release Inventory¹ ID.
- **Improvement of waste and resource management:** Describe how the project will improve waste and/or resource management (e.g., the project results in less waste sent to landfills, reuse of any by-products that would otherwise be wasted, optimize/reduce use of water, reduced maintenance frequency or redundancy). Describe in detail which resources are better managed and/or what type of waste is reduced, and how the project achieves these outcomes. If applicable, provide supplemental documentation (e.g., waste management plans, sustainability plans).

Other environmental co-benefits, such as habitat protection and/or restoration, the reduction of deforestation, land erosion and/or topsoil loss may also be described in this section of the application form. Ensure the specific link between the project and the co-benefit is described and provide supplemental documentation as relevant.

¹ See the [National Pollutant Release Inventory](#) for more information.

5.4.3. Indigenous engagement or leadership

The project strives to empower specific First Nation, Métis, or Inuit communities or organizations as climate leaders or work with specific communities or organizations to create or support other positive impacts beyond the scope of the project. Specific First Nations, Métis, or Inuit communities should be identified, as applicable. The following guidelines should be considered when describing this co-benefit:

- If applicable, please describe how the project is led by a First Nation, Métis, or Inuit community, group or organization.
- Describe how the project will meaningfully increase empowerment, capacity, or adoption of clean technologies in First Nations, Métis, or Inuit communities, create employment, education, training, skills development, or lead to the development of infrastructure in, or in service of First Nations, Inuit, or Métis communities.
- Describe how the project showcases involvement of First Nations, Métis, or Inuit communities or organizations in the planning of the project or in the creation of positive impacts and/or how the project will demonstrate engagement through co-development in coordination/collaboration with the First Nations, Métis, or Inuit communities or organizations.
- Contract services from Indigenous employees or Indigenous-led businesses (e.g., procurement, design, construction management, installation, or maintenance). Describe the type of service that will be contracted to Indigenous employees or Indigenous-led businesses. Specify the duration of the contract and if applicable, how many jobs will be issued. If the project will be contracting an Indigenous-led business, please provide a description of the business.
- If applicable, provide an engagement plan developed in collaboration with the Indigenous community and/or provide letters of support from the partnering First Nations, Inuit, or Métis communities.

5.4.4. Clean technology adoption

The project enables the further adoption of clean technologies with good potential for wide adoption in Canada. To qualify for this co-benefit, the technology must not be commonly used in Canada or in the relevant economic sector in Canada, must support the development of Canadian expertise in clean technology, and/or must lead to knowledge sharing of clean technology adoption in Canada. Describe the clean technology, its current application in Canada, and how it demonstrates scalability and replicability in Canada.

5.4.5. Energy efficiency

The project increases the energy efficiency of the relevant operations and/or contributes to organizational policies or plans regarding energy efficiency. Describe and quantify, where possible, the energy efficiency benefits that would result from this project. If applicable, describe all expected energy efficiency certifications relevant to the project (including but not limited to Leadership in Energy and Environmental Design (LEED), ENERGY Star certifications, ISO 50001 Energy Management certification); and quantify any high impact energy efficiency technologies and practices not included in the certifications.

5.5. Risks and risk mitigation strategies

Applications will be evaluated for project and recipient risks. Applicants will be required to provide information on organizational and financial capacity, work plan and operational feasibility, and project technical complexity. Risks associated with project delivery capacity, stakeholder involvement, financial management (including the procurement and utilization of funds), operational management and technical requirements must be identified in the application form and accompanying mitigation strategies must be outlined. Applications with an elevated level of risk and insufficient mitigation measures may be rejected or subjected to additional monitoring and reporting requirements. Projects may be reassessed for risk level periodically after a funding agreement is in place.

6. Project considerations

6.1. Indigenous considerations

The Government of Canada has a legal duty to consult and, if applicable, accommodate Indigenous peoples when it considers conduct that might adversely impact potential or established Aboriginal or Treaty rights. Therefore, in addition to assessing co-benefits, ECCC will also assess potential impacts of projects on Aboriginal and Treaty rights, to ensure that those affected are properly notified, consulted and, where required, accommodated.

It is essential to note that the responsibility for consultation and accommodation lies with the Crown, and that third parties, such as proponents (applicants), do not have a legal obligation to consult. However, third parties should assist the Crown's consultation and accommodation efforts. As part of the consultation process ECCC will clearly communicate what is expected of third parties to both proponents and to Indigenous groups. For more information, please visit the [Government of Canada's Duty to Consult](#) and [Updated Guidelines for Federal Officials to Fulfill the Duty to Consult](#), in particular, *Part B, 1 – Roles and responsibilities of Third Parties*.

Additionally, should the project require a federal Impact Assessment (please refer to Section 6.2 for more details), applicants will be required to follow relevant consultation protocols or frameworks, where applicable. For more information, please visit the [Impact Assessment Agency's Guidance: Indigenous Participation](#), in particular, *Section 5.3 – Roles and Responsibilities, The Proponent*.

6.2. Environmental considerations

In Canada, there are several pieces of federal and provincial or territorial environmental assessment legislation that may apply to a physical project depending on where it is located. As such, some projects require an environmental or impact assessment to be completed prior to undertaking certain activities.

Applicants are responsible for informing the appropriate authorities of any project that may require an environmental or impact assessment and follow the mandated processes at the federal and provincial or territorial levels that are associated with carrying out the assessment.

If unsure of the responsibilities associated with the project, please:

- Consult provincial or territorial governments for guidance and information on requirements within their respective jurisdictions;
- Consult the [Impact Assessment Agency of Canada](#) for questions and submissions specific to the project; and
- Review the [guidance](#) published by the Impact Assessment Agency of Canada.

If the project is being carried out on federal lands (defined in Section 2 of the [Impact Assessment Act](#)), or if the applicant is providing financial assistance to any entity for the purpose of enabling the project to be carried out, the applicant should consult the [guidance document on Sections 81 to 91 of the Impact Assessment Act](#) and [policy and guidance on projects on federal lands](#).

6.3. Social and economic considerations

6.3.1. Diversity and inclusion

Applicants to the Challenge Fund are required to disclose to ECCC whether they have a plan to support diversity and foster inclusion within their organization. This information is mandatory for program reporting. Applicants are required to describe the goals, commitments, and how their organization is implementing concrete measures. Applicants can provide supplemental documentation or a link to their organization's plan.

Diverse and inclusive workplaces allow all employees to participate fully within their teams, promote collaboration, encourage communication, accept and respect individual differences, treat others with dignity and fairness, and are intolerant of harassment and discrimination. Diversity and inclusions measures are a defined process or activity of working to create meaningful change to the degree in which marginalized individuals or groups are able to fully participate in an organization or society. Marginalized individuals and groups can include, but are not limited to, students, youth, elderly persons, women/gender diverse people/2SLGBTQQIA+, Black/Indigenous/Persons of Colour, Persons with Disabilities, low-income individuals, etc.

6.3.2. Job estimates

Applicants to the Challenge Fund are required to provide ECCC with details on the jobs created as a result of their project. The estimates are mandatory for program reporting and successful applicants will be required to provide updated estimates of jobs created from project start to completion. At the application stage, applicants are required to provide two types of job estimates for the project:

- **Project implementation jobs:** new and direct full-time equivalent (FTE) jobs that are anticipated to result from implementation of the project (e.g., engineering, procurement, construction, installation, commissioning and related jobs). These jobs must fall within the start and end dates of the project.
- **Annual change in jobs:** the average change in annual FTE jobs expected to occur at the facility after the project is complete (e.g., changes to ongoing operational and maintenance jobs). Please note that the change in jobs at the facility may be negative or

positive. These jobs should only be estimated for a single, representative year and not summed over the lifespan of the project.

To ensure these estimates use a comparable approach, please use the following guidance and provide relevant methodological details in the application form.

- **Direct jobs** are those that are new and directly paid for by the applicant in order to implement the project. For example, jobs that are created directly at the applicants' own company or contractors hired to implement the project should be counted towards this estimate. These jobs should also align with jobs associated with eligible expenditures for the project.
- **Indirect jobs** should not be included in these estimates. For example, if an applicant is purchasing a new piece of equipment for their project, the jobs created to manufacture the new equipment should not be included in the job estimates.
- **Full-time equivalent (FTE) jobs** are calculated by dividing the total hours worked by the average annual hours expected to be worked in the relevant full-time jobs (e.g., 40 hours x 52 weeks = 2,080 hours). The exact hours for each full-time job should be appropriate for the organization and the relevant jobs. Part-time jobs (or jobs that only are related to this project for part of a year) should be counted proportionally towards total FTEs.

$$\text{FTEs per year} = \frac{\text{Total hours of full-time and part-time employees in a year}}{\text{Number of available full-time hours in a year per job}}$$

7. Project assessment and selection

7.1. Assessment process

The assessment process of submitted applications involves two primary steps: an eligibility screening step, followed by a full evaluation of project merit. Depending on the volume of projects received and assessment capacity, projects may be screened prior to either eligibility screening or merit evaluation based on their unassessed (i.e., as submitted) 2030 cost-per-tonne.

7.1.1. Eligibility screening process

Applications will be reviewed for eligibility to confirm that:

- All required elements of the application are complete;
- The project meets all eligibility criteria described in Section 3; and
- The requested funding meets all funding limits described in Section 4.

If the application does not meet program eligibility criteria, it will not be assessed further, and the applicant will be notified of the reason(s) for rejection.

7.1.2. Merit evaluation process

Eligible applications will be evaluated by a cross-disciplinary review committee, comprised of technical and program experts from ECCC and other federal departments, in accordance with the merit framework described in Section 5. The merit evaluation will determine the assessed

projects' scores out of 100 and qualitative risk rating, which will be used to inform project selection.

7.2. Clarifications

It is the responsibility of the applicant to provide comprehensive, clear and complete information. It should be assumed that applications will be reviewed **as submitted**. ECCC may make assumptions or modifications to calculations where the information provided is unclear or appears incorrect in order to complete the project assessment.

However, ECCC may request additional information in order to assess an application that is otherwise complete. In these cases, ECCC will contact applicants to request clarification of project details. To ensure these requests are answered in a timely manner, it is imperative that a project's primary and secondary contact persons' email addresses are kept current. Applicants can change contact information within ECCC's Single Window Information Management system (SWIM) by updating their information under 'My Profile'. They can also contact icef.fefec@ec.gc.ca to notify ECCC of changes in contact persons or contact information as listed in the application form. Given the timeframe for project assessment, ECCC requires a response to clarification emails within five business days. Any requests for clarification are expected to take place between February and April 2024.

7.3. Selection process

After the merit evaluation is complete, ECCC will recommend projects for funding to the Minister of Environment and Climate Change. Project recommendation will be primarily informed by the project scores as determined in the merit evaluation. Projects will be ranked by score and recommended for funding from best to worst score until the desired funding allocation has been reached or project merit is generally deemed to be insufficient to be recommended for funding. However, other considerations beyond project scores may influence project recommendation, such as:

- Projects with high risk and insufficient mitigation measures or that are misaligned with net-zero objectives may not be recommended for funding.
- Projects may be preferentially recommended to ensure broad jurisdictional representation across Canada.
- Other considerations, such as organization type, may also impact project recommendations.

Projects that would constitute an Inefficient Fossil Fuel Subsidy according to the [Inefficient Fossil Fuel Subsidies Government of Canada - Self-Review Assessment Framework](#) will not be recommended for funding.

The Minister of Environment and Climate Change has final authority to approve projects for funding. After the Minister has approved projects for funding, applicants will be notified of the results.

7.4. Status updates and notification of results

ECCC will provide applicants with updates on the status of their application during the assessment process. ECCC will notify both successful and unsuccessful applicants after the Minister has approved projects for funding.

If a project is approved for funding, ECCC will issue a notification of approval-in-principle (AIP) by email and will indicate next steps toward signing a funding agreement. Please note that an AIP does not guarantee funding for the project; the signing of a funding agreement by both parties is the final step in the project approval process.

Funding may be subject to certain conditions, such as the completion of an environmental assessment, regulatory authorizations/permits, Crown/Indigenous consultation, or other commitments.

8. Funding agreements, reporting and claims

8.1. Funding agreements

Federal contributions to selected projects are contingent on the signing of a legally binding funding agreement between the Government of Canada and the successful applicant. Project selection itself at the approval-in-principle (AIP) stage is not a guarantee that federal funding has been finalized. Applicants assume the responsibility for any project costs incurred prior to finalizing an agreement with the Government of Canada.

The signing of a funding agreement is the final step in the project approval process. Upon signing of the funding agreement, the signing party will be considered the “recipient.” The agreement will state the terms and conditions under which the Government of Canada will provide funding for the project. As approval will be based on the details provided in the application, the funding agreement will be drafted based on the scope of work and eligible funding request provided in the application. As such, ECCC will work with successful applicants to ensure that the project is appropriately represented in the funding agreement. It is therefore crucial to clearly define the scope of the project in the application because the recipient will be responsible for:

- Completing the project according to the defined scope and within the timelines in the application;
- Covering any cost overruns above the budget identified in the application; and
- Covering all expenditures associated with work performed outside the approved scope of a project.

Failure to complete the project in accordance with the terms and conditions of the signed funding agreement may result in a reduction of the federal contribution and/or clawback of funds.

8.2. Progress and final reporting

Recipients will be required to provide progress reports on work completed to date at specific intervals that include, at a minimum, progress towards project implementation and up to date GHG reductions estimates, including whether any assumptions used to estimate GHG emissions have changed. The recipient may also be required to report on any changes to risks and co-benefits of the project.

The frequency of progress reports will be determined based on the risk and duration of the project and will be required at least twice a year from the signing of the funding agreement to the completion of the project. In addition, recipients will be required to submit documentation within six months of the completion of the project, including a final report and an attestation that federal cost-shared projects have been completed and funds have been spent on eligible expenditures.

Detailed reporting requirements aligned to information solicited in the application will be outlined in the funding agreement. A reporting guideline and a common reporting template will be provided to recipients to clarify reporting expectations.

Recipients are required to follow a structured process for scope changes and amendments in their projects, subject to review and approval by ECCC. Proposed changes, including de-scoping project activities, adjustments to fiscal year breakdowns and GHG outcomes, must be supported by a rationale and submitted by the primary contact or authorized signatory identified in the Funding Agreement. The request should include a justification, risk mitigation measures, and updated schedules and workbooks. For Indigenous recipients where other federal funding is involved, ECCC will coordinate with other federal departments to streamline the recipient's reporting requirements, where possible.

8.3. Payments and claim submissions

Recipients will be required to submit their claims for incurred eligible expenditures through ECCC's Single Window Information Management system (SWIM). These expenditures must be incurred on, or after, the date the funding agreement is signed by both parties and before the project's end date, which cannot be later than March 31, 2028. At ECCC's discretion recipients may be able to start incurring eligible expenditures from the date on which the approval-in-principle is sent. In this scenario, eligible project expenditures incurred prior to the signing of the funding agreement are considered eligible for reimbursement only if incurred within the fiscal years covered by the funding agreement. To note, the Government of Canada's fiscal year cycle is from April 1 to March 31.

With each claim submission, recipients will be required to submit dates, receipts, invoices, and/or any other relevant documentation that proves the transaction has occurred within the expenditures eligibility period indicated above. Proof of expenditures incurred must contain a breakdown of expenditures and/or work completed that can be matched against the project activities, as detailed in the funding agreement.

Payments will be made following ECCC's review and approval of claims submitted and associated progress report. The basis of payment will be detailed in the funding agreement.

Please note that ECCC may withhold up to 25% of funding pending the completion of a joint final reconciliation of all claims and payments at project end.

8.4. Audit and evaluation

Recipients may be subject to an audit. Recipients selected for audit will receive notification in advance. Professional auditing firms retained by ECCC will carry out the audits. Should a recipient audit be required by ECCC, the cost associated with the audit would be at ECCC's expense.

ECCC may also conduct an evaluation of its program. Recipients may therefore receive a request to provide performance-related information to ECCC's evaluator or to respond to a questionnaire to support the evaluation.

9. Privacy and confidentiality

To complete the application, applicants must attest to the accuracy of the information provided in the application form.

In addition, applicants must provide consent to ECCC for the sharing of the application with other federal government departments, for the purposes of assisting ECCC with project assessment, determining eligibility under other federal government funding opportunities, and confirming past federal funding sought by an applicant. Applicants must also provide consent to ECCC to disclose application information with selected external experts hired by the Government of Canada under contract with confidentiality obligations for the purpose of assisting ECCC with project assessment.

All information, including supporting documentation, provided by applicants in their application to the federal government, will be used by ECCC solely for the purpose of the Low Carbon Economy Challenge, specifically for the review, evaluation and selection of projects, which may also include determining eligibility under other federal government programs and/or confirming past federal funding sought by an applicant.

Federal government institutions, such as ECCC, are bound by the requirements of the federal government's *Access to Information Act*, *Privacy Act* and *Library and Archives Canada Act*. These laws apply to the use, disclosure, and retention of information (such as personal, confidential or other information) under the control of federal government institutions.

In submitting an application, applicants are consenting to such uses, sharing and disclosures of the information for the purposes described above. Applicants are invited to clearly identify in question 2.2. of the application form or via email to lcef.fefec@ec.gc.ca, any information that contains trade secrets, is confidential or that if disclosed, could reasonably be expected to result in material financial loss or gain to, or to prejudice the competitive position of, a third party, or, to interfere with contractual or other negotiations of a third party, as outlined in Section 20 of the *Access to Information Act*. Once a project is approved and a funding agreement is signed, the name of the successful applicant, location, date of approval, the contribution amount, and the project description may be proactively disclosed to the public.

Annex A: glossary and acronyms

Definitions

Activity – A specific action or intervention targeted at changing GHG emissions, which could involve reductions, removals, or storage. It may include modifications to existing production, process, consumption, service, delivery or management systems, as well as the introduction of new systems.

Asset – Any real or personal property or immovable or movable property acquired, purchased, constructed, rehabilitated or improved, in whole or in part, with funds contributed by Canada under the terms and conditions of this program.

Avoided emissions – Avoided emissions are described as a decrease in greenhouse gases (GHGs) from a future source as a result of implementing low-to-zero emitting equipment, technology or processes in comparison to industry standard for these types of equipment, technologies or processes.

Baseline scenario – A scenario describing what would most likely occur and estimating what GHG emissions are expected to be in the absence of the proposed project. Also referred to as the “business-as-usual” scenario.

Behavioural change – An ineligible activity type whose primary objective is the reduction of GHG emissions through incenting or modifying conscious human actions. For example, installing monitoring devices to provide information about the energy usage of a piece of equipment in order to encourage users to turn it off when possible, would be a behavioural change project.

Best available technology (BAT) – The most effective technologies, techniques, or practices, including emerging technologies, that can be technically and economically feasible for reducing GHG emissions during the lifetime of the project.

Capacity building – An ineligible activity type that results in the development and enhancement of human and institutional resources, which do not directly result in measurable GHG emissions reductions.

Carbon dioxide equivalent (CO₂e) – The mass of carbon dioxide that would result in the same global warming impact as an equivalent mass of another greenhouse gas. The carbon dioxide equivalent is calculated, for this program, by multiplying the mass of the greenhouse gas by its corresponding 100-year global warming potential from the Fourth Assessment Report from the United Nations Intergovernmental Panel on Climate Change.

Carbon lock-in – A set of technologies, institutions, and norms that are inconsistent or incompatible with a low-carbon future and limits progress toward the goal of net-zero emissions. It is a process by which social, political and technical barriers to decarbonization interact to create an inertia that favors the development of fossil fuels. Under LCEF, carbon lock-in is the likelihood that a project will lock-in systems and/or technologies that would become emissions liabilities in 2050.

Climate change adaptation – The process of adjusting decisions, behaviours and/or activities to moderate harm resulting, or likely to result, from existing or expected changes in climate. Adaptation measures can be implemented before or after an impact resulting from climate change occurs. Project level examples of adaptation include improving a buildings air filtration system, making facility improvements to address higher risk of flooding, improving HVAC systems to address more frequent heatwaves.

Climate vulnerability – The degree to which a system (e.g., community, economic sector, or geographic region) is susceptible to, and unable to cope with, adverse effects of climate change, including long-term changes, climate variability and extremes.

Contribution – Funding that is based on meeting conditions of project performance and delivery. Contribution funding will be accounted for to ensure that it is being used for the intended purpose. Reporting is required to track progress, how the funds are being used, and how the project contributes to the program objectives.

Cost-per-tonne – The ratio of federal funding requested per tonne of carbon dioxide equivalent (\$/tCO_{2e}) reduced in 2030 (2030 cost-per-tonne) and over the lifetime of the project to 2050 (cumulative to 2050 cost-per-tonne).

Cost-share – The maximum level of assistance from a specific program (in this case, the Challenge Fund) for a project, as a percentage of total eligible expenditures. If an application involves only one organization, cost-share amount is determined by that organization; however, if an application involves two or more entities, cost-share is determined by the applicant type of the ultimate recipient(s).

Demonstration and pilot activities – Ineligible activity types where activities are primarily based on testing the operational or technical viability of a piece of equipment, product or process in order to determine effectiveness and feasibility for permanent use.

Educational activities – An ineligible activity type that seeks only to educate, generate knowledge, or promote awareness and which does not directly result in measurable GHG reductions.

Eligible expenditures – Project costs considered by ECCC to be direct and necessary for the successful implementation of an eligible project. For more details, please refer to Section 4.3 of this guide.

Feasibility study – An analysis of the economic, technical, scheduling, legal, and other considerations of a potential project to determine if it is likely to be successful.

Federal stacking limit – The maximum level of assistance from all federal sources of funding for a project, as a percentage of total eligible expenditures.

Funding agreement – A written agreement between the Government of Canada and a recipient governing the terms and conditions associated with receiving funding.

Greenhouse gas (GHG) – The seven gases or categories of gasses recognized by the United Nations Framework Convention on Climate Change (UNFCCC) for their contributions to the greenhouse effect: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃).

Incremental GHG reductions – Incremental projects are those that obtain GHG reductions beyond what would have occurred without the requested funding being provided. Projects that must proceed as described because of regulatory requirements, routine maintenance, or pre-existing commitments are thus ineligible for funding. See Section 3.3.2 of this guide for a description of the eligibility requirements regarding incremental GHG reductions.

Lead applicant – The main point of contact with ECCC and the recipient in the funding agreement. The lead applicant will assume financial and legal responsibility for the implementation of the project in relation to ECCC, including any potential liabilities in the event of cancelled projects or non-compliance with any of the terms and conditions of the funding agreement.

Material GHG reductions – GHG emission reduction results that are tangible, measurable, achievable, and sizeable enough to contribute towards Canada's GHG reduction targets relative to project size and scope. See Section 3.3.1 of this guide for a description of the eligibility requirements regarding material GHG reductions.

Model – A reduced scale, functional form of a system, near or at operational specification.

New construction activities – An ineligible activity type whose primary objective is the construction of a new building or facility (e.g., Net Zero Ready building, new mine, etc.) and/or where the emissions reductions are generated from a comparison between the performance of the new building or facility and a hypothetical baseline for the building or facility in the absence of Challenge funding.

Net metering agreement – Where 100% of produced electricity is sold to the grid and the producer buys 100% of their consumed electricity from the grid but is credited for the net amount of electricity supplied to the grid on an annual basis.

Net-zero – A state in which greenhouse gases emitted into the atmosphere are balanced by the removal of greenhouse gases from the atmosphere.

Own use – Refers to electricity or fuel that is produced and used within the organization's own operations. See Sections 3.3.5 and 3.3.6 of this guide for a description of the eligibility requirements regarding own use for the production of electricity or low-carbon fuel.

Other participating organization – A specific organization whose participation in the project is necessary for the project to proceed but who does not own any assets benefitting from Challenge funding. For example, an "other participating organization" could include (but is not limited to) project partners, owners of the land the project will occur on, or project co-funders.

Pilot project – A temporary and/or small-scale project which, based on its outcomes, will be used to determine whether a full-scale and/or permanent version of the project is technologically viable.

Project – The set of activities for which funding is being sought in the application. A project should be functionally distinct from other activities in terms of implementation, outcomes, budget, and work plan. Projects can include different activities at different sites, as long as the project activities are located within a single province or territory and the sites have the same owner.

Project phase (i.e., planning, execution, monitoring and control or closure) – The specific events/milestones that form an activity of the project with a defined set of tasks. A project phase represents sequential tasks required to complete or implement a project activity.

Proof of concept – Analytical and experimental demonstration of hardware/software concepts.

Prototype – The first early representation of the system which offers the expected functionality and performance expected of the final implementation.

Removal – Removal of GHG emissions from the atmosphere through sequestration or absorption, such as when CO₂ is absorbed by biogenic materials during photosynthesis.

Research, development and demonstration (RD&D) – An ineligible activity type where activities are primarily based on the initial stages of innovative technology development, idea generation, and testing.

Resilience – The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation.

Retrofit – Changes to an existing building or asset that seek to renovate, upgrade, or repair aspects of the building or asset in a manner that improves environmental outcomes.

Stacking limit – The maximum level of assistance from all levels of government funding (federal, provincial/territorial, and/or municipal) for a project, as a percentage of total eligible expenditures.

Stranded asset – An asset that suffers from unanticipated or premature financial write-offs or downward financial revaluations, or that are converted to liabilities, as the result of a low-carbon transition or other environment-related risks.

Task – A key action or step of an activity required for project implementation. The work plan and the budget must be clearly broken down by tasks, and where necessary, sub-tasks.

Technology readiness level (TRL) – A scale that rates technological maturity based on its status from inception to commercially available.

Ultimate recipient – An organization who will be an owner of any or all of the asset(s) benefitting from Challenge funding.

Eligible activity type definitions

Building envelope upgrades (e.g., insulation, windows, doors) – The replacement or restoration of a building's envelope or shell. This includes all activities that improve the airtightness or insulation of the building. Note that upgrades to heating or cooling equipment are generally considered stationary equipment retrofits.

Carbon capture and storage – Technologies that energy/emission-intensive industries implement to remove CO₂ emissions from their point source (capture), followed by the permanent storage of CO₂ underground by injecting it into rock formations (storage).

Carbon capture and utilization – Technologies that energy/emission-intensive industries implement to remove CO₂ emissions from their point source (capture), followed by the conversion of this carbon to fuels or carbonate minerals through mineralization processes with higher conversion efficiency and lower energy requirements, compared to incumbent technologies (utilization).

Clean electricity production for own use – The generation of electricity from renewable sources to offset the consumption of electricity from non-renewable sources. Common examples of renewable energy include solar, wind, hydro, and biomass. Electricity production projects must meet the “own use” requirement as defined in Section 3.3.5. of this guide.

Cogeneration or combined heat and power production – The installation or upgrade of a cogeneration or combined heat and power unit to generate electricity and heat that can be used to meet space, water, or other process heating requirements.

District energy and/or heating – Heating and/or cooling networks in which multiple buildings are connected to a central heating/cooling plant. District energy and/or heating systems for new industrial or residential buildings are ineligible.

Heat recovery – The capture of residual heat from a process for use elsewhere (e.g., the capture of heat that would otherwise be wasted from an industrial process to pre-heat a secondary process or to provide space heating).

Industrial process emissions changes – Changes to industrial processes that release non-energy related GHG emissions, such as manufacturing processes that release CO₂ through chemical reactions (e.g., as in cement or steel production).

Industrial product use changes – Changes in the use of products that result in the direct release of GHG emissions to reduce or eliminate these emissions. This includes the consumption of sulphur hexafluoride and nitrogen trifluoride, halocarbon production and use as alternatives to ozone-depleting substances, and non-energy products from fuels and solvent use.

Landfill gas capture – The capture of greenhouse gasses, primarily methane, stemming from the decomposition of organic materials in a landfill. These gasses can be used as a fuel for own use in another process or flared.

Low-carbon fuel production for own use – The production of a fuel that when used has significantly lower carbon emissions than that of traditional fuels. Low-carbon fuel production projects must meet the “own use” requirement as defined in Section 3.3.5 of this guide.

Mobile equipment retrofits for energy efficiency – The replacement or upgrade of existing vehicles or their onboard systems for the purpose of increasing their energy efficiency. This can include cars, trucks, planes, trains, excavators, or any other such vehicle.

Mobile equipment retrofits for fuel switching – The replacement or upgrade of existing vehicles or their onboard systems for the purpose of switching the energy/fuel on which they operate. This can include cars, trucks, planes, trains, excavators, or any other such vehicle.

Organics diversion – The diversion of organic materials from the landfill to another controlled environment such as a composting facility or an anaerobic digester, which will prevent the release of greenhouse gasses (primarily methane) as they decompose.

Stationary equipment retrofits for energy efficiency – The replacement or upgrade of existing mechanical or electrical systems for the purpose of increasing their energy efficiency. Stationary equipment refers to those systems that remain fixed in a single location throughout the course of its operation. Common examples include boilers, pumps, and compressors.

Stationary equipment retrofits for fuel switching – The replacement or upgrade of existing mechanical or electrical systems for the purpose of switching the energy/fuel on which they operate. Stationary equipment refers to those systems that remain fixed in a single location throughout the course of its operation. Common examples include boilers, pumps, and compressors.

Acronyms for greenhouse gasses

CH ₄	Methane
CO ₂	Carbon dioxide
HFC	Hydrofluorocarbon
N ₂ O	Nitrous oxide
NF ₃	Nitrogen trifluoride
PFC	Perfluorocarbon
SF ₆	Sulfur hexafluoride

Other acronyms

AIP	Approval-in-principle
DIP	Decarbonization Incentive Program
ECCC	Environment and Climate Change Canada
EST	Eastern Standard Time
ERP	Emissions Reduction Plan
FEED	Front-end engineering and design
FTE	Full-time equivalent
GHG	Greenhouse gas
LCEF	Low Carbon Economy Fund
LED	Light-emitting diode
LEED	Leadership in Energy and Environmental Design
NZA	Net-zero alignment
PIMS	Program Information Management System
Pre-FEED	Pre-front end engineering study
RD&D	Research, development, and demonstration
SWIM	Single Window Information Manager
tCO ₂ e	Tonnes of carbon dioxide equivalent
TRL	Technology Readiness Level
WBS	Work Breakdown Structure & Budget Workbook
ZEV	Zero-emission vehicle