

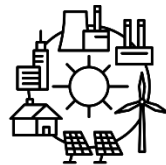


Energy Innovation Program

Call for Project Proposals

Smart Grid Demonstration

Applicant Guide



Office of Energy Research and Development

October / 2023



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Energy Innovation Program

Smart Grid Demonstration, Applicant Guide

1. Objectives

1.1 Office of Energy Research and Development

The Office of Energy Research and Development (OERD) leads the Government of Canada's efforts in delivering energy research, development, and demonstration (RD&D) funding, accelerating efforts in energy innovation and cleantech programming. With a focus on influencing the pace and direction of energy system transformation, OERD targets the most impactful technologies to maximize environmental and economic outcomes. Leveraging over forty years of experience and unique science and technology expertise, OERD invests in key federal departments and agencies to undertake energy RD&D, as well as a wide range of Canadian small and medium enterprises, utilities, industry, and other firms, all in support of Canada's energy innovation and climate change goals.

1.2 Energy Innovation Program Smart Grid call for proposals

A smart grid is a modernized electricity network that optimizes the entire system and uses existing assets more efficiently through digital and advanced technologies that monitor and manage the transmission of electricity. The development and adoption of advanced smart grid solutions is a key enabler to ensure that Canada's electricity system achieves net zero by 2035, and that supports Canada's comprehensive net-zero goals by 2050, which will increase the need for clean electricity across the country.

The Energy Innovation Program's Smart Grid call for proposals will provide support to the key technological, market, and regulatory innovations that address barriers to scaling pilot projects into grid-wide deployments. The intended results include significant impacts to enhancing grid reliability, resiliency, and flexibility; energy affordability; enabling greenhouse gas (GHG) emission reductions; and market conditions that are more favourable to scaling successful innovations.

To support the technical and regulatory evolution of a modernized electricity grid, the Smart Grid call for proposals has two focus areas: 1) Demonstration and 2) Regulatory Innovation Capacity Building.

The Demonstration Focus Area will provide funding to support innovative technology and grid system demonstrations. The Regulatory Innovation Capacity Building Focus Area under the Smart Grid call for proposals seeks to support innovation for the economic regulation of Canada's electricity systems.



This is the **Applicant Guide for the Smart Grid call for proposal's Demonstration Focus Area**. The Applicant Guide for the Regulatory Innovation Capacity Building Focus Area can be found [here](#).

1.3 Demonstration focus area objectives

1.3.1 Sector objectives

The Demonstration Focus Area will provide support to projects which demonstrate innovation in smart grid technologies/solutions, and market or contract mechanisms (innovation may be specific to your jurisdiction) which satisfy **one or more** of the following objectives:

- Accelerate grid modernization to:
 - Better utilize the capacity of existing electricity assets;
 - Increase the reliability, resiliency, and flexibility of the power system;
 - Increase the penetration of distributed energy resources.
- Improve customer accessibility of grid-integrated solutions which provide more affordable energy and lower total GHG emissions.
- Sufficiently represent a given electric system to meaningfully inform future deployment considerations (e.g., varied customer demographics, seasonal variations, regionally representative scale).
- Address well-defined market gaps with a proposal to build business solutions. Business solutions should articulate any impacts from the regulatory environment incorporated into the technical design of a project and the solution's pathway to scale.

Mandatory criteria for proposals include:

- Involve the electricity distribution system
- Share knowledge and insights to enhance public awareness

1.3.2 Regulatory impact

The Smart Grid call for proposals aims to accelerate the scale of successful demonstration projects. This subsection applies to those which would be scaled within the economic regulatory environment.

To evaluate the ability of a proposed project to impact the regulatory ecosystem, the program will use the following five criteria:*

1. **Adaptive:** the project allows for delivery of different models or products that can be targeted to different needs.
2. **Purposeful:** the project is founded in a broader strategy or is based on a specific need. The project enables learning or skills development that can deliver change.
3. **Informative:** the project collects or shares relevant information to the appropriate stakeholders to inform regulatory innovation.
4. **Collaborative:** the actors involved in the delivery and development of the project support the fulfilment of the project objectives. The project includes, informs, and is led by the appropriate actors to inform change (e.g., sector stakeholders, regulatory staff, policy-makers).
5. **Basis setting:** the project supports or enables the creation of a case for specific changes in the regulatory context to allow for grid modernization projects which currently face barriers to adoption or scale.



Proposals should satisfy at least one of the above criteria. Selected projects will be invited to participate in a periodic program discussion supporting regulatory change. A template for how this impact will be reported on will be provided, as indicated in section 10.2.

*Adapted from policy messages on regulatory experimenting published by the International Smart Grid Action Network (ISGAN) in October 2021 as part of the ISGAN Knowledge Transfer Project.

2. Eligible recipients

2.1 Eligible Canadian recipients

Eligible Canadian recipients will be:

- 1) Legal entities validly incorporated or registered in Canada including:
 - For profit and not-for-profit organizations;
 - Community groups; and
 - Canadian academic institutions.

- 2) Provincial, territorial, regional and municipal governments and their departments and agencies where applicable.

- 3) Indigenous
 - Indigenous communities or governments;
 - Tribal Councils or entities that fulfill a similar function (e.g., general councils);
 - National and regional Indigenous councils, and tribal organizations;
 - Indigenous (majority owned and controlled by Indigenous people) for-profit and not-for-profit organizations.

For the purposes of this Applicant's Guide, the term "Indigenous" is understood to include Inuit, Métis, First Nation, Status Indian and non-Status Indian individuals, or any combination thereof.

2.2 Encouraged recipients

The following are examples of types of organizations who may be interested in applying to the Smart Grid Demonstration call for proposals. This list is not exhaustive, and these types of organizations will be evaluated based on the merits of their application only.

- Electricity utilities
- Electricity system operators
- Electricity system regulatory agencies and commissions
- Companies providing aggregation services
- Industry and research associations
- Codes and standards organizations



3. Eligible projects

3.1 Demonstration projects (Technology Readiness Levels 5 to8)

Demonstration projects must address technological or market challenges by validating and deploying pre-commercial technologies and/or market concepts. Projects as a whole must target Technology Readiness Levels (TRL) between 5-8 (see description of TRLs in Section 12. Technology Readiness Levels).

Activities falling outside the specified TRL range (i.e., TRL less than 5 or greater than 8) will only be considered and permissible if they are minor and are integral to the broader Demonstration project.

Examples of eligible activities include, but are not limited to:

- Innovation in smart grid technologies/solutions, and/or market or contract mechanisms (innovation may be specific to your jurisdiction).
- Alterations to existing processes, equipment, or systems to integrate innovative technologies or methods.
- Engineering, design, and permitting of the installations mentioned above.
- Operational testing, performance analysis, and evaluation of pre-commercial equipment in its intended environment to gauge the efficacy of an innovation.

The goal of the Smart Grid call for proposals is to support the grid integration of electricity system assets. Purchase costs for commercially available, stand-alone assets for electricity generation, storage, or loads (e.g., solar PV systems, wind turbines, batteries, inverters, heat pumps, thermostats, electric vehicles, electric vehicle chargers) are ineligible for reimbursement under this call for proposals. This call for proposals will only reimburse the costs (and/or incremental costs) associated with the innovative integration of these assets. Please refer to sections 5.1 Eligible Expenditures and 5.2 Ineligible Expenditures.

3.2 Inclusivity, equity, diversity, and accessibility project benefits

The call for proposals will prioritize projects that seek to provide project benefits which advance IDEA through a project design that contributes to the following criteria. Applicants are required to describe how their project will positively impact communities in the following ways:

- **Affordability** – innovation applications that directly address issues related to reducing the energy burden of communities through grid modernization and innovation. This can involve but is not limited to projects reducing energy poverty, projects serving low-income communities and housing, and projects reducing the cost of participation related to electrification.
- **Access** – innovation projects that increase the involvement of certain communities and actors in innovative projects, for example projects that serve and involve communities in need (e.g., high-density housing, communities with energy poverty), projects that reduce costs of participation, and projects that establish communication and increased collaboration. This can include projects that improve energy resiliency, increase parity in grid modernization projects, and increase access to low-cost capital in communities.
- **Participation** – innovation projects that reduce the barriers to participation of certain communities and actors to be direct beneficiaries, leaders, and partners in these projects. For example projects that establish networks, employ within the community, develop engagement, and increase the skills and knowledge of certain communities in the sector. This can include



projects that increase energy democracy, increase clean energy job creation, and contract within communities.

The project benefits can range from national impacts to direct local community benefits. Applicants must establish their own metrics for measuring these benefits, and proposals will be evaluated on their ability to describe what they will measure and how they will measure it.

4. Funding and support

4.1 Contributions

The minimum contribution, maximum contribution, maximum government stacking percentage, and project life are outlined in the table below:

Maximum Contribution Percentage (% of Total Project Cost)	Minimum Contribution	Maximum Contribution	Maximum Government Stacking Percentage (% of Total Project Cost)	Project Life
50%	\$500,000	\$6,000,000	100%	4 years

Total Project Cost refers to the total cost of the project and includes both Eligible Expenditures (defined in Section 5.1) and Ineligible Expenditures (defined in section 5.2). (Total Project Cost) = (Eligible Expenditures) + (Ineligible Expenditures). Total project cost does not include non-permissible expenditures (defined in section 5.3).

Maximum Contribution Percentage (% of Total Project Cost) refers to the maximum percentage of funding provided by the Energy Innovation Program for total project cost (cannot exceed the Maximum Contribution). The balance is to be leveraged and funded by the Recipient.

Minimum Contribution refers to the minimum amount of funding provided by the Energy Innovation Program for total project costs and must also align with the contribution percentage limitations.

Maximum Contribution refers to the maximum amount of funding provided the Energy Innovation Program for total project costs and must also align with the contribution percentage limitations.

Maximum Government Stacking Percentage (% of Total Project Cost) refers to the maximum level of total Canadian government funding (stacking) authorized by this call. Prior to signing contribution agreements, a Recipient will be required to disclose all anticipated sources (Canadian and non-Canadian) of funding for the proposed project, including approved in-kind funding, clearly identifying contributions from other Canadian government sources (federal, provincial, territorial, and municipal). This stacking limit must be respected when assistance is provided. In the event that actual Total Government Assistance to a Recipient exceeds the eligible expenditures for the program, proponents will be asked to provide evidence that eligible costs under the Energy Innovation Program are not also being covered by another source of government funds. Based on this assessment Natural Resources Canada (NRCan) reserves the right to adjust its level of contribution (and seek reimbursement, if necessary) so that the stacking limit is not exceeded. Eligible expenditures for this program are defined in Section 5.1. Note that other programs may have different stacking limits for federal funding, and it is the responsibility of the applicant to ensure that they are within the eligible range for their project across all funding programs they apply to.



4.2 In-Kind contributions

In-kind contribution means a cash-equivalent contribution in the form of an asset for which no cash is exchanged but that is essential to the project and that would have to be purchased by the project proponent on the open market, or through negotiation with the provider, if it were not provided by the project proponent.

The call for proposals accepts in-kind contributions (defined in Section 9. In-kind Contributions – Costing Memorandum) as part of Total Project Costs, subject to the definitions and limitations described in Section 9. As per section 5.2 Ineligible Expenditures, in-kind support is ineligible for reimbursement.

4.3 Further distribution

Eligible recipients may further distribute funding to conduct approved project activities. Eligible Recipients will have independence in their choice of the additional recipients to which they further distribute funding, with minimal guidance from NRCan (as set forth in this Applicant’s Guide) and will not be acting as an agent of the government in making distributions.

The roles and responsibilities of Eligible Recipients, including compliance with this Applicant’s Guide, will be established through a contribution agreement with NRCan.

An Eligible Recipient that further distributes funding may incur up to a maximum of 15% of NRCan's Contribution to manage activities related to further distribution under a Contribution Agreement of this type and minimum of 85% to be further distributed.

5. Eligible, ineligible, and non-permissible expenditures

5.1 Eligible expenditures

Eligible Expenditures for an approved project must be directly related to, and necessary for, the implementation and conduct of a project and will include:

- Salaries and benefits for employees on the payroll of the Recipient for the actual time spent by the employees on the project
- Training and workshops
- Professional, scientific, technical, and contracting services
- Travel expenditures, including meals and accommodation, based on National Joint Council Rates, adjusted to reflect costs in Northern and remote areas, where appropriate.
- Capital expenditures such as the purchase, installation, testing, and commissioning of qualifying equipment, materials, and products, including diagnostic and testing tools and instruments, and original manufacturers’ equipment warranties (including extended warranties, where deemed appropriate, to mitigate risk and lack of capacity).
- Other expenses, including:
 - Laboratory and field supplies and materials;
 - Printing services and translation;
 - Data collection services, including processing, analysis and management;
 - Facility costs for seminars, conference room rentals, etc.(excluding hospitality);
 - Construction Insurance;



- Accreditation;
- License fees and permits;
- Honoraria;
- Training; and
- Field testing services.
- Overhead expenditures, provided they are directly related to the conduct of the project and can be attributed to it. Overhead expenditures can be included in the total project costs to a maximum of 15% of eligible expenditures. Overhead expenditures include:
 - Administrative and corporate support provided directly to the project by the Recipient's employee(s), valued on the same basis as professional staff time;
 - Routine laboratory and field equipment maintenance, based on actual expenditure incurred by the Recipient;
 - Office operating expenses directly related to the conduct of the project (e.g., faxes, telephone, photocopies, internet, SAT phones, and office equipment);
 - Costs associated with further distribution of funding.
 - A predetermined overhead percentage (based on evidence provided by the Recipient of expected overhead expenditures at the time of contribution agreement negotiation), may be set and subsequently applied to each claim to avoid unnecessary administrative burden to funding recipients.
- GST, PST, or HST, net of any tax rebate to which the Recipient is entitled.

Further details are described in Section 8. Eligible Expenditures – Costing Memorandum.

5.2 Ineligible expenditures

Ineligible expenditures count toward total project costs and are included in the calculation of a program's contribution to a project; however, their costs cannot be reimbursed by the program.

- Purchase costs for commercially available, stand-alone assets for electricity generation, storage, or loads are ineligible for reimbursement under this call for proposals. This call for proposals will only reimburse the costs (and/or incremental costs) associated with the innovative integration of these assets.
- In-kind contributions.

5.3 Non-permissible expenditures

Expenditures ineligible either for reimbursement or for inclusion as part of the total project costs (non-permissible costs) will be listed in the application materials. At minimum, the following costs are considered non--permissible:

- Purchase of land.

5.4 Collaboration with federal laboratories

Some program components permit in-kind participation of a federal organization in a contribution project funded under this program. Should this be a key feature of the program, applicants will be required to document separately the scope of work to be executed by the federal laboratory, and the associated costs required for the activity. Further information will be made available in the application materials.



The Program permits applicants to hold subcontracts directly with federal laboratories, the cost of which may be included as part of the Total Project Costs provided that the Applicant is able to warrant that they have sufficient funds outside of any NRCan contribution to cover all costs associated with said subcontract.

6. Application process

6.1 How to apply

The call's projects selection process has two phases:

- Expression of Interest (EOI) phase, open to all eligible applicants
- Full Project Proposal (FPP) phase, open to invited applicants only

Phase 1. Expression of Interest (EOI)
<ol style="list-style-type: none">1. Determine your eligibility to apply – Review the Applicant Guide.2. Complete and submit an EOI.3. EOI Evaluation – Your EOI will be reviewed by a technical review committee.4. EOI Results – NRCan notifies applicants of the EOI evaluation results and invites successful applicants to the FPP phase.
Phase 2. Full Project Proposal (FPP) – Invited Applicants Only
<ol style="list-style-type: none">5. Complete and submit an FPP.6. FPP Evaluation – Your FPP will be reviewed by a technical review committee.7. Project Selection – NRCan notifies applicants of the FPP evaluation results.

To apply, applicants must complete and submit their **Expression of Interest (EOI)** via the application portal by **11:59 a.m. EST on January 10, 2024.**

Applicants are responsible for ensuring that they meet the eligibility criteria and that their EOI is fully completed and successfully submitted by the deadline.

NRCan reserves the right to apply the following additional criteria when selecting projects at the EOI and FPP stages:

- Projects that support departmental priorities such as regional balance in Canada, advancing IDEA in the natural resources sector, and socio-economic considerations

[**<< CLICK HERE TO ACCESS EOI PORTAL >>**](#)

6.2 Next steps and timelines

6.2.1 Full project proposal phase

NRCan will notify the applicants who are invited to the FPP phase and send them information on the FPP timelines and submission requirements.



Applicants must provide all mandatory information to be considered for funding. An invitation to the FPP phase does not represent a funding commitment from NRCan.

NRCan may request supplementary information at various points in the review process.

6.2.2 Due diligence assessment

All applicants selected for funding will undergo a due diligence assessment, which will include four main components: financial, technical, legal and regulatory due diligence. Selected applicants will have two months to fulfill all due diligence requirements.

As part of financial due diligence, selected applicants will be asked to complete a detailed budget and statement of work template which will be thoroughly assessed by the assigned NRCan project team. Applicants may also be selected by NRCan for a 3rd party financial audit or be asked to provide their three major financial statements (Cash Flow, Income & Balance Sheet) to evaluate the organization's financial health. Applicants will be asked to provide documentation to support budget estimates. Technical due diligence will be assessed by reviewing the applicant's detailed budget and statement of work template. A panel of science and technology advisors will evaluate project complexity, feasibility and timelines.

Applicants will be asked to provide legal proof of registration in Canada as part of the legal due diligence. Within the detailed budget and statement of work, there are sections dedicated to permits and conflict of interest, which are also part of the legal due diligence performed by NRCan.

As per sections 82 and 83 of the Impact Assessment Act (2019), NRCan must not provide financial assistance to any person for the purpose of enabling a project to be carried out, in whole or in part, on federal lands and/or outside Canada, unless NRCan determined that the carrying out of the project is not likely to cause significant adverse environmental effects. Thus, NRCan must perform regulatory due diligence by performing an environmental assessment and evaluating the duty to consult with Indigenous groups. The full project proposal and detailed budget and statement of work template contain areas that are specifically used to fulfill this requirement.

Applicants undergoing due diligence will be notified whether their project passes the due diligence assessment. Applicants whose projects pass the due diligence assessment will be invited to work with NRCan to draft, sign, and execute a contribution agreement.

6.2.3 Contribution agreement

Any funding under the call will be contingent upon the execution of a contribution agreement. Until a written contribution agreement is signed by both parties, no commitment or obligation exists on the part of NRCan to make a financial contribution to any project, including any expenditure incurred or paid prior to the signing of such contribution agreement.

More information on NRCan contribution agreements will be made available to successful applicants following notification of the proposal results.

6.2.4 Timelines

The following timelines are anticipated for the call. NRCan, at its sole discretion, reserves the right to modify these anticipated timelines.



Steps	Dates
Open for EOI Applications	October 30, 2023
Deadline for EOI Applications	January 10, 2024 11:59 a.m. EST
Notification of EOI Results	Winter/Spring 2024
Deadline for FPP Submissions	Spring 2024
Project Selection/Notification	Spring/Summer 2024
Due Diligence	Fall / Winter 2024
Negotiation and Signing of Contribution Agreements	Winter 2024 / 2025

6.2.5 Service standards

NRCan maintains a suite of service standards on the expected timelines for each phase of program delivery. The service standards for NRCan’s programs are available at the following link: <https://natural-resources.canada.ca/transparency/reporting-and-accountability/plans-and-performance-reports/natural-resources-canadas-service-standards-for-transfer-payment-programs/22265>.

7. Definitions

Accessibility: an overarching goal to realize a barrier-free environment through the proactive identification, removal, and prevention of barriers in an organization’s policies, programs, practices, and services. A barrier could include anything that hinders full and equal participation in society regardless of distinct identities and needs. Removing accessibility barriers ensures all members of society are fully supported and have opportunities to advance.

Contribution: means funding provided by Canada under the contribution agreement toward Eligible Expenditures.

Distribution system: is the portion of the electric system that is composed of medium voltage (or lower) sub-transmission lines, substations, feeders, and related equipment that transport the electricity commodity to and from customer homes and businesses and that links customers to the high-voltage transmission system.

Diversity: means the acceptance and respect of various human dimensions including race, gender, sexual orientation, ethnicity, socio-economic status, religious beliefs, age, physical abilities, political beliefs, and other ideologies.

Due diligence start date: means the date on which the proponent was notified that it succeeded to the Due Diligence stage.

Eligible expenditure period: means that recipients will be allowed to start incurring eligible expenditures from the date a recipient’s project has been conditionally approved (and pending a due diligence review) or April 1 of the fiscal year in which the contribution agreement is signed and ending on the contribution agreement completion date. Retroactive expenditures will be limited to 30% of NRCan’s contribution.



Eligible expenditures: means those costs incurred within the Eligible Expenditure Period, either directly by the Proponent or through a third party, which are cash disbursements made with respect to the activities set out in the Proposal.

Equity: A condition or state of fair, inclusive, and respectful treatment of all people based on their distinct identities and needs; removing systemic barriers to ensure all members are fully supported and have opportunities to advance. Equity does not mean treating people the same without regard for individual differences.

IDEA: inclusion, diversity, equity, and accessibility.

Inclusion: means the extent to which diverse members of a group (society/organization) feel valued and respected.

Indigenous: is understood to include Inuit, Métis, First Nation, Status Indian and non-Status Indian individuals, or any combination thereof.

Indigenous recipient: means an Indigenous community or government, Tribal Council, national or regional Indigenous council, Tribal organization, and a majority-owned and controlled for-profit or not-for-profit organization.

Indigenous-owned project: means a Project where there exists Meaningful Ownership by an Indigenous organization that is greater than or equal to 51%.

Meaningful ownership: means that the Indigenous share of ownership is significant enough to result in generational benefits for Indigenous communities.

Northern communities: communities located north of the limit of isolated permafrost – approximately 50° north latitude.

Remote communities: communities that are not currently connected to the North American electrical grid or the piped rural gas network and are a permanent or long-term (five years or more) settlement with at least 10 dwellings.

Rural communities: communities that have a population of fewer than 5,000 people and a population density of less than 400 people per square kilometre and that are not connected to the North American piped natural gas network.

Profit: means in relation to the project, net operating profit as determined by Generally Accepted Accounting Principles.

Project: means the Applicant's proposal, as submitted to NRCan.

Total project costs: means the Contribution and other verifiable contributions either received or contributed by the Proponent from the Due Diligence Start Date to the Completion Date and directly attributable to the Project.



8. Eligible expenditures – costing memorandum

8.1 Salaries and benefits

8.1.1 Salaries

Salaries include wages for all personnel with direct involvement in the project such as engineers, scientists, technologists, draftsmen, researchers, laboratory, experimental and shop labour. All eligible personnel must be employees on the Proponent's payroll. Payment in terms of shares, stock, stock options and the like are not eligible. The amount invoiced shall be actual gross pay for the work performed and shall include no markup for profit, selling, administration or financing.

The eligible payroll cost is the gross pay of the employee (normal periodic remuneration before deductions). Normal periodic remuneration rates are the regular pay rates for the period excluding premiums paid for overtime or shift work. The payroll rate does not include any reimbursement or benefit conferred in lieu of salaries or wages. When hourly rates are being charged for salaried personnel, the hourly rates shall be the periodic remuneration (annual, monthly, weekly, etc.), divided by the total paid hours in the period including holidays, vacation, paid sickness time.

Labour claims must be supported by suitable records such as time sheets and records, and be held for verification at time of audit. Management personnel are required to maintain appropriate records of time devoted to the project.

8.1.2 Benefits

Benefits are defined as a reasonable prorated share of expenses associated with the direct labour cost such as the employer's portion of Canada Pension Plan, Quebec Pension Plan and Employment Insurance, employee benefits such as health plan and insurance, Worker's Compensation, sick leave and vacation plus any other employer paid payroll related expenses. Items such as salary bonuses and other salary incentives, stock options or vehicle use, which have no relationship to the project or which have been charged on an indirect basis are non-eligible. The determination of the fringe benefits amount shall be in accordance with generally accepted cost accounting principles. In general, fringe benefits rate provided in the project estimate shall be computed once during the life of the project and agreed on prior to the signing of the Agreement. If retroactive adjustments are made, these must be indicated on claims for progress payments for NRCan approval.

8.2 Professional, technical, and scientific contracting services

Sub-Contractors and Consultants: The nature of goods or services to be acquired shall be set out in the proposal estimate. The amount eligible from a sub-contractor or a consultant shall be the actual contract amount.

8.3 Travel, meals, and accommodation costs

Unless stated otherwise in the Contribution Agreement between the NRCan and the proponent, National Joint council rates that are in effect at the time of expenditure incurrence shall be used in reimbursing the following expenses:

Travel, food and lodging costs to meet with NRCan officials.



Travel, food and lodging costs necessary for other project activities, e.g. field trials and demonstrations at locations away from the proponent's usual location; project planning and review meetings between the principal proponent and its partner(s).

8.4 Capital expenditures

8.4.1 Materials

Materials include those consumed in carrying out the project, including those utilized in the production and operation of models, prototypes and pilot plants. Only utilities consumed to operate equipment or processes are eligible and may be metered and reported separately from the total utility cost. Utilities used for buildings are not eligible.

Materials purchased solely for the project and issued from the Proponent's inventory are eligible. All materials shall be charged to the project at the net price excluding GST after deducting all trade discounts and similar credits. Surplus materials shall be credited to the project at the original purchase price.

8.4.2 Equipment

Equipment consists of equipment acquired or constructed exclusively for the project. In order to be eligible, such equipment must be identified in the project cost estimate, and approved by the Minister. All such equipment shall be charged to the project at the net price (excluding GST) after deducting all trade discounts and similar charges.

Where such equipment is obtained from another division of the Proponent or from a related company, the eligible expenditures shall not exceed fair market value and shall not include any markup for profit, administration, selling or financing expense.

8.5 Other expenses

8.5.1 Testing services

Eligible testing services are those conducted by testing organizations or accredited laboratories, such as the Canadian Standards Association, Underwriters Laboratories and must be essential to the success of the project. Testing services shall be charged at actual cost. Regulatory costs, where required may be eligible e.g. testing to comply with Environmental Standards. All such costs should be identified in the original proposal cost estimates.

8.5.2 Overhead expenses

With regard to Overhead Expenses, they may include:

- Administrative support provided directly to the project by the proponent's employee(s), valued on the same basis as professional staff time;
- Routine laboratory and field equipment maintenance, based on the actual cost to the proponent that is directly related to the project;
- Heat, hydro, and office operating costs (e.g. faxes, telephone), provided that they are directly related to the project.



Overhead costs will be negotiated and agreed to on an individual basis with project proponents before signing a contribution agreement. They will not exceed 15% of Eligible Expenditures.

9. In-kind contributions – costing memorandum

9.1 Purpose, definitions, eligibility, and value

9.1.1 Important note

The Program accepts in-kind contributions (defined below) as part of Total Project Costs, subject to the definitions and limitations described in this section. As per section 5.2 Ineligible Expenditures, in-kind support is ineligible for reimbursement.

Proposed in-kind contributions that are deemed acceptable by NRCan officials must be supported by a formal commitment from the project proponent to provide them, prior to any commitment on Program funding to the proposed project being made.

9.1.2 Purpose

The purpose of this section is to identify the kinds of non-cash contributions (“in-kind support”) that are acceptable as part of the overall funding for the project from the project proponent, and to provide guidance on how to put a value on those contributions.

9.1.3 Definitions for this section

Project proponent refers to the funding recipient and its partners and collaborators.

Asset section means a useful and valuable good, service or other support provided to the project.

Internal rate means the rate that would be charged by the component of the project proponent that provides the service to the component of the proponent that receives it.

9.1.4 Eligibility of in-kind contributions

To be eligible as an in-kind contribution:

- The contributed asset must be from one of the categories identified below under the heading “Categories of Eligible In-kind Support”.
- It must be essential to a project's success and would otherwise have to be purchased by the project proponent.
- Its value must be determinable and verifiable.
- Its valuation must be confirmed by NRCan officials or its auditors, and agreed upon by the project applicant and NRCan.

9.1.5 Assessing the value of in-kind contributions

Two different approaches to the valuation of in-kind support are possible:

Using the fair market value, as described above.

Using the incremental cost – the cost to the project applicant or its partners and collaborators of providing the contributed asset over and above normal operating costs.



9.2 Categories of eligible in-kind support

9.2.1 Salaries and benefits

This category addresses the provision of the project partner's employees' time to undertake work, such as research, technology development and assessment, and expert analysis that is wholly and directly in support of the project.

The value of services of an employee of the project's partner provided to the proponent should be at fair market value for the type of service provided and that these services are consistent with the duty for which the employee is normally paid.

9.2.2 Professional, scientific, and contracting services

This category addresses the provision of analytical and technical services. Analytical and technical services include routine laboratory and field technical services such as data collection, laboratory analyses and measurements, and field measurements, exclusive of equipment maintenance. These services may be provided by a component of the project proponent's overall organization, or provided to the project proponent by a third party.

The value of analytical and technical services provided by or to the proponent should be the lesser of the project proponent's internal rate for the service if that service is provided internally (i.e., within the project proponent's organization), or the incremental cost to the project proponent if it is provided by a third party.

9.2.3 Provision of equipment and laboratory and field supplies and materials

This category includes equipment, laboratory supplies and field supplies that are provided by or to the project proponent, and the provision of access to, and use of, proprietary software and databases owned by or provided to the project proponent.

Values assessed for equipment and laboratory and field supplies and materials provided to the project must meet the following criteria:

- The value of supplies and materials shall not exceed the selling price to the provider's most favored customer at the time of provision.
- The value of equipment shall not exceed the fair market value of equipment of the same age and condition at the time of provision.
- If the equipment is special purpose, one-of-a-kind, its value shall not exceed the cost to the provider of its design, testing and manufacture.
- The value of access to, and use of, proprietary software and databases should be the incremental costs to the project proponent of providing that access and use, such as staff time involved, including providing any required instruction on their use. Costs associated with developing the software or databases are ineligible as an in-kind contribution.

9.2.4 Travel, meals, and accommodation costs

Unless stated otherwise in the Contribution Agreement between the NRCan and the proponent, National Joint council rates that are in effect at the time of expenditure incurrence shall be used in assigning a value to the following expenses.



- Travel, food and lodging costs to meet with NRCan officials.
- Travel, food and lodging costs necessary for other project activities, e.g. field trials and demonstrations at locations away from the proponent's usual location; project planning and review meetings between the principal proponent and its partner(s).

9.2.5 Overhead expenses

With regard to Overhead Expenses, they may include:

- Administrative support provided directly to the project by the proponent's employee(s), valued on the same basis as professional staff time (as described under category 1);
- Routine laboratory and field equipment maintenance, based on the actual cost to the proponent that is directly related to the project;
- Heat, hydro, and office operating costs (e.g. faxes, telephone) telephone, provided they are directly related to the project.
- Overhead costs will be negotiated on an individual basis with project proponents. The total of overhead expenses (Eligible and Ineligible) will not exceed 15% of Total Projects Costs.

10. Reporting requirements

10.1 Outcome reporting

After entering into a contribution agreement with NRCan, proponents of successfully funded projects will be required to report on a quarterly and yearly basis to ensure that targets and objectives are being met.

As some outcomes may only be realized after funding has ended, ongoing data collection and assessment will be required for a period of five years following the project's completion date.

The frequency of reporting will be determined based on the risk of the recipient/project as established by the departmental risk management model but will include, at a minimum, annual reporting.

The reporting requirements for Recipients will be as follows:

10.2 On a regular basis

- A financial report signed by the Chief Financial Officer or Duly Authorized Officer of the organization which outlines eligible expenditures incurred;
- A project cash flow statement and/or budget;
- A report using a template supplied by NRCan that shall provide a status of activities in sufficient detail to allow progress to be evaluated and periodic tracking of performance indicators. The report should identify any concerns that NRCan should be made aware of, and explain how they are being addressed.

10.3 At the end of the project:

It will be considered to be the 'end of the project' once the final (if more than one) reporting, as outlined in the contribution agreement, has been completed to the satisfaction of NRCan. Reports may include:



- A financial declaration as to the total amount of contributions or payments received from other sources in respect of the Project;
- A financial declaration as to the total amount of Canadian government funding received in respect of the Project;
- A project completion report to describe how project activities have contributed to the achievement of the objectives of the project, which may include confidential information for internal government use only, including:
 - A review of the results of the project in comparison to the original deliverables and work plan, with explanations of any deviations;
 - A review of the project's performance measures to describe the benefits that have or will accrue as a result of the project including energy efficiency, environmental impact, costs and paybacks, and any other appropriate measures such as productivity and quality improvements;
 - A description of the Recipient's knowledge dissemination activities and/or tech transfer activities (where applicable); and
 - A final project cost table.
- A public report*-that describes the project and its results, which may be translated by NRCan and be made available to the Recipient for public dissemination by the Recipient and/or NRCan; and
- Where applicable, copies of any non-proprietary reports requested by NRCan arising from and prepared during the course of the project.

* Alternative means of public reporting that are more context and culturally appropriate may be substituted for Indigenous recipients.

10.4 For a period of 5 years following the end of the project

Annually, an updated Outcomes Report, using a template supplied by NRCan, to report on short term, intermediate term, and, to the extent possible, long term outcomes. Regular communication between NRCan and the Recipients will be established to monitor progress.

10.5 Non-repayable contributions

Contributions under these programs will be non-repayable, as they will be for pre-commercial (Technology Readiness Level 1-9) activities and the benefits from the contribution will be accrued broadly rather than to the recipient. The projects being supported under these programs are pre-commercial in nature and thus not anticipated to generate revenues as the technologies require further adaptation, improvements, and de-risking to be commercially profitable.

This is in accordance with the Directive on Transfer Payments, Appendix E, Section E-15, which permits non--repayable contributions under such circumstances when "the benefits from the contribution accrue broadly rather than to the recipient". The benefits of these contributions will accrue broadly: the environmental benefits will include more efficient energy usage, increased renewable energy production, reduced impacts on air, water, and soil, among others, and these environmental goods will benefit Canadians as a whole. In the long term, the competitive benefits resulting from the program will also result in more sustainable employment. And economic development opportunities for Canadians, including Indigenous communities, in the natural resource sectors. Primary activities are also intended to



provide input into policies, codes, standards, and regulations while enabling the transfer of knowledge and building of capacity through implementing green technologies in Canada. This is of particular importance in Canada's remote communities.

10.6 Other terms and conditions

Approved projects may be subject to one or more external audits (recipient audits) to ensure that the terms of the contribution are respected. The requirements for recipient audits will be determined on a risk-based assessment on a project-by-project basis. This process is described in the Performance Measurement and Risk Strategy for the Program.

The conditions related to the disposition of assets acquired by the Recipient with funding provided by NRCan shall be identified in the contribution agreement.

11. Regulatory, reporting, and other requirements

11.1 Inclusion, diversity, equity, and accessibility (IDEA) workplaces and policies

NRCan recognizes the importance of a diverse and inclusive workforce for the resilience of Canada's economy and the benefit of Canadian society. To better understand applicants' approaches to creating more equitable and inclusive workplaces and policies, NRCan is collecting voluntary information that will be aggregated and anonymous. This information will be used to inform future outreach, program development, and efforts to promote IDEA in the clean energy sector.

11.2 Duty to consult

NRCan has a legal duty to consult with Indigenous groups when a contemplated Crown conduct, such as the provision of funding, may have adverse impacts on existing or potential Aboriginal or Treaty rights. Federal departments and agencies are responsible for understanding how and when an activity could have an adverse impact on Aboriginal or treaty rights, and consultation should occur prior to the federal government taking any action.

While applicants are not required to consult with Indigenous groups under EIP as part of the application process, they will be required to report at the FPP phase if they have already conducted consultation or engagement activities in relation to the project proposal or as part of their ongoing operations or corporate commitments.

11.3 Impact Assessment Act

As per the *Impact Assessment Act*, NRCan is required to assess whether RD&D projects carried out, in whole or in part, on federal lands are likely to cause significant adverse environmental effects. At the FPP phase, applicants will be asked to identify if the project will be carried out in whole or in part on federal lands. If so, an impact assessment may be required during due diligence for successful applicants.

11.4 Information-sharing permissions

During the application process, applicants will confirm whether they provide permission for NRCan to share their application with other relevant funding organizations. For projects that may not obtain funding under the Program, this will allow the Program to provide the opportunity for maximum exposure and guidance across other federal funding programs or providers.



11.5 The Clean Growth Hub

The [Clean Growth Hub](#) is a whole-of-government focal point for clean technology focused on supporting companies and projects, coordinating programs and tracking results.

Should you consent, the information you provide may be shared across federal departments/agencies, including but not limited to the departments and agencies represented in the Clean Growth Hub, with a view to assisting you in determining the federal programs/supports best suited to your needs. Pursuant to Paragraph 20(1) of the Access to Information Act, the Clean Growth Hub will not publicly disclose any information without permission.

11.6 Trusted partners

To facilitate co-funding with provincial/territorial and industry funders, NRCan is working in collaboration with a network of other funding organizations across Canada. By giving NRCan the authority to share your proposal with our “[Trusted Partners](#)” (TP), you allow NRCan to explore possible co-funding opportunities, referrals, or follow-on funding opportunities.

Please note that NRCan will only share these applications with TPs where NRCan has a non-disclosure agreement in place and for the purposes of referring proposals for funding consideration or exploring the possibility of co-funding.

11.7 Contact us

For any questions regarding the call, please contact NRCan at sg-ri@nrcan-rncan.gc.ca. During regular operations, NRCan will strive to respond within two business days.

11.8 Other conditions

- No Member of the House of Commons shall be admitted to any share or part of the contribution agreements, or any resulting benefit.
- Where appropriate, projects will be subject to appropriate environmental assessments prior to the release of any funds.
- The Proponent will comply with the *Conflict of Interest Act*, the Conflict of Interest and Post-Employment Code for Public Office Holders.
- Funding may be cancelled or reduced in the event that departmental funding levels are reduced by Parliament. Agreements will include provisions to this effect.
- Proponents will be required to acknowledge the financial support of Canada in all public information produced as part of the project.
- As part of project monitoring requirements, NRCan will have the right to visit and inspect all project sites, upon providing a reasonable notice to project proponents.

11.9 Confidentiality and security of information

The Access to Information Act (the “Act”) governs the protection and disclosure of information, confidential or otherwise, supplied to a federal government institution. This Act is a law of public order; as such the Government of Canada, including NRCan, cannot contract out of it.

Paragraph 20 (1) (b) of the Act states that:

a government institution [such as NRCan] shall refuse to disclose any record requested under the Act that contains financial, commercial, scientific or technical information that is confidential information



supplied to a government institution by a third party and is treated consistently in a confidential manner by the third party.

Pursuant to Paragraph 20 (1) (b) of the Act, NRCan will protect the applicant’s confidential information supplied to NRCan from disclosure if:

The applicant’s information supplied to NRCan contains financial, commercial, scientific or technical information; and

The applicant consistently treats such information in a confidential manner.

Accordingly, NRCan will protect the applicant’s confidential information in its possession to the same extent as the applicant protects said confidential information in its own establishment: if the applicant chooses to send the proposal or other confidential information to NRCan by e-mail, NRCan will respond to the Proposal by e-mail. Similarly, if the applicant’s correspondence is through regular mail, NRCan’s response will be in like manner. However, in all cases, NRCan will use e-mail correspondence to the applicants for all non-confidential matters.

NRCan recognizes that e-mail is not a secure means of communication, and NRCan cannot guarantee the security of confidential information sent via e-mail while it is in transit. Nonetheless, applicants who regularly use e-mail to communicate confidential information within their own organizations may choose to interact with the program via the program’s email address: sg-ri@nrcan-rncan.gc.ca.

For more information on this subject, a careful reading of the entire section 20 of the Access to Information Act is greatly encouraged.

12. Technology Readiness Levels

TRL is a measure used to assess the maturity of evolving technologies (devices, materials, components, software, work processes, etc.) during its development and in some cases during early operations. Generally speaking, when a new technology is first invented or conceptualized, it is not suitable for immediate application. Instead, new technologies are usually subjected to experimentation, refinement, and increasingly realistic testing. Once the technology is sufficiently proven, it can be incorporated into a system/subsystem.

TRL	Short Definition	Description	Examples of Activities
1	Basic principles observed and reported.	Lowest level of technology readiness. Scientific research begins to be translated into applied research and development (R&D).	Activities might include paper studies of a technology's basic properties.



2	Technology concept and/or application formulated.	Invention begins. Once basic principles are observed, practical applications can be invented. Applications are speculative, and there may be no proof or detailed analysis to support the assumptions.	Activities are limited to analytic studies.
3	Analytical and experimental critical function and/or characteristic proof of concept.	Active R&D is initiated. This includes analytical studies and laboratory studies to physically validate the analytical predictions of separate elements of the technology.	Activities include components that are not yet integrated or representative.
4	Component(s)/subsystem(s) and/or process validation in a laboratory environment.	Basic technological components are integrated to establish that they will work together.	Activities include integration of "ad hoc" hardware in the laboratory.
5	Semi-integrated component(s)/subsystem(s) and/or process validation in a simulated environment.	The basic technological components are integrated for testing in a simulated environment.	Activities include laboratory integration of components.
6	System and/or process prototype demonstration in a simulated environment.	A model or prototype that represents a near desired configuration.	Activities include testing a model or prototype in a simulated or laboratory environment.
7	Prototype system ready (form, fit, and function) for demonstration in an appropriate operational environment.	Prototype is ready for demonstration in an operational environment and is at planned operational level.	Activities include prototype field testing in a real-world operational setting.
8	Actual technology completed and qualified through tests and demonstrations.	Technology has been proven to work in its final form and under expected conditions.	Activities include developmental testing and evaluation of whether it will meet operational requirements.



9	Actual technology proven through successful deployment in an operational setting.	Actual application of the technology in its final form and under real-life conditions, such as those encountered in operational tests and evaluations.	Activities include using the innovation under operational conditions.
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Guiding principles

The following principles should be applied when determining the TRL of a technology:

- **Start with the broader Technology Development Stage:** When determining a TRL, it is best to start with the general development stage of the technology before assessing the specific TRL.
- **Err on the side of conservative:** If there are uncertainties as to whether a technology is at a certain TRL, the lower TRL should be assigned.
- **Ensure the operating environment is well understood:** A key aspect of the various TRLs is the testing environment of a technology. It is important to be clear in understanding the real-world conditions expected and if and how the testing environment (e.g. laboratory, simulated or operational) represents these conditions.
- **A TRL is only valid for the specific operational environment for which it was tested:** If a developed technology is to be deployed in an operational environment that was different than the one it was tested for, the technology would no longer be considered fully developed and would need to be tested and refined for the new operational environment to be considered at the same TRL.
- **Important distinction:** A technology is said to have achieved a specific TRL if it has met the requirements for that level and all prior levels. A technology is said to be at a certain TRL if the research team is currently working on achieving the requirements specific to that level.
- **Still not sure what TRL your project is at?** Check out the [TRL assessment tool](#) to help you narrow it down.

13. Disclaimer

NRCan reserves the right to alter or cancel any call for expressions of interest, call for proposals, funding amounts and/or deadlines associated with any program component, or to cancel any application process at its sole discretion. Any changes will be communicated to registered applicants via the NRCan website.

Any costs incurred for the submission of any EOI or of FPP are at the project applicant’s own risk. In all cases, any funding under any submission, review and assessment process will be contingent upon the execution of a contribution agreement.

Until a written contribution agreement is signed by both parties, no commitment or obligation exists on the part of NRCan to make a financial contribution to any project, including any expenditure incurred or paid prior to the signing of such contribution agreement.

