



Smart Renewables and Electrification Pathways Program (SREPs)

Continuous Intake Applicant Guide

March 2021

Ce document est aussi disponible en français. Veuillez envoyer un courriel à nrcan.sreps-erite.nrcan@canada.ca en indiquant à la ligne Objet «ERITE Guide du demandeur» (sans les guillemets).

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1 Disclaimer

Natural Resources Canada (NRCan) reserves the right to alter or cancel any call for applications, 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: <https://www.nrcan.gc.ca/climate-change/green-infrastructure-programs/smart-renewables-and-electrification-pathways-program>

Applications may also be considered for support under other Government of Canada initiatives, such as the Energy Innovation Program (EIP) or Canada Infrastructure Bank. These other programs may require additional mandatory criteria.

Any costs incurred for the submission of the Project Application are at the Applicant's own risk and cannot be considered as part of the Total Project Costs. 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 a contribution agreement.

2 Introduction

NRCan is offering funding to support smart renewables and grid modernization deployment projects. As coal-fired electricity generation units are phased out due to provincial and federal regulations, this Program will support their replacement with renewable solutions able to meet increased energy needs, and provide grid services to the electric grid. The Program aims to reduce greenhouse gas (GHG) emissions to meet Canada's 2030 targets and beyond by supporting the transition towards electrification through these renewable energy projects and the transformation of the Canadian electricity grid. To this end, the Program also endeavours to collect and share aggregated project performance data. In addition, the Program will decrease barriers to participation for those underrepresented in the energy sector, including but not limited to women, gender-diverse people, Indigenous peoples, racialized communities and persons with disabilities. This includes a minimum allotment of Program funds to support projects owned by First Nations, Inuit and Métis.

3 Expected Outcomes

Projects funded under the Program are expected to contribute to the following outcomes or impacts:

- Decrease greenhouse gas emissions from Canada's electricity system;
- Increase electricity grid accommodation of renewable energy;

- Increase renewable energy capacity;
- Increase the number of electricity system assets that can contribute to system reliability;
- Increase electricity system reliability, through improved efficiency and use of existing electricity assets, greater resiliency, and enhanced flexibility to increase renewable energy penetration;
- Improve the insights and capabilities of analysts, researchers and energy modelling communities through improved data;
- Generate economic and social benefits, including job creation and increased equity, diversity and inclusion in the energy sector;
- Increase Indigenous ownership of, and benefits from, renewable energy projects.

4 Definitions

“Applicant” means the organization that submits a Project Application to the Program;

“Application” means a written project application signed and submitted by the Applicant to the Program, comprised of the Project Registration Form as well as the Technical and Financial Project Application and any additional attachments requested by the Program.

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

“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 or other ideologies.

“Eligible Expenditures” means those costs, incurred by Recipient within the Eligible Expenditure Period, which are cash disbursements made with respect to the activities set out in the Application.

“Eligible Expenditure Period” means the period starting on the date on which the Applicant was notified of Project Approval and ending on the earlier of the Project Completion Date or March 31, 2025.

“Emerging Technologies” means technologies successfully deployed at the utility scale in other countries but not yet commercially viable in Canada, or successfully demonstrated in Canada but not yet commercially deployed.

“Equity” means a condition or state of fair, inclusive and respectful treatment of all people. Equity does not mean treating people the same without regard for individual differences.

“Grid Services” are also known as “ancillary services” or “essential reliability services.” The International Electrotechnical Vocabulary (IEV) defines ancillary services (IEV 617-03-09) as “Services necessary for the operation of an electric power system provided by the system operator and/or by power system users,” and further notes that “system ancillary services may include the participation in frequency regulation, reactive power regulation, active power reservation, etc.” (Refer to Section 5.2).

“Guarantor” means, in relation to a limited partnership, the parent organization or a related organization that guarantees any repayment obligation to the Program.

“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-controlled organization whose articles of incorporation do not permit dividends to be paid or distributed to shareholders.

“Indigenous-owned Project” means a Project where there exists Meaningful Ownership by an Indigenous organization.

“Meaningful Ownership” means that an Indigenous organization or community owns a minimum of twenty-five percent (25%) of the equity in the Project and will be sharing continued revenues of the Project post-completion at a minimum of the same percentage.

“Profit,” in relation to the Project, means net operating profit as determined by Generally Accepted Accounting Principles (GAAP).

“Project” means the Applicant’s project identified in the Application, as approved by NRCan.

“Project Approval” means the date, following evaluation of an Application, on which the Applicant was notified by the Program that it has succeeded to the contribution agreement negotiation stage.

“Project Completion Date” means the date of Project completion, commissioning or commercial installation.

“Recipient” refers to a successful Applicant that has entered into a contribution agreement with NRCan.

“Stacking” means the maximum limit of total Canadian government funding (federal, provincial, territorial and municipal) that is permitted under a contribution agreement for a Project.

“System Operators” are often referred to as “Independent System Operators” and are defined as the Balancing Authority, Transmission Operator or Reliability Coordinator who operates or directs the operation of the Bulk Electric System (BES) in real time as defined by provincial/territorial regulations.

“Total Project Costs” means the Program’s Contribution and other verifiable cash or in-kind Project contributions, either received or contributed by the Recipient, from the Project Approval date to the Project Completion Date or March 31, 2025, whichever is earlier.

“Utilities” are also referred to as “Electrical Utilities”. These entities own, establish, maintain and operate power system equipment (poles, wires, transformers, etc.) within the transmission and/or distribution systems as defined by provincial/territorial regulations.

5 Program Scope

5.1 Program Funding Streams

The Program includes four deployment streams which correlate to the technology and market maturity of projects as well as the types of projects supported. The Application process is the same for all streams. Each stream expects to support a specific sub-grouping of project types. All projects under the established renewables and emerging technologies streams capable of generating electricity will be required to offer the capability to provide grid services as defined in Section 5.2. The Program streams are listed below and defined in Section 6.2, with requested performance reporting detailed in Section 6.12:

1. Established Renewables
2. Emerging Technologies
3. Grid Modernization (the only eligible Applicants are Utilities and System Operators)
4. Strategic Dialogue Linked Projects

The following sub-sections discuss information that will be requested in the Application process for all four Program streams.

5.2 Grid Services

All Program-supported projects under the established and emerging streams capable of delivering electricity must also be capable of providing grid services¹ that synchronous generators (such as hydro, natural gas, coal or nuclear) have traditionally provided in the jurisdiction where the Project is located. Specific services are uniquely identified by each local jurisdiction's grid codes and generator connection requirements. Applicants will be required to make these grid services available to, and are expected to operate as directed by, the system operators. Note that the ultimate decision to use these services from eligible projects remains with the applicable utility or system operator.

Capability to provide grid services from all grid-connected technologies that can provide electricity, including renewable resources, will enable utilities and system operators to build familiarity with and develop new operational processes to better support higher levels of renewable electricity generation.

All grid modernization projects will be required to contribute to a wider range of grid services and value streams such as improved asset utilization and efficiency, increased reliability and resiliency, increased system flexibility, and enabling renewable integration. All grid modernization projects, regardless of funding stream, must be integrated into utility operational processes to ensure desired outcomes are achieved and available services are used.

¹ Grid Services are also known as "ancillary services" or essential reliability services. The International Electrotechnical Vocabulary (IEV) defines ancillary services (IEV 617-03-09) as "Services necessary for the operation of an electric power system provided by the system operator and/or by power system users" and further notes that "system ancillary services may include the participation in frequency regulation, reactive power regulation, active power reservation, etc."

5.3 Reducing Barriers to Indigenous Participation

Understanding that First Nations, Inuit, and Métis partners experience barriers in participating in the energy transition, the Program enables and encourages their participation. This includes a minimum amount of total Program funds allocated to Indigenous-led projects. Indigenous projects are also eligible for higher levels of funding/support. More information is provided in Section 6.6.

5.4 Equity, Diversity and Inclusion

NRCan recognizes the importance of a diverse and inclusive workforce to the resilience of Canada's energy sector. The Program is committed to increasing workforce diversity in the energy sector. To support a diverse and inclusive energy sector, the Program will require funding recipients to either provide Equity, Diversity and Inclusion Plans, or participate in a public commitment. Fulfilling this requirement could include reporting on progress, gathering relevant data, promoting the renewable and energy sector as a post-secondary option and promoting workforce diversity through collaboration.

Details about the Equity, Diversity and Inclusion Plan requirements of the Program are found in Appendix C.

5.5 Cyber Security

Cyber security is the protection of digital information and the infrastructure on which it resides. It includes the body of technologies, processes, practices as well as response and mitigation measures designed to protect networks, computers, programs and data from attack, damage or unauthorized access to ensure confidentiality, integrity and availability.²

The Program aims to advance cyber security through the following objectives:

- **Maintain or enhance cyber security:** The Applicant demonstrates how their organization will make use of cyber security-related controls, standards and tools for their Project and prioritize actions and investments to maintain or enhance its cyber security posture.
- **Application of best practices throughout the Project's life cycle:** The Applicant demonstrates how they plan to maintain and/or improve the Project's cyber security posture through ongoing measures.
- **Contribution to a more resilient infrastructure:** The Applicant shares cyber security lessons learned as part of their final report.

Applicants will be required, where applicable, to outline how their Project considers cyber security and contributes to a more resilient infrastructure. Applicants will be asked to provide the cyber security measures and controls that will be used to mitigate cyber risks and help prevent,

² <https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/2016-scrty-prsprty/index-en.aspx#a02>

respond to and recover from cyber incidents and threats. Applicants will also be asked to identify relevant impacts and reference appropriate standards and tools as described in Appendix E.

In addition, if applicable, Applicants will be asked to complete the Canadian Cyber Security Tool (CSST),³ a virtual self-assessment of their organization's operational resilience and cyber security posture, and provide the results as an attachment. Further details are provided in Appendix E.

5.6 Performance Data

The Program seeks performance data from projects as described in Section 6.12. Performance data collected under the Program will be shared publicly in an aggregated format to support energy sector decision making and facilitate investment into similar projects. No commercially sensitive information will be released. Further details are provided in Appendix D.

6 Program Terms and Conditions

The following sections describe the Program Terms and Conditions.

6.1 Eligible Recipients

Eligible recipients are owners of Eligible Projects and may include:

- 1) Legal entities validly incorporated or registered in Canada;
- 2) Provincial, territorial, regional and municipal governments and their departments and agencies;
- 3) Indigenous communities and governments, Tribal Councils, National and regional Indigenous councils or organizations, and Indigenous⁴ for-profit and not-for-profit organizations.

Note: Where an Applicant is a newly formed Limited Partnership, the Program may require the Applicant to secure a Guarantor for the Project. The Guarantor will be required to sign a form of Guarantee, as provided by the Program, of an amount up to the proposed Program funding amount.

6.2 Program Streams

The Program includes four distinct deployment streams, described below. Following review of the Project Registration Form, the Program will determine which stream is applicable to that Project. Where an Applicant doesn't agree with their stream placement, they can write the Program to explain their rationale for being considered under a different funding stream.

³ <https://www.publicsafety.gc.ca/cnt/ntnl-scr/cbr-scr/cbr-scr-tl/index-en.aspx>

⁴ Majority owned and controlled by Indigenous peoples

Eligible projects must meet the associated requirements of the appropriate Program stream. If a Project meets the requirements of more than one stream, the maximum funding will be determined according to the proportion of eligible expenditures in each Program stream.

The four Program streams are defined as follows:

6.2.1 Established Renewables

The Program defines eligible established renewables projects as projects that deploy technologies that:

- Produce renewable energy for sale or use in Canada;
- Have a minimum net installed capacity of 4 megawatts (MW) if a generating project, or 500 kilowatts (kW) if an Indigenous-owned Project;
- Have been successfully deployed at the utility scale and are commercially viable in Canada;
- Are capable of providing grid services as defined in Section 5.2.

Examples of eligible established renewable technologies are identified in Section 6.3.

6.2.2 Emerging Technologies

The Program defines eligible emerging technologies projects as projects that will use technologies that:

- Have been successfully deployed at the utility scale in other countries but are not yet commercially viable in Canada, or have been successfully demonstrated in Canada but are not yet commercially deployed (a successful demonstration will be assessed on the basis of project evaluations and final assessment reports);
- Are capable of providing grid services as defined in Section 5.2;
- Are capable of delivering renewable energy for sale or use in Canada;
- Have a minimum net installed capacity of 4 MW alternating current (AC) if a generating project; 500 kW for an Indigenous-owned project; 40 terajoules (TJ) for a heating project; or 1 MW AC if a storage project or an existing renewable energy project being retrofitted. (Storage projects are included under this Program stream, along with retrofits of existing projects in order to enable capabilities to provide grid services, as described in Section 5.2);
- Are grid modernization technologies, as described in Section 6.2.3 and 6.3, led by non-utility Applicants. Examples of other eligible emerging technologies are identified in Section 6.3.

6.2.3 Grid Modernization (Only eligible Applicants are Utilities and System Operators)

Under the grid modernization stream, eligible activities must support the deployment of technologies under the grid modernization scope in Section 6.3, and/or “Other” technologies with justification for their consideration. Projects must not be a single technology deployment and must be integrated into utility operational processes.

These projects must meet the above general requirements as well as:

- For hardware or software retrofits to an existing renewable energy project, the existing energy project must have a capacity of 1 MW (AC) or more;
- For software or hardware to enable aggregating Distributed Energy Resources (DERs), the aggregate capacity must be 500 kW AC or more.

6.2.4 Strategic Dialogue Linked Projects

The Program defines Strategic Dialogue Linked Projects as proposed Projects that fall under any of the above Program streams but that have been identified by the Program as being part of an established, ongoing regional dialogue between federal and provincial/territorial jurisdictions through a Memorandum of Understanding, or Projects considered to be linked to negotiations between the federal and provincial/territorial governments.

6.3 Eligible Projects

Eligible Projects must support activities including:

- Permanent (for the normal life of the equipment) installation of proven commercial technologies with the intent that the project continue to operate in its intended operational environment for the entirety of its expected lifecycle;
- Permanent modification of existing processes, operating procedures, equipment or systems to accommodate and utilize modern grid operations and renewable technologies;
- The permanent installation of equipment and/or infrastructure to support a deployment or multiple deployments.

Projects may include, but are not limited to, the following for each Program stream:

Established Renewables	Emerging Technologies	Grid Modernization
Onshore wind	Offshore wind	Utility system software and hardware upgrades
Solar photovoltaic (including bi-facial)	Geothermal (heat and/or electricity)	Hardware or software retrofits to an existing renewable energy
Small hydro	Concentrated solar power	Software or hardware to enable aggregating DERs of 500 kW AC or more (e.g., virtual power plant)
	Energy storage	
	Water current, tidal or wave	Residential and building integrated renewable energy
	Retrofits to enable grid services on existing renewable energy plants	Electricity market innovation Grid monitoring and automation
	Non-utility led grid modernization projects	Data management and communication Demand management

		Electric vehicle (EV) integration
		Microgrids

Eligible projects must meet the associated requirements of the appropriate Program stream. In the case where a technology is not explicitly mentioned, the option for “Other” may be included, in which case an Applicant can provide detailed justification for how their Project and associated technologies meet the Program stream requirements. An initial assessment of qualification will be completed prior to more detailed application submissions, as Program staff will assign a Project to the appropriate stream(s) as part of their confirmation of Project registration.

Examples of project types that are ineligible for this Program include, but are not limited to, the following:

- Demonstration projects;
- Renewable fuel production projects;
- Non-organic waste to power;
- Technologies below Technical Readiness Level 8.

6.4 Program Funding Limits and Funding Period

Projects will be eligible for funding from the date they receive confirmation from the Program on Project Approval until the Project Completion Date or March 31, 2025, whichever is earlier.

Program Stream	Max Eligible % of Total Project Costs	Maximum Eligible Funding
Established Renewables	10%	\$50 million
Emerging Technologies	30%	\$50 million
Grid Modernization	50%	\$50 million

The maximum funding percentage for a Project that falls under more than one stream will be determined according to the proportion of eligible expenditures in each Program stream.

The maximum eligible percentage of Total Project Costs and maximum eligible funding for Strategic Dialogue Linked Projects will mirror that of the most appropriate of the other three Program Streams. The final funding percentage will be determined according to demonstrated need through the Application process.

6.5 Indigenous-Owned Projects

In order to support Indigenous Recipients and projects that may benefit Indigenous communities, and to encourage economic opportunities for Indigenous peoples, the Program will provide a greater percentage of funding to Indigenous-owned projects as well as support smaller-sized projects.

Indigenous-owned projects must represent Meaningful Ownership as defined in Section 4.

Established Renewables or Emerging Technology Projects (minimum generation capacity size of 500 kW for Indigenous-owned projects)		
% of Organization Ownership	Maximum % of Total Project Costs	Maximum Funding
Indigenous ownership of 25% to 49.9%	50%	\$50 million
Indigenous Recipient (ownership 50% to 100%)	75%	\$50 million

Note: For Projects which fall under the Grid Modernization Stream, if a Utility or System Operator is Indigenous-owned, the funding maximums above also apply.

6.6 Stacking of Assistance

Prior to signing a contribution agreement, on an annual basis, and upon Project Completion, the Applicant will be required to disclose all funding sources (Canadian and non-Canadian) for the Project, including industry sources, approved in-kind funding, and contributions from other Canadian government sources (federal, provincial/territorial and municipal).

The maximum level of total Canadian government funding authorized under this Program will be 75% of Total Project Costs when the Applicant is a for-profit organization. Provincial, territorial, and municipal governments or their departments and agencies, as well as Indigenous Recipients and non-profit organizations, are eligible to receive up to 100% of Total Project Costs from government funding sources.

In the event that actual total government assistance to a Recipient exceeds the eligible expenditures, NRCan will adjust its level of funding (and seek reimbursement, if necessary).

In general, collaboration and financial leveraging from other sources are strongly encouraged for all Program streams.

6.7 Eligible Expenditures

The Program will reimburse a portion of Eligible Expenditures incurred that are directly related to, and necessary for, the implementation and conduct of a Project, which include:

- Salaries and benefits for employees on the payroll of the Recipient, including parental leave benefits, accommodations and accessibility costs;
- Professional, scientific, technical and contracting services;
- Travel costs, including meals and accommodation, based on National Joint Council Rates.
- GST, PST or HST, net of any tax rebate to which the Recipient is entitled;
- Capital expenditures;
- Other expenses, including:
 - Printing services and translation;
 - Data collection services, including processing, analysis and management;

- Construction insurance;
- Accreditation;
- Licence fees and permits;
- Capacity building and training.
- Where the Recipient is an Indigenous organization or distributing funding to Indigenous organizations, other expenses may include honoraria and costs associated with an Indigenous ceremony.
- Overhead expenses, 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 up to a maximum of 15% of eligible expenditures.

Costs ineligible for reimbursement from the Program (but permitted as part of the Recipient's portion of the Total Project Costs) include:

- The reimbursable portion of Federal and Provincial Taxes;
- In-kind costs⁵;
- Legal costs related to notarization requirements.

6.8 Non-Admissible Expenditures

The Program will not reimburse any portion of the following costs, nor will it consider the following costs towards Total Project Costs:

- Land acquisition costs and associated real estate fees;
- Costs of leasing land, buildings and other facilities;
- Legal costs;
- Project Application preparation costs;
- Tax preparation costs;
- Financing charges and interest payments on Project loans;
- Costs that cannot be deemed necessary for the implementation of the Project;
- Salary benefits and incentives deemed unrelated to the Project (e.g., employee bonuses);
- All costs associated with the protection of Intellectual Property;
- Costs incurred before the Project Approval notification date, or after the Project Completion Date or March 31, 2025, whichever is earlier.

⁵ In-kind contributions from the Recipient and their partner(s) will be accepted on a case by case basis to count towards the Recipient's portion of the project costs. In-kind support must be verifiable, directly support the project, and fall into the same cost categories as identified for Eligible Expenditures.

6.9 Basis and Timing of Payment

Payments will be made based on evidence of Eligible Expenditures incurred on a regular basis (e.g., quarterly), upon receipt of the documentation as defined in the contribution agreement. The total amount of contribution funding paid to a Recipient under a funding agreement is not to exceed the Eligible Expenditures actually incurred by the Recipient.

Retroactivity

Recipients will be allowed to incur Eligible Expenditures, at their own risk, from the date that Project Approval has been provided by the Program to the date of contribution agreement signing within a given fiscal year, to a maximum of 20% of the Program's contribution.

Holdbacks

In order to ensure appropriate Project oversight, a holdback amount, based on Project and Applicant risk, may be applied to each payment. The holdback will not be released until all requirements outlined in the contribution agreement, are deemed acceptable to NRCan.

Advance Payments

Regular advance payments may be permitted, where requested by the Applicant, and based on an assessment of their need, risk levels and cash flow requirements.

Method of Payment for Indigenous Recipients

Where it is deemed by Canada as advantageous to the success of the Project, Canada shall offer fixed or flexible contribution funding approaches for contributions to Indigenous Recipients.

6.10 Audits

Recipients may be audited at least once during the course of the contribution agreement period or after Project Completion. Financial audits will be tied to financial compliance and Project performance assessments will be evaluated in relation to outcomes identified in the contribution agreement.

6.11 Repayability

Projects where the Recipient is a for-profit organization and that are intended to allow the business to generate profits will be repayable. These projects will be monitored for five years following their commissioning to determine the amount to be repaid to Canada. Within this time period, if a profit is generated, the Recipient will be required to repay the Program funds based on profit multiplied by the proportion of Canada's contribution towards Total Project Costs, up to a limit of the amount of Canada's Contribution. The maximum repayment would be equal to the Program's Contribution.

The requirements that may trigger repayments will be detailed in the contribution agreement, along with the process for repayment.

The following Projects or Recipients will qualify for non-repayable contribution agreements:

- Indigenous Recipients;

- Provincial, territorial and municipal governments;
- Projects that qualify for less than \$100,000 in contribution funding;
- Non-profit organizations.

6.12 Reporting Requirements

The Recipient will submit the following on a regular basis (e.g., quarterly) using the templates provided by the Program:

- An expense report signed by the Chief Financial Officer or Duly Authorized Officer of the organization which outlines Eligible Expenditures incurred;
- An updated Project cash flow statement and/or budget for the upcoming quarter;
- An update on Project activities that includes tasks completed and expected in the next quarter, and any Project-related issues and how they are being addressed.

The Recipient will submit an annual progress report that summarizes Project activities and performance indicators during the fiscal year, to indicate how the Project has been contributing to the overall Program objectives.

At the end of the Project, the Recipient will submit:

- A financial report on how the Contribution was spent, including a declaration as to the total amount of contributions or payments (including in-kind) received by the Recipient from other sources in respect to the Project and certification that the claims for payment of Eligible Expenditures have been incurred and paid by the Recipient;
- A narrative report to describe how Project activities have contributed to the achievement of the objectives, benefits and key performance measures of the Project, including the results of the Project in comparison to the original deliverables and work plan, with explanations of any deviations;
- Where applicable, a commissioning report signed by a professional engineer or duly authorized officer, indicating the date of commissioning.

For five years following Project commissioning or completion, the Recipient will submit annually, on the anniversary, an Outcome Report indicating the revenues received as a result of the Project. In addition, Recipients will be requested to provide Project performance data as described in the Section 6.12.1 below.

6.12.1 Outcome Reporting & Performance Data

The Program is requesting performance data from supported projects as part of Program Outcome Reporting. This is in support of the Program objective of facilitating pathways to supplying more renewable energy to provincial electric grids and modernizing grid investment in Canada.

Performance data collected under the Program will be shared publicly in an aggregated format to support energy sector decision making, provide provincial insights and approaches and facilitate investment into similar projects. No commercially sensitive information will be released.

Performance data will be requested during the five years following Project Completion, including at a minimum:

- Plant-level sub-hourly production and/or load data (depending on project type);
- Total annual plant availability with outage data.

For projects that are providing grid services to electric systems in which they are located, Recipients will be asked to provide data related to the performance characteristics associated with the provision of the grid services procured and/or leveraged by the interconnecting utility/system operator.

Performance data will be requested annually. However, Recipients may choose to transmit their performance data more frequently.

Recipients may include costs related to sharing performance data that will be incurred within the eligible expenditure period of their Project.

6.13 Intellectual Property

All Intellectual Property (IP) that arises in the course of a Project shall vest in, or be licensed to, the Recipient. The Recipient will grant to Canada a non-exclusive, irrevocable, worldwide, royalty-free licence in perpetuity to use the data and information contained in reports and modify such reports and documents for non-commercial governmental purposes.

6.14 Regulatory and Legal Requirements

Prior to Project Approval, where applicable, Projects will be required to complete various provincial environmental assessments, obtain conditional approval from regulatory bodies or obtain necessary permits (such as construction permits), and will be subject to relevant federal and provincial laws and acts. Applicants will be expected to fulfill all federal and provincial regulatory and legal requirements applicable to their Projects, or Program funding may be withheld.

6.15 Federal Lands

Under the *Impact Assessment Act*, NRCan is required to assess whether projects carried out on federal lands intended for funding are likely to cause significant adverse environmental effects. If so, the Project may become a “designated project” under the *Impact Assessment Act*, and an Impact Assessment may be required. Please identify which portion(s) of the Project (if any) will be carried out on federal lands, and the specific activities (including but not limited to site preparation, construction, installation, modification, operation, decommissioning or abandonment) that will occur on those sites. If the Project is deemed a “designated project,” funding will be withheld until the Impact Assessment is complete and it has been determined that no significant adverse environmental effects will arise from the Project.

6.16 Indigenous Consultation

NRCan has a duty to consult with Indigenous groups when a contemplated Crown conduct, such as the provision of funding or the issuance of permits, may have an adverse impact on existing or potential Aboriginal or Treaty rights. The [Aboriginal and Treaty Rights Information System](#) will be used to assess Consultation requirements and to identify Indigenous groups that may be impacted by proposed projects. The federal government will then follow up as appropriate. Applicants will be expected to complete Indigenous consultation applicable to their Project, or Program funding may be withheld.

6.17 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.
- The Applicants and Recipients will comply with the *Conflict of Interest Act* and 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.
- Recipients will be required to acknowledge the financial support of the Government 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 Recipients.
- Contribution agreements will include requirements for joint communications activities, such as public information products, news releases, public announcements, other joint events and official languages.
- NRCan programs are subject to Gender-Based Analysis Plus (GBA+) considerations. As such, NRCan requests that Applicants and Recipients report on the number of women and other identity groups that will be employed on the proposed Project.⁶

7 Application Process

The approval process is based on the principle of “first in construction, first served” and is designed so that an Applicant must demonstrate that their Project is advancing towards construction and/or Project start date. Where multiple projects with planned start dates in the same defined period are proposed, priority will be given to projects in coal-generating provinces, followed by Indigenous-owned projects.

⁶ Women and other identity groups are generally underrepresented in the Canadian electricity sector, as reported by Electricity Human Resources Canada. While NRCan will use statistics on the number of women and other identity groups employed on proposed projects, this information will not be used when evaluating projects. Additional information can be found here: <http://electricityhr.ca/ehrc-announces-new-labour-market-information-study-canadas-electricity-industry/>

The process involves the following steps:

1. Project Registration;
2. Technical and Financial Project Application;
3. Project Evaluation.

Following Project Evaluation, the Program will seek Project approval. If the Project Application is approved, the Program will begin negotiation of the contribution agreement with the Applicant.

7.1 Project Registration

To formally begin applying for the Program, Applicants are required to complete and submit the Project Registration Form as outlined in Appendix A. Once the Program has confirmed receipt of the Project Registration Form and eligibility of the proposed Project, the Applicant will be informed of the Program stream they are eligible for. Invitations to submit a Technical and Financial Project Application will be sent to Applicants within 10 business days of receipt of a Project Registration Form.

The completed Project Registration Form must be submitted by email as a signed PDF.

7.2 Technical and Financial Project Application

To demonstrate that proposed Projects are at a sufficiently advanced stage of planning and development, ensure accordance with grid service capability requirements and provide information required for the contribution agreement, Applicants must meet the requirements outlined in Appendix B as applicable to their Project.

The completed Technical and Financial Project Application must be submitted by email as both a Word file and a signed PDF along with all relevant attachments, including:

If the attachments are too large (in excess of 10 MB), they can be sent in separate emails.

If the Technical and Financial Project Application is incomplete or information is missing, the application will be rejected, and the Applicant will have to resubmit the Technical and Financial Project Application with the missing information at a later date.

The Program will evaluate the Technical and Financial Project Applications as they are received, provided that:

- The application is complete;
- Funds are available and the Project may be eligible for a contribution agreement.

NRCan will have 90 business days to review the information provided under the Technical and Financial Project Application and determine the eligibility of the Project for a contribution agreement.

During the review of the Technical and Financial Project Application, the Program will engage with the Applicant to discuss and finalize the approach to Project performance data collection, as described in Appendix D. These discussions will be conducted within the defined review period.

If additional information or clarification is needed to complete NRCan's review of Project, the Program will request the additional information, will consider the date of reception of the additional information as the new date of reception of the Technical and Financial Project Application, and will continue its review accordingly.

Information on the Program requirements for the Technical and Financial Project Application are provided in Appendix B.

7.3 Project Approval

Upon a positive review of the Technical and Financial Project Application, and subject to all other conditions of the Program, including availability of funds, the Program will seek approval from the financial delegated authority to fund the Project. Once approval has been obtained, NRCan will proceed to negotiate and sign a contribution agreement with the Applicant.

Projects that fall under the Strategic Dialogue Linked Project Stream will receive a notional Project Approval, which will reserve funding for the Project for a specified period of time (no more than 12 months and contingent on ongoing federal and provincial negotiations). Recipients under this Program stream will not be reimbursed for expenses incurred prior to official Project Approval.

7.4 Contribution Agreement Negotiation

Any funding under this entire 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 a contribution agreement.**

7.5 Service Standards

NRCan maintains a suite of service standards on the expected timelines for each phase of Program delivery. The key service standards for this Program are as follows:

Activity	Service Standard
Acknowledgement of receipt of a Project Registration or Project Application	5 business days
Invitation to submit a Technical and Financial Project Application, following Project Registration	10 business days
Funding decision	90 business days
Payment issued	30 business days

7.6 Other Funding Resources

Applications submitted under this Program may be shared with other government funding programs to which those applications may be better suited.

7.6.1 Capacity Building Funding

The Program will support capacity building activities for Applicants who are not advanced enough in their Project development to complete a full Application and need support for activities such as feasibility studies, development of Equity, Inclusivity and Diversity Plans, community engagements and workforce training. A Request for Proposals for Capacity Building funding will be launched late in 2021, and more information on this funding will be available on the Program website at that time.

7.6.2 Grants for Indigenous Engagement Activities

The Program will provide Grant Funding to support Indigenous Engagement activities and expenses related to eligible Projects. Applications will be available on the Program website late in 2021.

8 Confidentiality and Security of Information

Paragraph 20(1) of the *Access to Information Act* prohibits a government institution, including NRCan, from disclosing any information—financial, commercial, scientific or technical—supplied by a Project Applicant to NRCan so long as the Project Applicant treats the information as confidential in their own establishment.

Accordingly, NRCan will protect the Applicant's confidential information in its possession to the same extent as the Applicant protects said confidential information in their own establishment. NRCan will use email correspondence to the Applicant for all non-confidential matters. NRCan recognizes that email is not a secure means of communication, and NRCan cannot guarantee the security of confidential information sent via email while it is in transit. Nonetheless, Applicants who regularly use email to communicate confidential information within their own organizations may choose to submit their documentation packages by email to: nrcan.sreps-erite.nrcan@canada.ca

For more information on this subject, please refer to Section 20 of the *Access to Information Act*.

9 Program Inquiries

To ensure that all Applicants have access to the same information and that there is a written response to every question, all questions and answers will be sent and received via the Program email: nrcan.sreps-erite.nrcan@canada.ca.

Appendix A

Project Registration Form: Guidance and Criteria

Any eligible Applicant with a proposed eligible project can register for the Program. The Project Registration Form is available on the program website and can be emailed to the Program while the intake process is open. The intake process will close once all funds for the Program have been committed. Throughout the Program, funding status updates will be provided on a regular basis (e.g., quarterly) on the Program website. Once all the funding has been committed, the Program website will announce that the request for project registrations has closed, and all registered projects will be notified via email.

The Program team will review the Project Registration Form to determine which stream(s) the proposed Project falls into, as per Section 6.2 of the Applicant Guide. Eligible Applicants will be assigned a file number and invited to submit a Technical and Financial Project Application, described in Appendix B.

Below is a list of the information required for the Project Registration Form:

Section	Category	Requirement
1	Contact Information	Legal name of Applicant organization Mailing address Contact name, role, telephone and email
2	Organization	Type of organization (e.g., for-profit, non-profit, utility, association) Jurisdiction of organization Registration or incorporation number (e.g., federal GST number) Expected percentage of Indigenous ownership in Project (if applicable)
3	Project	Project Title Type of Project (e.g., example activity or technology per Section 6.3 of Applicant Guide) Project location Expected Total Project Cost Net capacity, if applicable (in MW AC for generating project, or in TJ for heat project) Project timeline (start and end dates) Project overview (300 words maximum)

In addition to signing the Project Registration Form, the Applicant will be required to attest that they have read the Applicant Guide and certify the information provided is accurate. The Program reserves the right to share the Project Registration Form with other federal support programs and the Clean Growth Hub.

Note: No funding will be secured through the Project Registration process. This step in the intake process allows NRCan to identify interest in the Program and confirm basic eligibility.

Appendix B

Technical and Financial Project Application: Guidance and Criteria

Registrants who meet the basic eligibility criteria through the registration process will be invited to complete a Technical and Financial Project Application. This application covers all the mandatory criteria for Program funding selection. Reviewers under the Program will evaluate the applications on a pass/fail basis. Incomplete applications will be rejected by the Program, and Applicants will be invited to re-apply when they meet the missing criteria.

For the Technical and Financial Project Application to be considered for review, the Applicant must provide all the following information where applicable to their project. Where not applicable, please explain why.

Item	Criteria	Requirements
Overview		
A1	Applicant Information	Organization name Type of organization Registration/incorporation number (e.g., federal GST number) Mailing address Project manager's name, role and contact information % of Indigenous ownership in the Project List of core team members and their relevant experience A copy of the Applicant organization's corporate structure
A2	Project Information	Project name Stream (as identified by Program during registration process) Type of project activity/technology Project location (including geographic coordinates, and specifying whether the Project is on federal lands or on-reserve) Estimated Project start date Estimated Project completion date Estimated commissioning (if applicable) Project size (net installed capacity AC in MW, or TJ for heat) Expected annual generation and capacity factor (if applicable). Estimated GHG emission reductions (if applicable) Expected direct job years created by project Total Project Costs Requested Program amount Status of sale of electricity (if applicable) Project Summary (150 words maximum; high-level) Description of Project benefits (150 words maximum) Description of the Project (800 words maximum) Project partners
A3	Project Timeline	Provide a detailed timeline of the Project from the current date until anticipated completion. This should include key milestones and dates for phases such as design, procurement, construction and commissioning amongst others (e.g., GANTT chart).

A4	Project Risk	Provide a review of the Project's technical and financial risks, their estimated likelihood, and mitigation measures.
Social Benefits		
S1	Indigenous Consultations	If applicable, provide a list of Indigenous groups that you have consulted with for the Project, details about the level of engagement to date, their contact information and letters of support (if available).
S2	For Indigenous-owned or partially owned Applicants	If applicable, provide details on the percentage of Indigenous ownership of the Project and benefits expected as part of the involvement in the Project (e.g., jobs, training, opportunities for increased ownership).
S3	Equity, Diversity and Inclusion	Provide either: 1) an Equity, Diversity and Inclusion Plan; or 2) details and proof of signing on to a public commitment for Equity, Diversity and Inclusion, as explained in Appendix C.
Permits, Regulatory Approvals		
R1	Regulatory Approvals	If applicable, provide evidence of approval or conditional approval from regulatory agencies required to carry out the Project.
R2	Permits	If applicable, provide a list of permits secured for the Project and a schedule for additional permits required to carry out the Project.
R3	Land Access Rights	Provide evidence of access rights to the required land for the Project. Include copies of lease agreements, licence agreements and/or easement agreements.
R4	Environmental Assessments	If applicable, provide evidence of completed environmental assessments required to carry out the Project.
Financials		
F1	Financial Application Form	Complete the Budget Application Form provided in the application package, including a budget by government fiscal year and breakdown of expenses.
F2	Financial Statements	Provide two years of Financial Statements if they are not publically available online. For newly formed organizations, such as limited partnerships, provide financial statements of parent organizations.
F3	Confirmation of Financing	If applicable, provide confirmation or conditional approval of financing required for the Project. If not applicable, explain why.
F4	Funding From Other Levels of Government	Provide details of other funding requests and the status of each.
F5	Sale of Electricity	If applicable, provide details about the status of any Power Purchase Agreement (or Conditional Agreement) or any agreement with offtakers. Include information on the purchaser, price and length of term. For Projects operating in markets, include an anticipated average price.
Technical		

T1	Energy Resource Assessments or Feasibility Studies	If applicable, provide any resource assessments, energy yield assessments and/or feasibility studies completed for the Project or a summary signed by a professional engineer. If available online, you can provide a link.
T2	Technical Characteristics	Provide documentation of the Project component's technical characteristics (such as specification sheets and power curves) as well as technical standards met for all technologies. These documents can and should be used to confirm compliance with grid service capability requirements in T5.
T3	Levelized Cost of Energy	Complete a Levelized Cost of Energy analysis which includes anticipated capital costs, average operation and maintenance costs, and anticipated energy production. Please include a list of detailed methodology and assumptions with an explanation to support this analysis.
T4	Interconnection Design	If applicable, provide a standard Single-Line Diagram of the Project from the point of interconnection.
T5	Grid Services	<p>If the Project includes technologies capable of delivering electricity, explain how the project, as a complete system, meets the grid service provision capability requirements described in Section 5.2 of the Applicant Guide.</p> <p>Also include:</p> <ul style="list-style-type: none"> - References to applicable grid codes; - Technical standards; - Equipment data sheets; - Testing results ; - A verification plan for these capabilities*. <p>* The verification plan might include items such as utility commissioning test plans, a utility letter of support confirming required capabilities, or other items with third-party verification (such as a sign-off by a P.Eng) which clearly confirm the Project's capabilities.</p> <p>For Grid Modernization Projects, explain how the Project will result in improved asset utilization, increased efficiency, increased reliability and resiliency, as well as increased flexibility and renewable energy penetration.</p>
T6	GHG Reductions	Provide the estimated GHG emission reductions from your Project using the template provided with the application package.
T7	Cyber Security	Describe how the Project considers cyber security using the Form described in Appendix E.
T8	Performance Data	Describe Project performance data collection during the five years following Project completion, as described in Appendix D.

Appendix C

Equity, Diversity and Inclusion Requirements

As indicated in the Applicant Guide, there are two options for aligning with the equity, diversity and inclusion requirements of the Program: 1) submitting an Equity, Diversity and Inclusion Plan; or 2) signing on to a public commitment for equity, diversity and inclusion that supports the Program's objectives. Elements for both options are outlined below.

Option 1: Equity, Diversity and Inclusion Plan

The Equity, Diversity and Inclusion Plan must be provided as an attachment to the Technical and Financial Project Application.

As a first step to gaining a better understanding of equity, diversity and inclusion within the energy industry, Applicants will be asked to provide an Equity, Diversity and Inclusion Plan at the Technical and Financial Project Application stage. If Applicants do not have a plan, one must be developed for further program review and funding consideration. Successful Applicants that sign a contribution agreement will be required to report annually on the implementation of their Equity, Diversity and Inclusion Plan as well as disclose any updates to the plan itself.

The Equity, Diversity and Inclusion Plan should describe the Applicant's approach to improving gender balance and increasing diversity within their Canadian corporate structures as well as their broader hiring and supply chains in Canada. Examples could include efforts to increase the proportion of underrepresented groups in the energy sector, including but not limited to women; gender-diverse people; First Nations, Inuit, and Métis peoples; racialized people; and persons with disabilities, in the construction and operation phases of the Project. Applicants could also select suppliers that have Equity, Diversity and Inclusion Plans. An Applicant's plan may include but is not limited to the following:

- Baseline of activities and workplace development on equity, diversity and inclusion;
- Public approach to promoting equity, diversity and inclusion;
- Corporate anti-discrimination and anti-racism policies;
- Available statistics on proportion of underrepresented groups or visible minorities employed at all levels of their firm in Canada;
- Equitable, diverse and inclusive hiring processes and supplier selection methods in Canada;
- Employee benefits, such as parental leave, that support a more diverse workforce;
- Corporate activities that seek to increase or support diversity in Canada's energy industry, including training for hiring managers and staff.

If the Applicant is developing their own Equity, Diversity and Inclusion Plan, a template will be provided as part of the application package.

Option 2: Public Equity, Diversity and Inclusion Commitment

Details about and proof of signing on to a public commitment to equity, diversity, and inclusion must be provided, as an attachment to the Technical and Financial Project Application.

The Program is committed to increasing the participation of underrepresented groups in the energy sector including but not limited to women; gender-diverse people; First Nations, Inuit and Métis peoples; racialized people; and persons with disabilities. This second option involves signing on to a public commitment in support of this objective. These public commitments can be regional, provincial, federal or sector-level commitments that align with the program objectives for advancing equity, diversity and inclusion in the energy sector.

The public commitment is not limited to but must be related to the following:

- Reducing barriers to entry into the workforce;
- Commitments to workplace equity, diversity, and inclusion measures;
- Goals for representation in the workplace and leadership;
- Commitments to the advancement of underrepresented persons in the workplace.

Applicants are required to disclose the following information upon application:

1. The name of the public commitment;
2. The organization delivering the public commitment;
3. The details of the public commitment:
 - a. Objectives of the commitment;
 - b. Timeframes of the commitment ;
 - c. Metrics to be measured;
 - d. Specifics of the commitment;
 - e. An overview of how the organization will meet the public commitment;
4. How the public commitment aligns with the goals of the Program;
5. Written confirmation and proof of signing on to the public commitment from the coordinating organization.

Examples of Public Commitments

Innovation, Science and Economic Development Canada's 50 – 30 Challenge: <https://www.ic.gc.ca/eic/site/icgc.nsf/eng/07706.html#how>

Diversio Certification of Diversity and Inclusion: <https://diversio.com/certification>

Appendix D

Outcome Reporting and Performance Data

As indicated in Section 6.12 of the Applicant Guide, the Program is requesting performance data from supported projects, as part of program Outcome Reporting. This is in support of the Program objective of facilitating pathways to supplying more renewable energy to provincial electric grids and modernizing grid investment in Canada.

Performance data collected under the Program will only be shared publicly in an aggregated format to support energy sector decision making and facilitate investment into similar projects. No commercially sensitive information will be released.

Data Performance Collection Objective

We are seeking to collect project-level performance data to provide Program Recipients, Canadian industry and electricity system stakeholders increased access to data that will support:

- Valuation of benefits associated with certain project types (e.g., benefit to cost evaluation);
- Modelling and exploration of energy sector transition pathways.

The intended purpose of this objective is to facilitate investment decisions and scaled adoption of solutions necessary for electricity and energy sector transformation to achieve net-zero by 2050 targets. This objective is consistent with international practice observed in many regions throughout the world, including in Canada.⁷

▪ Considerations

Varying levels of data granularity, type and access will be considered based on project type (i.e., Program stream).

Generators, aggregators, project owners and utilities already collect much of the performance data that is being requested and most, if not all, already have systems in place to automatically transmit such data. Therefore, performance data reporting is considered to be consistent with existing requirements under offtake agreements in place.

Some projects may benefit more from a case study approach compared to five years of performance data reporting. This can be considered during the project application phase.

⁷ <https://transparency.entsoe.eu/>
<https://www.eia.gov/electricity/monthly/>
<https://www.ieso.ca/en/Power-Data/Data-Directory>
http://ets.aeso.ca/ets_web/ip/Market/Reports/CSDReportServlet

▪ Data Management

All performance data collected by the Program will remain within NRCan. Data collection can be automatic through existing project SCADA systems. NRCan will provide storage and security of transmitted data according to Protected B⁸ information management requirements and standards.

Costs related to enabling automatic data transmission capabilities are eligible expenses under the Program. Costs incurred related to the transmission of performance data following project completion are the responsibility of the project Applicant.

NRCan will ensure restricted access, limited only to those individuals required to meet the above-stated performance data collection and reporting objectives.

▪ Data Collection Tiers

<p>Tier 1: Generation, storage or DER* projects where grid services are not called upon</p>	<ul style="list-style-type: none">•Metric: Production/demand data , consistent with project SCADA granularity for the plant—i.e., not total supply actually dispatched by the utility/system operator•Metric: Total annual availability, broken down into more detailed outage categories (e.g., utility; equipment outages, etc.), GADS** defined (%)•Accessibility: Public in aggregated format
<p>Tier 2: Generation, storage or DER projects where grid services are called upon</p>	<ul style="list-style-type: none">•Metric: Grid Service capabilities and performance parameters relevant to the project (e.g., ramp rate, MW/min, voltage control, fast frequency response, primary frequency response, secondary frequency response)•Accessibility: Public in aggregated format
<p>Tier 3: Projects that do not directly involve supply or load management</p>	<ul style="list-style-type: none">•Metric: To be discussed with the Applicant (e.g., case study approach)•Accessibility: Public results documentation will be considered on a case by case basis

* Distributed Energy Resource

** Generator Availability Database System, as defined by the North American Electric Reliability Corporation ([https://www.nerc.com/pa/RAPA/gads/Pages/GeneratingAvailabilityDataSystem-\(GADS\).aspx](https://www.nerc.com/pa/RAPA/gads/Pages/GeneratingAvailabilityDataSystem-(GADS).aspx))

⁸ Government of Canada Security Levels for Protected Information <https://www.tpsgc-pwgsc.gc.ca/esc-src/protection-safeguarding/niveaux-levels-eng.html>

Performance Data Definition and Delivery

During the review of the Technical and Financial Project Application, the Program will engage with the Applicant to discuss and finalize the type of data and approach to sharing Project performance data. Note that the intention is for this process to be automated to minimize reporting burden. The exact methodology of data transmission will be drafted and agreed upon with the Applicant. These discussions will be conducted within the defined Technical Application review period.

- **Additional Benefits**

During performance data discussions, Applicants are welcome to discuss potential additional benefits such as benchmarking their project against data from other projects. Note that the Program will not compromise commercially sensitive or Project-specific data.

Appendix E

Cyber Security Application Form

Cyber security is the protection of digital information and the infrastructure on which it resides. It includes the body of technologies, processes, practices, as well as response and mitigation measures designed to protect networks, computers, programs and data from attack, damage or unauthorized access to ensure confidentiality, integrity and availability.⁹

The electricity sector is provincially regulated, with a variety of market structures, regulatory frameworks and approaches to cyber security implemented/used/enforced across Canada. Organizations may also take a wide range of approaches to cyber security and also need to meet corporate objectives, privacy requirements and/or comply with other regulations, depending on their activities. There may also be significant differences in organizations' capacity to undertake cyber security measures due to their level of experience and expertise with cyber security as well as their ability to employ dedicated resources or access to skilled professionals. Cyber security requirements for each project must be assessed on a case-by-case basis, with consideration given to planned actions to improve cyber security posture.

The Government of Canada plays an important role in protecting critical infrastructure from threats due to accidents, natural hazards, espionage and sabotage. Proponents may wish to consult the Canadian Centre for Cyber Security (Cyber Centre) and Public Safety Canada for free tools and resources to support their cyber security-related activities.

The Cyber Centre¹⁰ is the single unified source of expert advice, guidance, services and support on cyber security for government, critical infrastructure owners and operations, the private sector, and the Canadian public.

Public Safety Canada works closely with critical infrastructure¹¹ stakeholders—federal departments and agencies, provinces and territories, owners and operators, the research and development community and international counterparts—to help protect the cyber systems¹² that underpin the infrastructure and services that are integral to the daily lives of Canadians and to the health and security of Canada's economy.

Cyber Security Objectives

The Program aims to advance cyber security through the following objectives:

Maintain or enhance cyber security: The Applicant demonstrates how their organization will make use of cyber security-related controls, standards and tools for their project and prioritize actions and investments to maintain or enhance its cyber security posture.

Application of best practices throughout the Project's life cycle: The Applicant demonstrates how they plan to maintain and/or improve the project's cyber security posture through ongoing measures.

⁹ <https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/2016-scrty-prsprty/index-en.aspx#a02>

¹⁰ [cyber.gc.ca](https://www.cyber.gc.ca)

¹¹ <https://www.publicsafety.gc.ca/cnt/ntnl-scrtr/crtcl-nfrstrctr/crtcl-nfrstrtr-prtnrs-en.aspx>

¹² <https://www.publicsafety.gc.ca/cnt/ntnl-scrtr/cbr-scrtr/index-en.aspx?wbdisable=true>

Contribution to a more resilient infrastructure: The Applicant shares cyber security lessons learned as part of their final report.

Cyber Security Requirements

Tools & Standards

Applicants are required to state how they will use cyber security tools and adhere to standards on security in the proposed project (e.g., data management, incident reporting, communication protocols, supply chains, sensor networks, servers and data analysis, incident reporting, and customer data privacy). Relevant tools and standards include the following:

- Canadian Cyber Security Tool (CCST) (required)¹³
- NERC Critical Infrastructure Protection (CIP) Standards¹⁴
- NIST Cybersecurity Framework and Smart Grid Framework¹⁵
- Cybersecurity Capability Maturity Model (C2M2)¹⁶
- Relevant provincial tools such as the Ontario Energy Cybersecurity Framework, and Self-Assessment Questionnaire¹⁷

Canadian Cyber Security Tool

Applicants will be required, to complete the Canadian Cyber Security Tool (CSST)¹⁸ virtual self-assessment (for their organization's operational resilience and cyber security posture) and provide the results as an attachment with their application. The tool is divided into specific and clearly defined categories that are complemented by supporting web links, which provide additional guidance and information. It takes less than an hour to complete. The post-assessment results will include advice and guidance to the Applicant related to each cyber security theme discussed throughout the tool. The results and advice can help the Applicant prioritize cyber security actions and investments for their project to mitigate cyber risks and improve resilience.

Identify Cyber Security Impacts of Proposed Project

Applicants will be required to outline how their Project considers cyber security and contributes to a more resilient infrastructure. Proponents will be asked to provide the cyber security measures and controls that will be used to mitigate cyber risks and help prevent, respond to and

¹³ <https://www.publicsafety.gc.ca/cnt/ntnl-scr/cbr-scr/cbr-scr-tl/index-en.aspx>

¹⁴ <http://www.nerc.com/pa/Stand/Pages/CIPStandards.aspx>

¹⁵ <https://www.nist.gov/el/smart-grid/smart-grid-framework>

¹⁶ <https://energy.gov/oe/cybersecurity-critical-energy-infrastructure/cybersecurity-capability-maturity-model-c2m2-program>

¹⁷ <https://www.oeb.ca/sites/default/files/Staff-Report-Cyber-Security-Framework-20170601.pdf>

¹⁸ <https://www.publicsafety.gc.ca/cnt/ntnl-scr/cbr-scr/cbr-scr-tl/index-en.aspx>

recover from cyber incidents and threats. Applicants will also be asked to identify relevant direct outputs and 'bigger picture' outcomes as well as reference appropriate standards and tools.

This will be included in the application template. Examples of relevant direct outputs and outcomes are provided below.

Impact Example 1: Conservation voltage reduction using advanced metering infrastructure (AMI) at a distribution company

Cyber Security **Direct output(s):** Best practices developed or applied to system communications with AMI

Outcome(s): Real-time issue identification and reaction to cyber security threats

Impact Example 2: Virtual power plant using demand response (DR) to shift load at a vertically integrated utility

Cyber Security **Direct output(s):** Best practices developed or applied to system communications with devices

Outcome(s): Real-time issue identification and reaction to cyber security threats

Impact Example 3: Self-healing grid

Cyber Security **Direct output(s):** Best practices developed or adhered to

Outcome(s): Faster issue identification and improved ability to recover from cyber attacks