

3. Green Energy Infrastructure

Objectives

To construct or materially rehabilitate public infrastructure that contributes to one of the following objectives:

- Increase the availability and/or reliability of Canada's clean energy supply;
- Increase the availability of renewable energy;
- Improving air quality; and
- Reducing greenhouse gas emissions.

Subcategories

- Reinforcement, expansion of existing and construction of new transmission grids to transmit clean electricity.
- Hydrogen infrastructure (generation, distribution and storage).
- Electric Vehicle Infrastructure (centralized refueling stations).
- Biofuels distribution/storage infrastructure.
- Thermal heat/cooling delivery system (i.e. district energy systems) using renewable or combined heat/power (CHP) plants.
- Clean coal facilities.
- Renewable Electricity Generation facilities that generate less than 1MW for municipal consumption (e.g., wind energy, solar energy).
- Municipal building energy retrofits.

Please include information on the following in your business case:

- If applicable, please outline how the project will:
 - increase the installation of clean energy technologies, improving air quality and reducing greenhouse gas emissions;
 - increase number of private sector and public sector installations and/or use of clean-energy technologies
 - increase electricity trade connections between provinces/territories, which facilitate the transfer of clean electricity;
 - increase the security of Canada's clean electricity supply; and
 - increase availability of clean-energy technologies in Canada.
- Please include the following information:
 - the need for the project (e.g., unmet electricity demand) and a market for the energy/electricity/heat, where relevant
 - For district energy systems based on geothermal or for hydrogen fuel cell related infrastructure, please account for source of electricity used in the operation of the geothermal infrastructure or for generation of the fuel cell energy.

- For thermal-based infrastructure, please demonstrate that the project uses the innovative technologies and methodologies and a pollution-control plan is developed and implemented.
- For transmission grid projects, the project must:
 - support the development or transfer of clean electricity, especially to displace more carbon-intensive electricity; and
 - support the security of electricity supplies, allowing for more efficient electricity markets/electricity use.
- For hydrogen infrastructure, project must demonstrate a local fleet demand that would support the hydrogen infrastructure
- For clean coal facilities, please show how the project deploys technology to reduce air pollutants and GHG emissions at least as low as natural gas combined cycle technology (e.g. Integrated gasification combined cycle, oxyfuel, post-combustion capture).
- Please include the following information, if applicable:
 - financial support of other partners for this project;
 - your readiness to proceed with construction of the project;
 - the need for the project (for example, an energy audit that indicates the percentage of savings in electricity and/or heating consumption);
 - indication of air quality improvement or reduction in green house gases from this project (for example, a study); and
 - indication of alternative sources of electricity, hydrogen infrastructure, biofuel, clean coal, wind, solar, geothermal, heating or cooling that have been considered.

Additional Information:

- Development and implementation of an action plan to support energy conservation within the community or institution benefiting from the project, including energy audits and green building actions, where appropriate.
- Development and implementation of a public awareness program related to energy use and the environmental effects.
- For transmission grid projects, consideration of natural-disaster resilient infrastructure technologies and methods.
- For hydrogen infrastructure:
 - Indicate whether the hydrogen infrastructure is open to public consumption; and
 - To whom the infrastructure is available and whether public access is planned for the future and under what conditions.
- The municipality can operate and maintain the facility on a sustainable long term and full-cost recovery basis.