



ZERO EMISSION TRANSIT FUND

**Advancing Zero Emission
Bus Electrification Planning
Applicant Guide**



Infrastructure
Canada

Canada

Advancing zero emission bus electrification planning - Applicant guide

1.1 Purpose

Infrastructure Canada is seeking applications from not-for-profit (NFP) organizations and academic institutions as part of the Zero Emission Transit Fund (ZETF). These organizations are well-positioned to advance and support the planning of transit bus fleet electrification in municipalities and regions in Canada.

Organizations selected will provide consistent and thorough planning assistance to transit bus operators (including municipalities and transit agencies) across Canada who are considering adding Zero Emission Buses (ZEB) to their fleet. Planning activities will help prepare transit bus operators to transition to zero emission bus fleets and will help respond to key barriers of transit electrification in Canada.

1.2 About the zero emission transit fund

The \$2.75-billion ZETF will help procure 5,000 zero emission public transit and school buses in communities across Canada. This funding will help communities electrify their school and transit bus fleets, thereby reducing greenhouse gas emissions (GHG) and operational costs over the long-term.

The transportation sector accounts for 25% of Canada's greenhouse gas emissions. With Canada generating approximately 82% of its electricity from zero emission power sources, shifting vehicles away from fossil fuel power sources presents an opportunity to reduce GHG emissions. The ZETF will support clean transportation across Canada by investing in the vehicles, infrastructure and organizational readiness that make fleet electrification possible.

1.3 Objective

Successful ZEB deployments require strategic planning and a sound understanding of the technology and implications of bus fleet electrification. The ZETF will support the planning needs required to enable transit and school bus fleet electrification. That is why Infrastructure Canada is seeking applications from not-for-profit (NFP) organizations and academic institutions who are well-positioned to advance and support the planning of transit bus fleet electrification in municipalities and regions in Canada.

The ZETF is administered and funded in accordance with the terms and conditions of the Permanent Public Transit Program and the Treasury Board of Canada Policy on Transfer Payments, and will support the advancement of projects eligible for funding under the ZETF.

This call for applications will result in funding agreements for a period of up to five years (2021/22-2025/26). Additional calls may be issued, as required.

1.4 Role

Organizations selected will provide high-quality, neutral and comprehensive advisory planning services directly to transit bus operators, including municipalities of all sizes, regional governments and transit agencies and offer them the knowledge, expertise and guidance they need to plan for the electrification of their transit bus fleets; planning for school transportation is not included as part of this intake.

The adoption of ZEBs involves strategic planning well beyond the selection and procurement of buses. The selected organization(s) will need to consider numerous factors specific to the community's

network and assess multiple requirements concerning charging infrastructure, facilities, utility (electrical/hydrogen) infrastructure and long term maintenance and operations.

In support of this advisory function, selected organization(s) will:

Help transit bus operators respond to the key barriers of transit electrification and increase their state of readiness to transition to zero emission transit bus fleets

- Transitioning to ZEBs requires careful planning due to the substantial differences in how they operate compared to traditional diesel buses.
- The planning required is complex, and involves route planning, feasibility studies to support technology selection and procurement approach, fleet management considerations, and power-system integration. It also includes decisions which depend on the operating environment and factors such as topography, climate and distance.

Help transit bus operators quantify the benefits of transit bus fleet electrification

- Fleet electrification presents a number of benefits such as GHG emissions reductions and environmental and health benefits from the decrease in toxic diesel emissions. The organization(s) selected will be required to help transit bus operators simulate and analyze possible routes, taking into consideration the expected operating conditions and service profile. This will allow them to quantify the benefits of fleet electrification and demonstrate how ZEB implementation can support Canada in achieving its emission reduction targets.
- Planning also plays an important role in making the best investments in ZEB technology. The organization(s) selected will be required to help transit bus operators determine the lifecycle operating costs of the proposed new fleet and the associated potential costs savings they could realize long term.

2.1 Who can apply?

To be eligible, an organization must be a **not-for-profit organization or an academic institution**, and must have experience in the field of transport electrification.

An organization must clearly indicate in their application that they have the following characteristics and specific experience, or must appropriately demonstrate how it plans meet them:

- Has experience working at the local community level
- Be capable of operating at a provincial or pan-Canadian level, and in both official languages;
- Has tools in place to deliver on the required outputs; and
- Has a mandate that aligns with advancing transport electrification in Canada's communities.

Applicants may submit an application as a single entity, or as a consortium of applicants.

Applicants are encouraged to contact the Zero Emission Transit Fund team at ZETF-FTCZE@infc.gc.ca with questions about eligibility and other requirements prior to the deadline.

2.2 Eligible activities

Funding to the selected organization(s) will be provided in support of the following activities to be delivered to transit bus operators directly:

- **Modelling and feasibility studies:** Activities that assess the performance and feasibility of zero emission buses in communities, and strengthen the information base to support technology selection and system-wide design, based on individual operating environments and site specific factors and considerations.
- **Costing analysis:** Activities that help optimize system-design and investments in ZEB technology, as well as estimate the potential operational cost savings associated with the introduction of zero emission fleets.
- **Advisory services:** Activities that share expertise and provide guidance to communities on fleet electrification, including technology selection, system design, utilities planning, data management, fleet roll-out and procurement needs, long term operation and maintenance requirements, performance measurements, required skills and training etc.
- **Knowledge-sharing:** Activities that establish best practices and guidance material (benefiting potential applicants under the ZETF program), and disseminate information about fleet electrification to Canadian communities and stakeholders through an open and accessible forum.

2.3 Available funding

Agreements put in place for this callout will be for a period of up to five years.

Infrastructure Canada has allocated a maximum of \$10 million in total contributions for this callout of the Zero Emission Transit Fund.

2.4 Eligible expenditures

The following expenditures are eligible for reimbursement by Canada:

- All costs that are in the opinion of Infrastructure Canada, considered to be direct and necessary for the successful implementation of the planning activities as described in a budget and payment schedule approved by Infrastructure Canada.
- Other costs which may be considered incremental, but justified as reasonable and beneficial to the project and approved in writing by Infrastructure Canada prior to being incurred.
- The incremental costs for employees provided that these costs pertain solely to the implementation of the project.
- Costs incurred during a period defined within the contribution agreement.

Please note: Examples of *ineligible* expenditures include, costs or fees related to purchasing or leasing land, buildings; equipment and associated real estate; furnishings and non-fixed assets which are not essential for the project; legal fees; provincial sales tax, Goods and Services tax/HST, or other costs for which the organization is eligible for a rebate; expenditures related to any goods and services received through donation or in-kind contribution; financing and interest charges; employee costs with the exception of incremental costs which pertain solely to the implementation of the project and training costs related to new equipment, software and analysis tools.

2.5 Maximum contribution

The maximum level of total government funding to be provided under the ZETF for planning activities will not exceed 80% of eligible expenditures, with transit bus operators expected to cover the remaining

costs (20%). The organization(s) selected will recover 80% of the costs of the planning studies from Infrastructure Canada through an agreement. Infrastructure Canada will not provide direct financial support to transit bus operators for the project planning activities undertaken by the organization(s) selected.

Basis of payment will be negotiated with the qualified selected organization(s) before the signing of any contribution agreement.

3. Process

3.1 Submitting an application

There is no formal application form. Organizations are invited to send an application in the official language of their preference in MS Word, PDF or another readily accessible format by email to ZETF-FTCZE@infc.gc.ca.

Applicants are asked to limit the *Technical information* submitted as part of their applications to 5000 words. Applicants may submit an application as a single entity or as a consortium of applicants. In either case, each named applicant must submit the following:

Tombstone information:

- Full legal name of the organization.
- Name and position of the primary contact for the organization.
- Mailing address, telephone number, email address for all correspondence.
- Description of the organization's mandate and background, including information about relevant achievements or recognition.

Consortium applications: Name of lead organization and contact details for lead contact.

Technical information:

The application must also include the following elements:

- A description of the proposed work, highlighting key components of the proposal and how planning activities will be delivered. The description must demonstrate a sound understanding of the anticipated planning activities required and also recognize potential challenges that may arise in carrying out these activities.
- A proposed methodology to establish planning activities, outlining key considerations the organization will examine including an assessment of the transit agencies and municipalities' previous planning efforts. The methodology will indicate all assumptions and considerations made in the organization's proposed approach.
- A description of the organization's ability to undertake the planning activities outlined in **Annex A - Scope of planning activities**.
- A description of relevant experience (subject matter, scale and complexity) and similar projects or activities successfully undertaken.
- Details concerning the proposed project team's organizational structure and qualifications.
- Demonstrated capacity and flexibility within the organization to accommodate varying workloads over the course of the agreement.
- *Consortium applications:* The application must describe the responsibilities of each organization.

Other supporting information:

Applicants must also provide any additional information that Infrastructure Canada deems necessary to assess the eligibility of the application and to undertake risk assessment and due diligence, including, but not limited to, the following:

- Proof of not-for-profit status.
- Organization's most recent annual report, if applicable.
- A list of the members of the organization's Board of Directors, if applicable.
- Financial statements from last two fiscal years (audited, if available) prepared by an independent accountant.
 - Note: A complete set of financial statements includes a balance sheet; a statement of income/profit and loss; a statement of cash flow; and notes to the statements. If statements cannot be provided, an explanation is required.
- Any additional information concerning the organization that could be relevant to the assessment of the application.
- *Consortium applications*: The application must provide the information for each organization.

Infrastructure Canada may contact applicants to seek more information or clarifications on the above criteria.

3.2 Deadline for submission of applications

Applicants are encouraged to contact the Zero Emission transit Team at ZETF-FTCZE@infc.gc.ca with questions about eligibility and other application requirements prior to the deadline.

The deadline for receipt of applications is September 10, 2021, 23:59 PDT.

3.3 Assessment of applications

Applications will be assessed in two phases. The first is an eligibility check to ensure that the applicant meets the minimum eligibility requirement outlined in **Section 2.1**. This requirement is evaluated on a meet/does not meet basis. Applications that fail to meet this requirement will not be given further consideration.

The second phase is a criteria-based assessment. Infrastructure Canada will evaluate applications based on the selection criteria found in **Table 1 – Application Assessment Criteria**.

All applicants will be notified of the outcome of their application assessment.

4. Roles and responsibilities

Applications must contain accurate and reliable information based on professional knowledge. Inaccurate and/or false information may result in the application being disqualified from the assessment process.

The selected organization(s) will be responsible for delivering the required activities in accordance with a signed contribution agreement between the applicant organization(s) and Infrastructure Canada.

5. Contact information

Applicants are encouraged to contact Infrastructure Canada ZETF-FTCZE@infc.gc.ca with any questions regarding the process.

For more information on the Zero Emission Transit Fund, visit the [Fund's website](#).

For more information about Infrastructure Canada and its other programs, visit the Infrastructure Canada website. (<http://www.infrastructure.gc.ca/>)

You also learn more on [Twitter](#), [Facebook](#), [Instagram](#) and [LinkedIn](#)

6. Privacy Notice Statement and Confidentiality

The information you provide as part of the funding process is collected under the authority of the [Order in Council P.C. 2004-0325](#) for the purpose of administering the program. It may be used to evaluate, select and review applications under the program, monitor the progress of approved projects, and to coordinate administrative decisions with respective federal departments, provincial and or municipal counterparts/partners. Information may be shared with other federal government institutions for the purpose of assisting Infrastructure Canada with project review and evaluation, determining eligibility under other federal government programs, and confirming past federal funding sought by an applicant. Infrastructure Canada may also use and disclose the information to external experts (e.g., scientific, technical, financial, marketing or commercialization) hired by the Government of Canada under contract with confidentiality obligations, for the purpose of assisting Infrastructure Canada with project review and evaluation and/or determining eligibility under other federal government programs. Other possible uses and sharing of personal information are described in the Grants and Contributions Initiatives personal information bank. Failure to provide this information may result in the delay in assessing funding. You have the right to the correction of, access to, and protection of your personal information under the *Privacy Act* and to file a complaint with the Privacy Commissioner of Canada over Infrastructure Canada's handling of your information.

Note, once a funding agreement is signed, the name of the successful applicant, date of approval, the funding amount, project description and the location is [proactively disclosed to the public](#).

Table 1 – Application assessment criteria

Requirement	Description	Application Assessment Criteria
<p>The organization has the effective resource management and capacity to undertake the eligible planning activities.</p>	<p>The applicant clearly demonstrates that it has the human resource capacity (staff with relevant experience, knowledge, skills, expertise) to support transit bus fleet electrification planning and the provision of advisory services.</p>	<ul style="list-style-type: none"> • Applicant demonstrates that it has or has plans to acquire, staff with knowledge, expertise and experience in subject matter areas relevant to ZEB technologies, specifically in regards to the acquisition, integration and operation of ZEB technologies. • Applicant demonstrates sufficient institutional management and capacity to support the successful delivery of the required activities. • Applicant demonstrates that it can leverage additional resources if required, or provides evidence of flexibility in business planning to accommodate varying work loads. • Applicant has a track record of successful project delivery and resource planning for projects of similar scope. • Applicant demonstrates ability to serve Canadians in both official languages.
<p>Experience working with municipalities and transit agencies.</p>	<p>The applicant clearly demonstrates that it has experience delivering the activities (simulations, modeling, analysis, feasibility studies), strategies and plans that support effective transit bus fleet electrification planning and implementation for communities.</p>	<ul style="list-style-type: none"> • Applicant has a clear understanding of the factors and considerations concerning planning activities that support ZEB deployment, and has completed similar or related projects (subject matter, complexity and scale). • Applicant has worked with municipalities and transit agencies on: <ul style="list-style-type: none"> ○ planning ZEB deployments ○ procuring ZEBs ○ the roll-out work required for ZEB deployments ○ ZEB pilot projects • Applicant’s mandate has a clear link with the objectives of the ZETF. • Applicant demonstrates that it has experience working with local communities (urban, rural communities).
<p>The organization has the tools and knowledge required to undertake the planning activities.</p>	<p>The applicant clearly demonstrates that it has the appropriate tools and knowledge required to conduct simulations, feasibility studies, modeling and analysis which would support planning activities concerning the implementation/deployment of ZEBs.</p>	<ul style="list-style-type: none"> • Applicant demonstrates that it has the required expertise and tools to conduct planning activities outlined in Annex A - Scope of planning activities to inform: <ul style="list-style-type: none"> ○ System-level electrification planning ○ Operation planning and deployment strategy ○ Financial planning ○ Recipient’s capacity to implement technology ○ Environmental benefits associated with ZEB deployment projects

Annex A – Scope of planning activities

Infrastructure Canada is seeking applications from not-for-profit (NFP) organizations and academic institutions to help transit operators, including transit authorities and municipalities, in their planning efforts. The planning work carried out by the selected organization(s) will contribute to the success of future ZEB deployments and address key barriers to bus electrification.

The work to be carried out by the organization(s) selected will include, but not be limited to:

System-level electrification planning

- Applicants will conduct feasibility studies and analysis that strengthen transit agencies and municipalities' information base. This will support long-term, system-wide solutions and technology selection for fleet electrification that specifically informs:
 - Technology selection and system-wide design
 - Charging/refueling strategies and infrastructure requirements
 - Facility and electricity/utility infrastructure requirements and upgrades
 - Required energy supply, grid capacity and potential limitations
 - Potential barriers to system-wide electrification
 - Solutions to identified barriers of system-wide electrification

Operation planning and deployment strategy

- Applicants will conduct studies, feasibility modelling and simulations to support recommended innovative and effective ZEB deployments and future operations that specifically informs:
 - Optimal route selection for ZEB deployment and service design
 - Innovative and effective implementation of project and future ZEB operations
 - Maintenance, operational and organizational needs including the required resources, skills and training for a future ZEB deployment
 - Fleet roll-out (implementation plan) and procurement needs
 - Energy and costs efficiencies associated with ZEB deployment
 - Recommended provisions to ensure service reliability
- Applicants will develop a ZEB deployment strategy (proposed phasing) for the introduction of a new fleet.
- Applicants will develop recommendations and provide advice on the procurement of ZEBs and the various components and services involved in the project.
- Applicants will develop a performance measurement strategy and data collection and analysis plan to measure performance, impacts, and effectiveness and identify best practices.

Financial planning

- Applicants will prepare a cost-saving forecast, indicating the anticipated lifecycle cost savings associated with the proposed ZEB deployment (fuel and maintenance costs).
- Applicants will prepare preliminary costs estimates (capital costs) for the project and anticipated lifecycle operating and maintenance costs.

Capacity assessment to implement technology

- Applicants will develop short- and long-term operational business plans, identifying operational changes involved in the transition and the resources, skills and training required to operate new fleet.
- Applicants will assess the technological, operational and system-wide risks associated with ZEB deployment and develop a risk management plan for municipalities and transit agencies.

Environmental benefits associated with ZEB deployment project

- Applicants will undertake simulations and analyses in accordance with the *The GHG +Plus Guidance Modules* to estimate and quantify the environmental benefits and impacts of ZEB implementation on :
 - GHG emission reductions
 - Noise reduction estimates
 - Non-GHG pollutant reductions (improved air quality)
 - Climate risks and resiliency measures