**Volt-Age CFREF Impact Grants**

**Proposal template**

**Context**

Impact Projects refer to large-scale, multidisciplinary research initiatives designed to develop and implement new technologies and solutions for the electrification of society. We aim to identify and support transformative, high-impact projects and living Labs that demonstrate innovative solutions to decarbonization. Proposals must exhibit the potential for significant, sustained, scalable, and replicable impacts, aligning with Canada’s decarbonization goals and setting a benchmark for future sustainability initiatives. A broad range of academic, public, community and private partners must be involved in Impact Projects to demonstrate real and significant impacts focusing on innovation, economic viability, equity, and the well-being of society.

There will be approximately 10 Impact Projects selected by the Volt-Age CFREF. Each successful project will be awarded up to $4M funding from the Volt-Age CFREF, for projects lasting 4 years. Impact Projects should be articulated around students. Our goal is to recruit up to 250 PhD students in the Volt-Age Cohort who will be at the heart of Volt-Age Impact Projects.

**Eligibility**

* Principal and Co-Applicant Investigators must be from Concordia University or from one of the institutional partners from the Volt-Age CFREF grant (University of Calgary, Dalhousie University, Toronto Metropolitan University).
* A researcher from Concordia or a partner institution can be a Principal Investigator on only one Impact or Living Lab Project and Co-Applicant Investigator on a maximum of two Impact or Living Lab projects.
* Each project must have 5-9 co-applicants. Up to 2 co-applicants can be from collaborating universities, but collaborating universities cannot receive any funding (clarification added January 13, 2025). Normally, each co-applicant will be expected to contribute to attracting the support of a non-academic partner.
* No money will be transferred outside of Canada. Money will be transferred to the academic partner institutions’ Offices of Research for funding of accepted Impact grants. Please see Appendix A for additional information.

**General instructions**

# When completing the form, provide responses in place of INSERT YOUR TEXT BELOW … ensuring that you address each of the bullet points. You may use the suggested number of pages per section as indicated in the instructions for completing an application. You must not exceed the applicable maximum number of pages.

# Do not alter the template text and presentation format (font type and size, margins or line spacing).

# Figures and tables are welcome, but must respect the page limits.

# Do not submit the cover page or instructions.

# Please submit your application as a single PDF document via email to [volt-age@concordia.ca](mailto:volt-age@concordia.ca) by **midnight EST February 28, 2025.**

# Summary (1 page)

* Write a summary of the proposed research, intended to explain the proposal in language that the public can understand.
* Using plain terms, briefly describe the nature of the work. Indicate why and to whom the research is important and describe the anticipated outcomes and advancements that will result in economic, social or environmental benefits for Canada and Canadians.
* This plain-language summary will be made available to the public on the Volt-Age website if your proposal is funded. The summary can be submitted in one official language or both official languages, at the applicant’s discretion.
* List up to 5 key words.

INSERT YOUR TEXT BELOW, RESPONDING TO EACH OF THE ABOVE POINTS

# Alignment with Volt-Age Themes and Platforms

Please use the boxes below to identify how the project aligns with Volt-Age’s [themes and platforms](https://www.concordia.ca/research/volt-age/about/themes-and-platforms.html) . Indicate the primary theme or platform and up to two secondary themes and/or platforms

|  |  |
| --- | --- |
| **PRIMARY (chose only one)** | **SECONDARY (chose max. 2)** |
| **Themes**  Creating a smart, sustainable and healthy built environment Building resilient community energy and transportation systems Planning and governance for social equity and citizen engagement | **Themes**  Creating a smart, sustainable and healthy built environment Building resilient community energy and transportation systems Planning and governance for social equity and citizen engagement |
| **Platforms** Platform A: Electrification  Platform B: Internet‐of‐Things and Digitalization  Platform C: Living Labs and Knowledge Mobilization | **Platforms** Platform A: Electrification  Platform B: Internet‐of‐Things and Digitalization  Platform C: Living Labs and Knowledge Mobilization |

## Areas of Research:

# Please select all areas of research that are relevant to your research project. The categories listed below emerged from a comprehensive analysis of all 81 proposals made to the Volt-Age Seed call. These same categories were used in the registration for thematic workshops that took place as part of the curation process in order to gauge the areas of interest of different researchers. Impact projects are by no means restricted to these categories and applicants are welcome to specify other areas of research as appropriate – this will not be counted against the application unless the topic falls outside of the thematic focus of Volt-Age.

# ***Technological Research Areas:***

# Modelling and Design Technologies

# Monitoring Technologies

# Cybersecurity

# Control, Systems, and Access Technologies

# Transportation-related Technologies

# Construction-related Technologies

# Building and Building Envelope Technologies

# Infrastructure/Utility Technologies

# Battery and Energy Storage Technologies

# Other – Please specify:

# ***Social Sciences and Humanities Research Areas:***

# Equity and Accessibility to Renewable Energy or Renewable Energy Technologies

# Public Policy and Governance of Energy or Energy-related Technologies

# Knowledge Mobilization of Decarbonization and Electrification Processes

# Other – Please specify:

# Background and expected outcomes (2 pages)

* Outline the goals of the project and explain the potential outcomes and impacts.
* Describe the importance of the topic to Canada and how the expected outcomes will benefit Canada.
* Describe the new concepts or directions necessary to address this topic and explain how this research will help bridge knowledge gaps in developing innovative policies, roadmaps, standards, products, services, processes, or technologies in Canada and where applicable for export.
* Contextualize the proposed project within other initiatives led by the researchers, partner organizations, and relevant research efforts. Explain the relationship and complementarity to the other existing research support.
* Describe how partner organizations will leverage the project’s outcomes to drive economic growth, enhance societal well-being, and foster innovation in Canada after the project's completion.

INSERT YOUR TEXT BELOW, RESPONDING TO EACH OF THE ABOVE POINTS

# Partnership Requirements (5 pages/6 if an Indigenous Partner is involved)

**Purpose of Partnerships**

Projects funded by the Volt-Age Impact grants aim to create meaningful collaborations between academic researchers and non-academic partners to advance electrification and societal well-being. Partnerships are essential to ensuring the research generates tangible outcomes, bridging the gap between innovation and practical application.

**Eligibility of Partner Organizations**

Partners from various sectors are encouraged, provided they meet the following criteria:

1. **Private Sector**:
   * Canadian companies must be registered/incorporated and employ at least two full-time staff.
   * Multinational corporations with operations in Canada are eligible.
   * Foreign companies may participate if partnered with a recognized Canadian entity.
2. **Public Sector**:
   * Eligible organizations include municipalities, government departments, public utilities, and Crown corporations.
3. **Not-for-Profit Sector**:
   * Organizations such as industrial associations, producer groups, and community organizations are eligible if they contribute resources (cash or in-kind).
4. **Indigenous organizations and Communities:**
   * Indigenous governments or nations, and/or entities owned and led by First Nations, Inuit, and Métis peoples that support governance, rights and sovereignty, cultural preservation, social services, education and economic development, as well as Indigenous groups connected through shared culture, language, regional affiliation, geography, or collective interests.
5. **Academic Collaborators**:
   * Collaborations with academic institutions from existing institutional collaborators (Carleton University, University of Windsor, ÉTS, Polytechnique Montréal, and Université de Montréal) or new institutional collaborators.

**Roles and Contributions of Partners**

* List all partner organizations expected to play a key role in the activities or to make cash and/or in-kind contributions. ***Note that industry partners and collaborators cannot receive funds from the Impact call.*** Funds can only be transferred to academic partner institutes.
* Outline the core activities of the partner organizations and their relevant experience related to the research project, including any previous efforts to address this issue, the need for the research, and how the project aligns with the organizations' objectives.
* While not a requirement, projects involving Indigenous communities must emphasize trust, reciprocity, and ethical engagement. If applicable, a reciprocity agreement and a description of how Indigenous knowledge will be integrated into the project must be included.
  + Research with Indigenous communities should be co-created to support their goals, ideally involving a Principal Investigator or Co-Applicant Investigator with an established relationship with the community. For guidance, please refer to the [NSERC Guide for Research with Indigenous peoples and communities](https://www.nserc-crsng.gc.ca/Colleges-Colleges/Resources-Ressources/Indigenous-Autochtones_eng.asp).
  + Please describe contact details, duration, and partnership activities with Indigenous partners. How does your project methodology allow for the inclusion of Indigenous and traditional knowledge across the research process? What training will you offer your team and students to help them understand the community’s cultural context and history?

**Contributions** Each partner must play an active role in the research project. Contributions must be new to this Impact project, and not existing contributions from other applications (e.g., Volt-Age SEED call, NSERC Alliance). Contributions include:

* **Cash Contributions**: Financial support to cover eligible project costs. For private partner projects, at least one partner must contribute cash and agree to a **~~40~~** **25% overhead rate** for their cash contributions. (correction made January 13, 2025) This overhead rate is **non-negotiable and will not be waived,** and must be included in the project budget. For public sector partners, the rate will be the maximum overhead allowed by their policies. Non-profit partners are not required to provide overhead or cash contributions.
* **In-Kind Contributions**: In-kind contributions refer to non-monetary support provided to a project, such as goods, services, or resources, that would normally incur a cost but are offered free of charge. Examples include access to facilities, data, equipment, and technical expertise relevant to the project’s goals.
* **Active Involvement**: Participation in co-designing the research, contributing to governance structures, and implementing project outcomes within their organization.

**Commitment to Knowledge Translation and Commercialization**  
Partners must demonstrate:

* **Active Involvement:** Explain how each partner organization will be actively involved (through cash and/or in-kind contributions) in co-designing and implementing the research program. Describe the value added through in-kind contributions and how these are important to realizing the project’s intended outcomes.
* **Capacity to Apply Results**: A clear plan to integrate project results into their operations, whether through commercialization, operational changes, or societal impact.
* **Knowledge Mobilization**: Active participation in translating research results into practical tools, policies, or solutions.

**Project Management**

* Partners will be integrated and highly involved in the management of the project to ensure transparency, effective oversight, and to lead the efforts of the Volt-Age project.
* With the academic team, they are expected to co-create the strategic decision-making and practical application of the research outcomes.
* Sustainability and Inclusivity: Partnerships must reflect Volt-Age’s emphasis on equity, diversity, and inclusion in research design and outcomes.

**Evolving Partnerships**

* Projects may evolve over time, with up to five external partners, including Indigenous communities, joining within the first year. Memorandum(s) of Understanding (MoUs) and reciprocity agreements for all partnerships must be submitted with an updated budget during the first annual report.
* Demonstration partners (end-users) may be added up to the third year of the project.

**Documentation and Compliance**

* All external partners must submit a **Letter of Support,** signed by an authorized institutional representative, that outlines their commitments to the project.
* When private sector partners are involved, a risk assessment and mitigation plan must be completed in accordance with the [National Security Guidelines for Research Partnerships.](https://science.gc.ca/site/science/en/safeguarding-your-research/guidelines-and-tools-implement-research-security/national-security-guidelines-research-partnerships)
* Partners must agree to the Concordia agreement with minimal revisions to ensure alignment and efficiency in collaboration. ***A key non-negotiable term is that all intellectual property (IP) developed during the project will be based strictly on inventorship. To clarify, industry partners will not own the results of the project outright; ownership will be determined according to the contributions of inventors, ensuring fair and equitable management of the IP generated.***
* The Volt-Age process will respect and value Data Sovereignty and Indigenous Traditional Knowledge (ITK). When collaborating with Indigenous communities, the agreement will incorporate culturally sensitive approaches that recognize and respect traditional knowledge, Indigenous rights, and the unique contributions of these communities. This includes meaningful engagement, co-creation of benefits, and mechanisms to ensure that any outcomes or IP derived from Indigenous knowledge or participation are managed in alignment with principles of community consent, sovereignty, and shared.

INSERT YOUR TEXT BELOW, RESPONDING TO EACH OF THE ABOVE POINTS

# Research Plan (8 pages max.)

* Outline the research objectives. Detail the resources and activities needed to achieve the anticipated results.
* Indicate approximate timelines for the activities to lead to milestones and deliverables using a Gantt chart, table or diagram.
* Explain how principles of equity, diversity, and inclusion have been considered in the research design.
* Identify the indicators and methods for monitoring progress during the project and for assessing the outcomes. You may include a chart or table.
* Describe your data management plan throughout the research process and the entire data life cycle.
* Describe the ways in which you will share your research and make it accessible to a wide variety of audiences. Please relate your knowledge mobilization plan to the Federal requirement for Open Science.

INSERT YOUR TEXT BELOW, RESPONDING TO EACH OF THE ABOVE POINTS

# Team (4 pages)

* List the Principal Investigator, Co-Applicant Investigators, and key staff of the partner organizations.
* Include affiliation and email contact information.
* Explain how the knowledge, experience and achievements of these individuals provide the expertise needed to accomplish the project objectives. Discuss the role of each individual and how their contributions, including those of staff from the partner organizations, will be integrated into the project.
* Explain how equity, diversity and inclusion have been considered in the academic team composition.

INSERT YOUR TEXT BELOW, RESPONDING TO EACH OF THE ABOVE POINTS

# Project Management (1 page)

* Effective project management involves clearly defining roles, accountability, and decision-making structures, ensuring that projects and initiatives are managed transparently, ethically, and in alignment with organizational goals. Describe the methods that will be implemented in the project to achieve these objectives.
* Describe how partners will be involved in the management and direction of the project.

INSERT YOUR TEXT BELOW, RESPONDING TO EACH OF THE ABOVE POINTS

# Training recruitment plan (1 page)

* Specify the number and level of study of research trainees to be recruited for the project, noting whether they are new students at each institution. If existing doctoral students are to be transferred exclusively, they must not have completed more than one year of their program and their existing project must have ended, or they were already recruited through a seed funding project. For existing students, include names, program, duration in program and justification for transfer to Volt-Age projects. Note that existing students will be funded by Volt-Age scholarships for the remaining of their study up to year four. Overall, new students should constitute more than 80% of the recruited research trainees as part of the project.
* Irrespective of institution, all Volt-Age funded research trainees will receive the following stipends: MA: $22,000/yr up to two years; PhD: $35,000/yr up to 4 years; Post-Doctoral Fellow: $50,000/yr up to two years.
* Each project should recruit a ***minimum*** of *2 x number of applicants* new doctoral students (e.g. a small team of 6 researchers should recruit a minimum total of 12 doctoral students whereas a larger team of 10 should recruit a minimum total of 20 students). Note that the distribution of students among the team can vary as long as the total minimum is respected.
* Each project can recruit a maximum of 2 postdoctoral fellows.

INSERT YOUR TEXT BELOW, RESPONDING TO EACH OF THE ABOVE POINTS

# Training plan (3 pages)

* Indicate how the knowledge and experience gained by research trainees and the partners’ staff members are relevant to the advancement of the field, to applying knowledge, or to strengthening the partners’ sectors.
* Describe how the project and the partnership offer opportunities for enriched training experiences that will allow trainees (graduate students and postdoctoral fellows) to develop relevant technical skills as well as professional skills, such as leadership, communication, collaboration, and entrepreneurship. Include the nature of the planned interactions with the partners and other relevant activities.
* Explain how equity, diversity and inclusion are considered in the training plan (see [here](https://www.nserc-crsng.gc.ca/_doc/alliance/EDI-TrainingPlan_e.pdf) for guidance).

INSERT YOUR TEXT BELOW, RESPONDING TO EACH OF THE ABOVE POINTS

# Proposed expenditures/budget justification (2 pages)

* Consult the [Tri-agency guide on financial administration](https://www.nserc-crsng.gc.ca/InterAgency-Interorganismes/TAFA-AFTO/guide-guide_eng.asp) for information about the eligibility of expenditures for the direct costs of research and the regulations governing the use of grant funds.
* Each Impact Project will have a budget of a maximum of ~~$1,000,000~~ $800,000 to go towards knowledge dissemination, IP applications, and other project-specific costs and the remaining budget can be allocated to graduate students, and post-doctoral fellowships. A separate call for equipment will be announced shortly. (correction made January 13, 2025)
* For the *Budget justification* section, prepare a separate document that provides a breakdown of each category and a detailed justification for spending in each category. Provide sufficient information to allow reviewers to assess whether the resources requested are appropriate. Attach the document in the *Budget justification* section. The categories are as follows:
  + Salaries and benefits: List the names (if known), employment categories, proposed salaries, and non-discretionary benefits for students, postdoctoral fellows, research staff (e.g., technical/professional assistants). Briefly describe each role’s responsibilities to the project.
  + Equipment / Facilities: Give a breakdown of the items requested. Provide details on models, manufacturers, prices and applicable taxes. Justify the need for each item requested. Describe any fees for using equipment or a facility (e.g., hours and rate).
  + Travel: Explain briefly how each planned travel activity relates to the proposed research.
  + Dissemination and knowledge mobilization: Provide details of publication costs, user workshops or other activities that support collaboration and knowledge mobilization related to the project.
  + Support project or living lab partnership process and actions (convening, hosting, collaborating governance, etc).
  + Technology transfer activities: List the expenditure for field trials, prototypes, scale-up costs, demonstration projects, workshops and other activities to develop and grow the research collaborations with the partner organizations.
  + A detailed break down of the budget by co-applicant should be included so that funds can be effectively transferred to partner institutions. The budget break-down by co- applicant should also include graduate student and post-doctoral fellows main supervisor plans.

*Partner organizations' contributions*: List the resources the partner organization will provide for the proposed research. Provide a detailed explanation of all in-kind contributions. This information will be used to assess the level and nature of the partner organization’s involvement and the importance of its contribution to the success of the project's success. These can be:

* cash contributions from your partner organizations paid to your institution for the direct costs of your research project (not including overhead).
* in-kind contributions (staff time and donations of services, materials and equipment, travel expenditures for staff).
* amounts paid to institution for overhead (as per VPRGS-2, an overhead of 25% of Partner Cash-Contribution for Private Industry Partners will be required, with no waivers being considered).

INSERT YOUR TEXT BELOW, RESPONDING TO EACH OF THE ABOVE POINTS

# References

Use this section to provide a list of the most relevant literature references. Do not refer readers to websites for additional information on your proposal. Do not introduce hyperlinks in your list of references.

**These pages are not included in the page count.**

INSERT YOUR TEXT BELOW

**Appendix A – Institutional Partner Information**

The protocols regarding funds for institutional partners differ from the protocols for funds relating to projects and core research team members at the primary institution, Concordia University. Please find details below relating to the various elements of the Impact Grant funding.

**Projects with a PI at an Institutional Partner**

In the case of projects with a Principal Investigator or Co-Applicant Investigator at a partner university, the allotted funds will be transferred to the partner institution to then be distributed to the applicants accordingly.

**Volt-Age Cohort Student Funds**

PIs and Co-Applicant Investigators at institutional partners are still expected to recruit and supervise students for Impact Projects following the same guidelines as those for Concordia research team members. It is essential that all students in the Volt-Age Cohort are treated equally and equitably. Therefore, by accepting grant funding from Volt-Age, you are agreeing to pay your students the same as those who are attending Concordia University. The amounts for Master’s, PhDs, and Postdocs will be confirmed in the acceptance package if your project is selected. The funds for these students will be transferred to the partner institutions to then be distributed to the students.