

Invitation for Proposals

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STRATEGIC GENERATION OPTIONS INTEREST GROUP (SOIG)

CEATI PROJECT No. SOIG-12-01

ASSESSMENT OF THE POTENTIAL FOR HYDROKINETIC TECHNOLOGIES

CEATI International Inc. (CEATI) invites the submission of proposals to perform research work on the following topic:

TITLE

Assessment of the Potential for Hydrokinetic Technologies

INTRODUCTION

Hydrokinetic technology could be a contributor to electricity generation from renewable resources. Hydrokinetic energy can be obtained from harnessing the *kinetic* energy in small streams and constructed (man-made) waterways, and is differentiated from harnessing the *potential* energy of large rivers via hydroelectric dams. Some locales have restrictions on further development of natural waterways. However, the potential of harnessing hydrokinetic energy from both natural streams and constructed waterways will be assessed in this project, to understand the potential where restrictions are not an issue or in the event that the restrictions could change in the future.

PROJECT OBJECTIVES

To identify promising hydrokinetic technologies and assess their technical and economic characteristics. To determine the desired characteristics of sites that would be viable locations for the technologies in both natural and constructed waterways. To outline a test and evaluation plan that could be used for pilot testing of the most promising technologies.

SCOPE OF THE STUDY

Task 1. Identify key technologies and perform technical and economic appraisal of their potential

- Scan the technologies that are available, in order to understand the alternatives.
- Identify the alternatives with the greatest potential for economic viability.
- Summarize their technical and economic characteristics, based on information available from vendors or users.
- Identify the environmental issues and impacts of deploying the technologies.
- Identify issues and/or impacts to performance, operations and maintenance of deploying the technologies in existing constructed waterways (aqueducts, canals, etc).
- Summarize the base of experience and track record (if any) for the most promising alternatives.
- Identify the desired characteristics of a waterway for deployment of each promising alternative, considering both natural and constructed waterways.

Task 2. Identify pilot projects that have been conducted, determine what reports and lessons learned are available, and identify gaps in the past pilot projects.

Task 3. Develop an outline of a test and evaluation plan for pilot projects that would fill gaps in previous pilot projects (application experiments and demonstrations).

- Provide a description of the required steps to do a pilot test and evaluation of each of the most promising alternatives, in order to assess the technical performance, O&M, life-cycle costs, and economic viability.
- Identify utilities that may be willing to host the pilots and identify prospective co-sponsors for the work.

Task 4. Utility sponsors' workshop to critique results

- A sponsors' workshop shall be convened to review the straw-man results developed in Tasks 1 and 2. The purpose of the workshop shall be to critique the straw-man results and give the Contractor inputs for refining and finalizing them. The sponsors' workshop could be a webcast meeting or a face-to-face meeting, possibly held in conjunction with a CEATI SOIG general meeting.
- The Contractor shall develop a PowerPoint version of these straw-man results for presentation at the workshop and for distribution in advance of the workshop. The contractor shall take notes at the workshop and prepare a written summary of the workshop findings.

Task 5. Revise PowerPoint presentation into final form and prepare a final report, as a Word document.

POTENTIAL BENEFITS

This multiple utility sponsored project will be a technical and economic assessment of alternative technologies for harnessing the hydrokinetic energy from both natural and man-made waterways. The assessment will examine the technical and economic characteristics of the technologies, independent of geographic locale so that sponsors can assess the benefits of the technology when applied to their available sites.

DELIVERABLES

The successful proponent is expected to prepare a ready-to-publish report on the results of the investigation (and recommended follow-up actions) and present the results to funding consortium participants. The completed report must be submitted for CEATI approval in editable, electronic format (Microsoft Word). The CEATI project steering committee will have 3 weeks to review and provide comments before finalization. In addition, the platform and version should be specified for any software or programs to be developed.

Progress reports will also be required on either a quarterly or milestone basis - normally these are scheduled to coincide with the completion of the identified tasks. The CEATI project steering committee will have 2 weeks to review and provide comments on each progress report. In addition, the Proponent shall provide brief monthly status updates.

All deliverables shall include original material and copyright will be held by CEATI. Material which is already copyrighted by someone else should not be used in the deliverables, unless written permission to use it has been obtained.

The successful proponent is also expected to provide the following:

- **A fifteen to thirty (15-30) slide Power Point Presentation.** This should be composed of three main sections:
 1. The factors motivating the initiation of the work;
 2. A description of the main findings;
 3. Summary of the conclusions and recommendations for future research.
- **Contents for the Project's Technical Brief.** This is a summary of the report (between 1,000 and 1,500 words), which is published separately by CEATI. Proponents are not responsible for the preparation of a ready-to-print Technical Brief, but solely to provide the contents for the following 4 sections: Background, Summary, Conclusions and Recommendations.
 1. The Report Background section should be short (approximately 200 words) and should detail the reasons the work was conducted.
 2. The Summary section should be approximately 700 words. It must provide a general description of the work program.
 3. The Conclusions section should be about 150 words and should provide a general outline of the key results (do not include specifics).
 4. The Recommendations section should be about 200 words and should include a description of the potential applications of the results.

Please note that all reporting must be submitted in English. If written English is not the author's strong suit, it is recommended that a technical writer be hired to review the document prior to submission.

BUDGET AND SCHEDULE

The proposal must contain a schedule and a quote of required remuneration for the work in US or Canadian dollars. All prices shall be presumed to be in Canadian dollars (CAD) unless explicitly specified otherwise in the proposal. Proponents' responses to this section must include a full breakdown of the budget and schedule, including an indication of rates and hours and the task allocation for the key personnel by task and must correspond to any phases or milestones outlined above. (Please refer to the Proposal Template for more information).

It is expected that this project can be completed (draft final report submitted for review and approval) **within 6-8 months of initiation.**

The proposal must include the names and qualifications of the key individuals who will be involved, as well as the name of the accountable manager.

CEATI is not bound to accept any proposal but any selection will take into account technical merit, qualifications, price and schedule. A proposal may be accepted in whole or

in part. A commitment to proceed with the first phase of a multi-phase project does not automatically imply that the work of the subsequent phases will be undertaken.

ALTERNATIVE WORKS

Proponents shall generally follow the above description of work, but are encouraged to offer alternative works if these alternatives will meet the objectives and provide a better end product to the utilities sponsoring this work. Alternatives shall be fully described including logistics explaining why the alternate works are being offered and the benefits to be realized by the funding utilities. Where alternatives are proposed, separate budgets shall be calculated for each alternative.

SUBMISSION OF PROPOSALS

The consideration of proposals received will be limited to those who indicate their intent to employ a suitable experienced project team and who possess proper facilities to perform the work. Receipt of this “IFP” does not necessarily constitute a prior determination by CEATI that your organization has the requisite experience and facilities.

The proposal must be properly completed and executed in accordance with the CEATI guidelines available at <http://www.ceati.com/guidelines.php>, and shall be submitted to CEATI as an attachment in Microsoft Word at the following website: www.ceati.com/private/submissions. Be sure to indicate project number “**SOIG-12-01**” on the submission form. For assistance, please contact us at 514-866-5377 x 236.

CLOSING DATE FOR RECEIPT OF PROPOSALS

Thursday, February 2, 2012, 4:00 pm EST