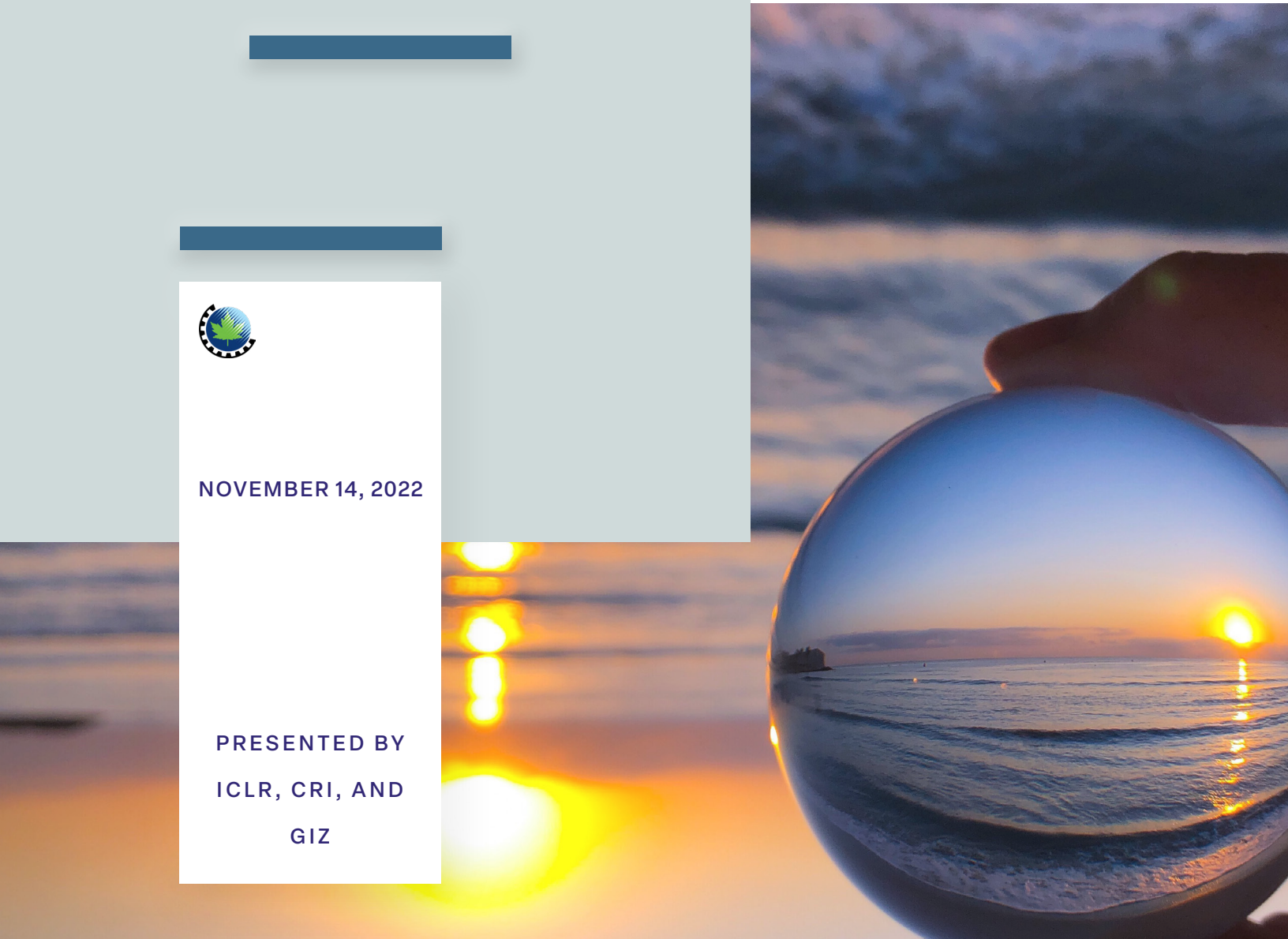
PIEVC

A BLUEPRINT FOR CLIMATE RESILIENCE

VISION, GOALS, AND PROGRAMMING



NOVEMBER 14, 2022

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PIEVC USER REFLECTIONS

Dr. Modathir Abdalla Hassan Zaroug
Regional Water Resources Modeller
Nile Basin Initiative Secretariat

The climate proofing of new and existing infrastructure investment portfolios is very crucial. It should support project managers, planners, designers, ministerial staff who need to engage in climate proofing and seek for a community of practice.

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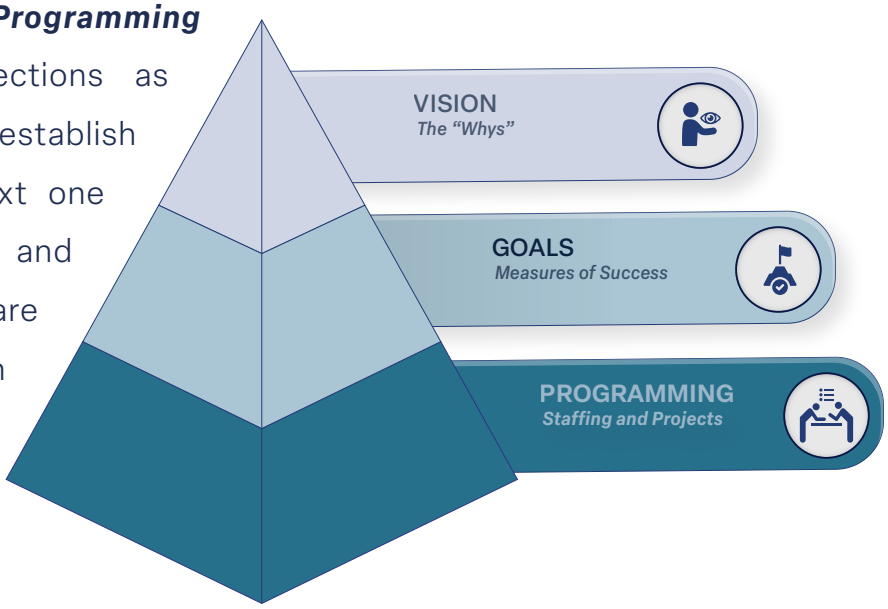
Vision, Goals, and Programming

Planning for the PIEVC Program follows a standard tiered approach. We first establish our core values, which form the ***Vision*** for the PIEVC Alliance. These encapsulate ***"whys"***. Why was PIEVC created and why does it need to continue?

Second, we set our ***Goals***. These draw from the ***Vision*** and are more measurable. Where the ***Vision*** establishes a road map, the ***Goals*** provide concrete measures of success - what we are trying to achieve and how to measure it. This allows us to establish and monitor ***Programming*** and make course corrections as necessary. Finally, we establish ***Programming*** for the next one to five years. Functions and supporting activities are grouped into five main program areas, to deliver on our vision and goals.



VISION

Our vision as the PIEVC Alliance is to:

- ***Make*** climate change action standard practice in planning, engineering, management, and operation of infrastructure systems
- ***Maintain*** the PIEVC Program as a credible, valuable resource to facilitate improved understanding of climate vulnerability of the built environment, for the public good of Canadians and international users
- ***Keep*** PIEVC Program resources free for use for built and natural infrastructure and buildings applications in Canada
- ***Support*** the climate sector, a growing economic driver that employs thousands of Canadian professionals in municipalities, domestic and international consulting, associations, and academia

GOALS

We have five key goals:

- ***Mainstream the PIEVC process*** into all infrastructure and buildings decision making across Canada by ensuring that infrastructure and building managers are aware of what PIEVC can achieve
- ***Foster routine application of PIEVC*** methods by professionals *planning, designing, building, maintaining, operating, and refurbishing* infrastructure and buildings in Canada
- ***Integrate the PIEVC process into education*** for all accredited professionals

involved in buildings, infrastructure planning, project management, and climate sciences

◊ ***Align*** the PIEVC process with other initiatives and tools available to assess and build climate resilience, such as Envision, Climate Atlas of Canada, Climate Data Canada, and others

◊ ***Support*** the sustainable application of PIEVC internationally, enable international exchange and strive for continuous improvement of the protocol

> *PIEVC has transformed Canadian engineering's approach to climate change adaptation.*
>
> - ***BC Highway Case Study - ClimateData.ca***

PROGRAMMING

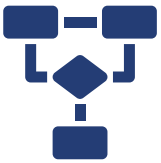
The PIEVC Program is organized into five main functional areas, or domains, with key activities arranged accordingly.

PROGRAM DOMAINS

PIEVC activities are managed in five key domains, or areas of practice.

PIEVC Program domains and their main functions are as follows:

PIEVC Resources: Development and Maintenance



Activities in this domain ensure the timely development, beta testing, delivery, and maintenance of the PIEVC Protocol and the growing family of PIEVC Resources.

This domain supports our goal of ***fostering routine application of PIEVC methods*** by ensuring that PIEVC resources are up to date and are able to address the evolving needs of our user community.

Training and Capacity Development

Activities in this domain focus on providing formal training, and on peer-to-peer knowledge exchange and capacity building for professionals. Activities are aimed at those who wish to develop competencies and build their knowledge and networks related to the PIEVC process, and to planning, design, development, and maintenance of climate resilient infrastructure more broadly.

This domain supports our goal of ***mainstreaming the PIEVC process*** by ensuring a large contingent of trained practitioners and widespread awareness of the benefits of the PIEVC program.

> *The PIEVC framework holds great promise to contribute to Costa Rica's national adaption goals.*
>
> - ***Nazareth Rojas Morales, Senior Scientist at the National Meteorological Institute , San José, Costa Rica***

PIEVC Community Support

Activities in this domain focus on providing users of the PIEVC Family of Resources with support in accessing, understanding, and using the resources. For under-resourced groups like small communities that are working to enhance the resiliency of public infrastructure in Canada, the Program may be able to provide the most substantial support.

This domain supports our goal of ***fostering routine application of PIEVC methods*** by supporting practitioners and communities with resources, access, and guidance on PIEVC resources. As well, this domain addresses our goal of ***supporting sustainable application of the PIEVC internationally*** through training, outreach and guidance in many different countries.

Governance

Activities in this domain will ensure decision making for the Program remains well-aligned with the public interest and goals developed through consultation with the PIEVC Program Advisory Committee.

This domain supports our goal of ***aligning with other initiatives*** by ensuring the PIEVC Program integrates with other initiatives that promote and support infrastructure climate resilience.

The PIEVC Program Advisory Committee is comprised of a wide cross section of sectors and professions representing the PIEVC community. The Advisory Committee meets quarterly to discuss and advise on PIEVC Program strategy, objectives, and outputs.

Outreach and Marketing

Activities in this domain focus on ensuring the Program is well known and is delivered effectively, according to a clear set of plans.

This domain is meant to support multiple Goals related to mainstreaming, routine application, alignment with related initiatives, and increasing support for application of PIEVC Resources. Activities within this domain are intended to increase awareness of the PIEVC Program and to ensure that the wide community of PIEVC program users and other interested bodies are kept up-to-date on PIEVC Program outputs and success stories. Activities include improved web presence, development of marketing and communications resources, information sessions, web videos, hosting and participation in web events and conferences, and related initiatives.

The Program Implementation Plan is outlined in more detail in ***Appendix A***.

PIEVC USER REFLECTIONS

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The Cai Lon - Cai Be Sluice Gate project used the PIEVC Protocol to assess 84 existing sluice gates in Kien Giang province. The PIEVC Protocol was also applied to works under construction, like the Lon-Cai Be sluice gate system, which was incomplete at the time.

Applying PIEVC assessment to Cai Lon - Cai Be sluice gates revealed a need to improve the proposed design. We used new materials to increase resilience against the increasing temperature conditions driven by climate change.

In my opinion, the PIEVC process should be more broadly used and officially endorsed for future use in Vietnam.

SIWRP
Quy hoạch Thuỷ lợi
Water Resources Planning

APPENDIX

Program Implementation Plan

In the following table we additional detail about PIEVC implementation planning for the upcoming period.

The activities outlined below are intended to contribute to achievement of the PIEVC Program Vision and Goals outlined in this document. The activities are a response to significant PIEVC community feedback from 2020 to present, including input from the PIEVC Program Advisory Committee.

Implementation of the below activities is dependent upon core PIEVC Program capacity and funding.

PIEVC Program Activities	
Activity	***Comments***
PIEVC Resources	
Develop web-based, interactive tools	◊ Web-video explanatory for PIEVC resources and services. ◊ Put PIEVC resources online and ensure they remain up-to-date and publicly accessible. ◊ Moderate web-based queries and comments and provide rapid feedback to user community.
Update the PIEVC Protocol	◊ Develop an approach to ensure that the PIEVC Protocol and supporting documents are quickly updated to reflect the latest developments in vulnerability assessment, climate science, professional/practitioner needs. ◊ Develop a core function of routine updates to the Protocol: Conduct monthly reviews of the literature, regularly attend all relevant conferences, participate in external Technical Committees, and regularly update the Protocol to ensure that the Protocol remains state-of-the art.

PIEVC Program Activities	
Activity	***Comments***
Develop a risk treatment module	◊ Incorporate methods, guidance for professionals to integrate and apply climate resilience resources into the planning, design, construction, operation, maintenance, etc. of buildings and infrastructure. ◊ Draw on, promote innovative climate resilience resources developed in Canada through publicly funded programs (e.g., NRC's Climate Resilient Buildings and Core Public Infrastructure and Climate Resilient Built Environment program, SCC's Standards to Support Resilience in Infrastructure program).
Develop Social Impacts White Paper	◊ The White Paper will be concise. It will address social issues only and will not introduce an entirely new method. Standard PIEVC processes ensure successful social impact analysis, provided that clear guidance on additional considerations, expertise and resourcing for social impact is available to inform the work.

PIEVC Program Activities	
Activity	***Comments***
Governance	
Evaluate outcomes of PIEVC program to date	◊ Establish routine (e.g., annual) evaluations of uptake of PIEVC resources and application of findings; publish an annual report.
Establish core and sustainable PIEVC funding for full-time, permanent staff and core functions	◊ Staff ◊ Two senior professionals (15-20 years of experience) ◊ P.Eng. or equivalent ◊ One experienced professional (5-7 years of experience) ◊ Project Manager / Secretariat (5-7 years of experience) ◊ Communication specialist (5-7 years of experience ◊ Provide competitive salary and benefits to promote staff retention ◊ Establish funding to support staff in maintaining and expanding core functions of the PIEVC Program (communications, marketing, web resources, publishing, conference attendance, etc.)

PIEVC Program Activities	
Activity	***Comments***
PIEVC Community Support	
Improve visibility, consultation with the industry	◊ Host regular PIEVC Conference(s), attend meetings, participate on relevant technical committees. ◊ PIEVC staff should become "go-to" resources in Canada and internationally for all topics concerning climate change vulnerability assessment for buildings and infrastructure.
Support the needs of small communities, entities with limited resources to conduct vulnerability assessments	◊ Provide quick response to queries from small communities via telephone, email, and other communication platforms. ◊ Develop accessible resources, adapt the Protocol process and supporting documents to support small communities/public entities with limited resources.
Facilitate communication within user community	◊ Facilitate/serve as secretariat for the PIEVC Program Advisory Committee (quarterly meetings, regular engagement with Co-Chairs). ◊ Host quarterly web meetings to update PIEVC Community on PIEVC application case studies and receive feedback from the wider community. ◊ Engage the user community in PIEVC Program strategy and development of new PIEVC-related resources through ad-hoc and project-specific technical and advisory committees.

PIEVC Program Activities	
Activity	***Comments***
Training and Capacity Building	
Engage with the educational community	◊ Participate in development of undergraduate, graduate, and professional development programs to increase capacity of professionals to undertake climate vulnerability analysis and integrate climate resilience into their professional work. ◊ Increase integration of PIEVC into school, college, and university curriculum.
Outreach and Strategy	
Integrate the PIEVC process with existing resources like the Climate Atlas, CCCS data portals, and others	◊ Become more engaged with developers of core climate service resources in Canada, and work to integrate the PIEVC Process into these resources.

PIEVC Program Activities	
Activity	***Comments***
Promote the use of the PIEVC process both domestically and internationally	◊ PIEVC Program senior staff will regularly present at national and international conferences (at least 6 national conferences and 4 international conferences per year). ◊ Publish accessible resources (e.g., infographics) outlining the purpose, priorities, and impact of the PIEVC Program. ◊ Engage in and become members of key Technical Committees and entities that develop infrastructure and building standards in Canada and internationally (e.g., SDO TCs, building code development standing committees, municipal, regional, provincial, and national entities responsible for development of infrastructure guidelines, standards, and regulations).

PIEVC Program Activities	
Activity	***Comments***
Develop Marketing Strategy to extend reach of PIEVC into the U.S. market and beyond.	◊ Once senior staff retained, they will work with the PIEVC Alliance, and PIEVC Advisory Committee to develop a long-term formal strategy to market PIEVC in the United States and other international markets. These staff will work to: ◊ Establish priorities ◊ Execute the marketing strategy, once approved