

Open Forum / Forum Ouvert

Engineering, Infrastructure & Our Changing Climate:

The PIEVC Protocol and Infrastructure Resilience Professional (IRP) Programs
Where we came from, where should we go?

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From a series of firsts....

- **Where did we start?**
- **The long way we have come**
- **PIEVC and IRP – Why, where, what, who, how**
- **Panel Discussion**
- **...to a vision for the Future**

EC Work on Climate Change Adaptation 2001-2015

- **Environmental Scan - Fall 2001**
- **CCPE Board workshop with NRCan – February 2003**
- **Climate Change Action Plan – Phase I 2004-2011, Phase II – 2012-present**
- **NRCan Request for National Vulnerability Assessment of Canada's Infrastructure – Summer 2005**
- **PIEVC Protocol Development – 2005-2012 (50% funding)**
- **PIEVC Training and Expanded Application – 2009 to present**
- **WFEO Committee on Engineering and the Environment – 2007-2015**

EC Work on Climate Change Adaptation 2014-2016

- Practice guidance – Principles of Climate Change Adaptation for Engineers – June 2014
- WFEO Model Practice Guideline - Principles of Climate Change Adaptation for Engineers – December 2015
- PIEVC Protocol Training Workshops (Regulator PD Days, Regions, Municipalities, Other Professions (Planners))
- National position statements on infrastructure and climate change
- Outreach – presentations at national and regional conferences, workshops and meetings
- Federal government submissions e.g. Pan-Canadian Strategy on Climate Change – Adaptation and Resiliency Working Group
- Engagement on National Master Specification and NBCC to include climate change considerations
- Collaboration in training with FCM and other professional practitioner associations (CIP, CPA, CWWA)

IRP Knowledge and Application Requirements

- On-Line Workshop on the PIEVC Protocol
- Demonstrate successful application of the licensed version of the PIEVC Protocol
- Climate Law for Engineers Short Course
- Asset Management Short Course for Engineers
- Climate Science Short Course for Engineers
- Risk Management Course
- On-line course delivery with demonstrated learning outcomes

PIEVC and IRP – Why, where, what, who, how

- *Climate Law Course for Engineers* is delivered at EC offices
- Awarding of IRP credential to six P.Eng.s
- Completing course development

2016

IRP Soft Launch

- Training workshops on PIEVC Protocol
- Expansion of applications and number of projects (now 45+)
- International applications and outreach to UNFCCC through WFEO
- Revisions and updates to the Protocol
- Outreach, promotion and uptake nationally

Training and Support

2009-2016

- NRCan engages CCPE to assess vulnerability of Canada's infrastructure to climate change
- Three phases of funding (2.5M) to develop and test PIEVC Protocol (3.5 M in external funding + in-kind)

2005-2012

Development and Testing

- CCPE Board National Workshop on Climate Change with NRCan
- Implementation of National Action Plan on Climate Change Adaptation

Engagement

2003

Contribution to Government

Catherine McKenna, Minister of Environment formally recognized Engineers Canada's *Preparing for the Impact of Climate Change - The Importance of Improving Infrastructure Climate Resiliency: The Engineering Perspective* submission via Twitter.



(E-2.1, E-3.1.2)

Support to the Ends.....

E-3 SUSTAINABILITY OF THE PROFESSION

E-3.1.2 Studies, reports, trends and information are used in decision-making by policy makers.

E-3.2 New areas of engineering practices are recognized by the regulators and government.

E-3.3 The professional, social and economic needs of licensed engineers are met.

E-2 CONFIDENCE IN THE PROFESSION

E-2.1 Timely and relevant national positions and expertise are available to the federal government and policy makers.

E-2.3 National and international information and trends on self-regulation are available to regulators.

Target Audiences for PIEVC

- Engineers
- Municipal, provincial and Federal infrastructure management, planning and operations staff
- Municipal elected officials
- Consulting firms
- Federal and Provincial policy-makers
- Engineering regulators
- Other regulators
- National codes and standards organizations (NBCC, SCC, CSA etc.)
- Other professional practitioners (planners, architects, accountants, asset managers, procurement specialists, lawyers)
- International – UNFCCC, WFEO, UPADI, IDRC, Int'l Development Banks

Target Audiences for IRP

- **SUPPLY:** Only P.Eng. – An additional voluntary qualification (P.Eng.+)
- **DEMAND:** Municipal, provincial and Federal infrastructure management, planning and operations staff
- Consulting firms
- Federal and Provincial policy-makers
- Engineering regulators
- Other regulators recognize IRP
- References in national codes and standards organizations (NBCC, SCC, CSA etc.)
- Other professional practitioners (planners, architects, accountants, asset managers, procurement specialists, lawyers)
- International – UNFCCC, WFEO, UPADI, IDRC, Int'l Development Banks

Panel/Table Discussion: PIEVC and IRP

**In order to reach the target audiences for PIEVC and IRP
what can regulators do?**

**How can EC support regulators to promote and engage
their members on PIEVC and IRP?**

Panel Discussion: PIEVC and IRP

**EC Board Member – D. Jayas FEC, P.Eng.
Regulator – A. English FEC P.Eng. (APEGBC)**

...to a vision for the Future

“The future depends on what you do today.” Ghandi.



Thank you!

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