VerifiGlobal

TRCA

Canadian Stormwater Environmental Technology Verification (SETV) Project - June 2024

VerifiGlobal is an international platform of technology performance testing and verification organizations that operates in accordance with ISO 14034:2016 ETV and the ISO 17020 conformity assessment standard.

TRCA

Toronto and Region Conservation Authority (TRCA) is one of 36 Conservation Authorities in Ontario, created to safeguard and enhance the health and well-being of watershed communities through the protection and restoration of the natural environment and related ecological services.

Canadian Stormwater Environmental Technology Verification (SETV) Project - June 2024

Standards Council of Canada (SCC) is a federal corporation which is part of Canada's Innovation, Science and Economic Development portfolio.
SCC oversees Canada's national standardization network and facilitates the development and use of national and international standards and accreditation services.

Canadian Stormwater ETV Project

In 2022, SCC entered into an agreement with the Toronto and Region Conservation Authority (TRCA) to take a prominent role in the development of Publicly Available Specifications for testing and verification of stormwater manufactured treatment devices.
The objective of the Canadian SETV Project is to help standardize testing and verification for stormwater treatment technologies.

Canadian Stormwater Environmental Technology Verification (SETV) Project - June 2024

CONTEXT

Canadian Stormwater Environmental Technology Verification (SETV) Project

In Canada, the US and other jurisdictions, regulatory agencies and permitting authorities have different performance criteria and requirements for approval and acceptance of various stormwater treatment devices across a wide range of applications and operating conditions.

These agencies and authorities require scientifically defensible, verifiable technology performance data to support their decisions.

A standardization strategy is recommended that builds on existing strengths, avoiding unnecessary duplication.

Regulatory agencies, permitting authorities, technology buyers, and technology vendors all benefit by having approval and procurement processes that are consistently applied across multiple municipalities and provinces across Canada.

CONTEXT

Canadian Stormwater Environmental Technology Verification (SETV) Project

To help standardize testing and verification for Oil-grit Separators and Filtration stormwater treatment technologies, three Publicly Available Specification (PAS) documents were developed and published in 2023, with support from the Standards Council of Canada (SCC):

Canadian Procedure for Laboratory Testing of Oil-Grit Separators

Canadian Procedure for Field Testing of Stormwater Filtration Manufactured Treatment Devices

Guidance on the Use and Application of Results from Verified Laboratory and Field Testing for Stormwater Manufactured Treatment Devices

TRCA is the publisher of the PAS documents and principal facilitator of the development process.

TRCA is also a collaborator with other conservation authorities on the Sustainable Technologies Evaluation Program (STEP).
https://sustainabletechnologies.ca

About the Sustainable Technologies Evaluation Program (STEP)

- A conservation authority led collaborative
- A collaborative of TRCA, CVC and LSRCA that is focused on evaluating clean water technologies, overcoming implementation barriers, creating tools and guidelines to support broader adoption, and sharing knowledge through professional training.
- STEP goals
  - Research, monitor and evaluate clean water technologies
  - Develop strategies to overcome implementation barriers
  - Develop tools, guidelines and policies to support broader uptake of sustainable technologies
  - Engage in education, advocacy and knowledge transfer (i.e. training)

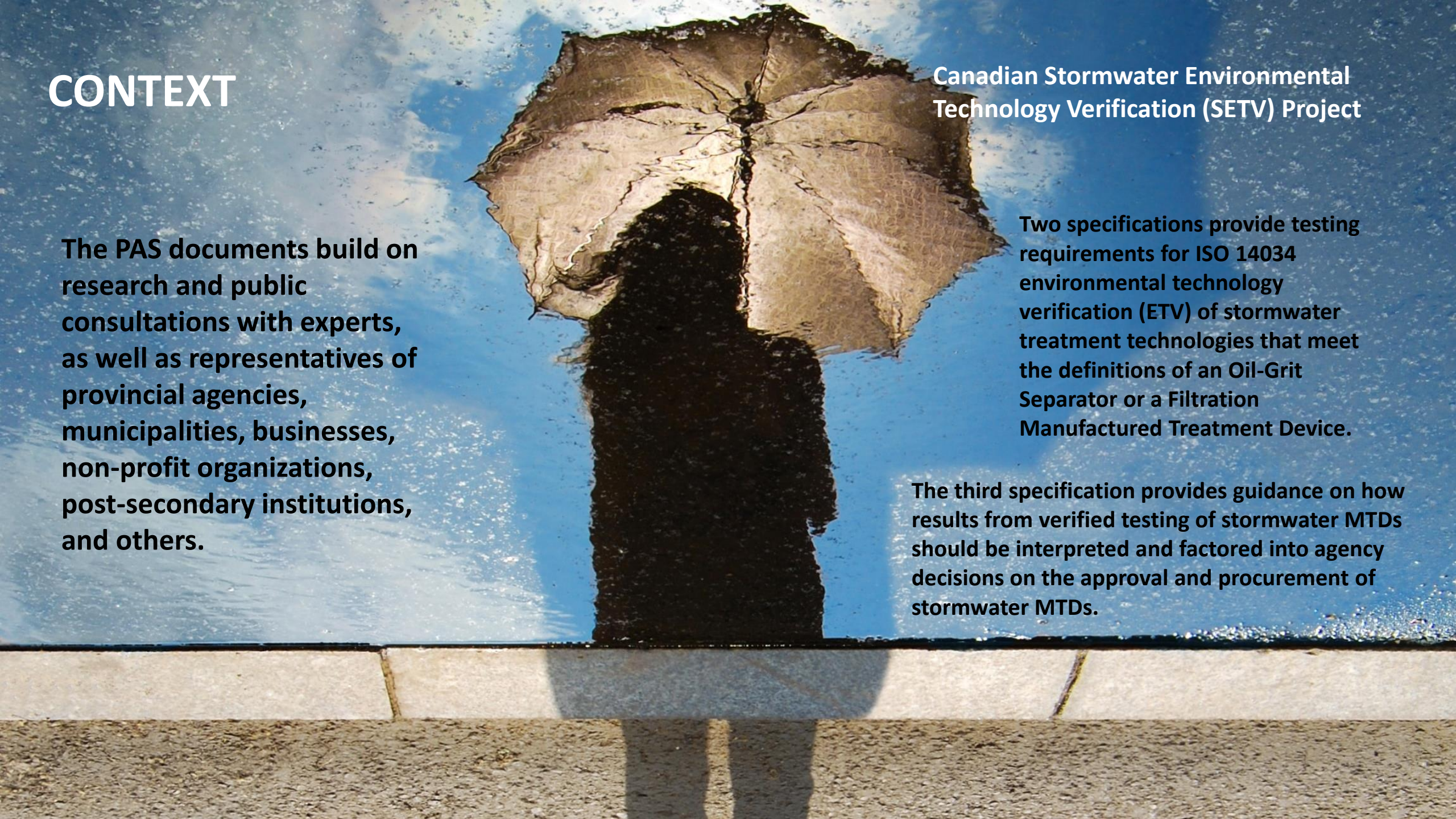
Current partners:

Lake Simcoe Region conservation authority

Credit Valley Conservation inspired by nature

Toronto and Region Conservation Authority

CONTEXT



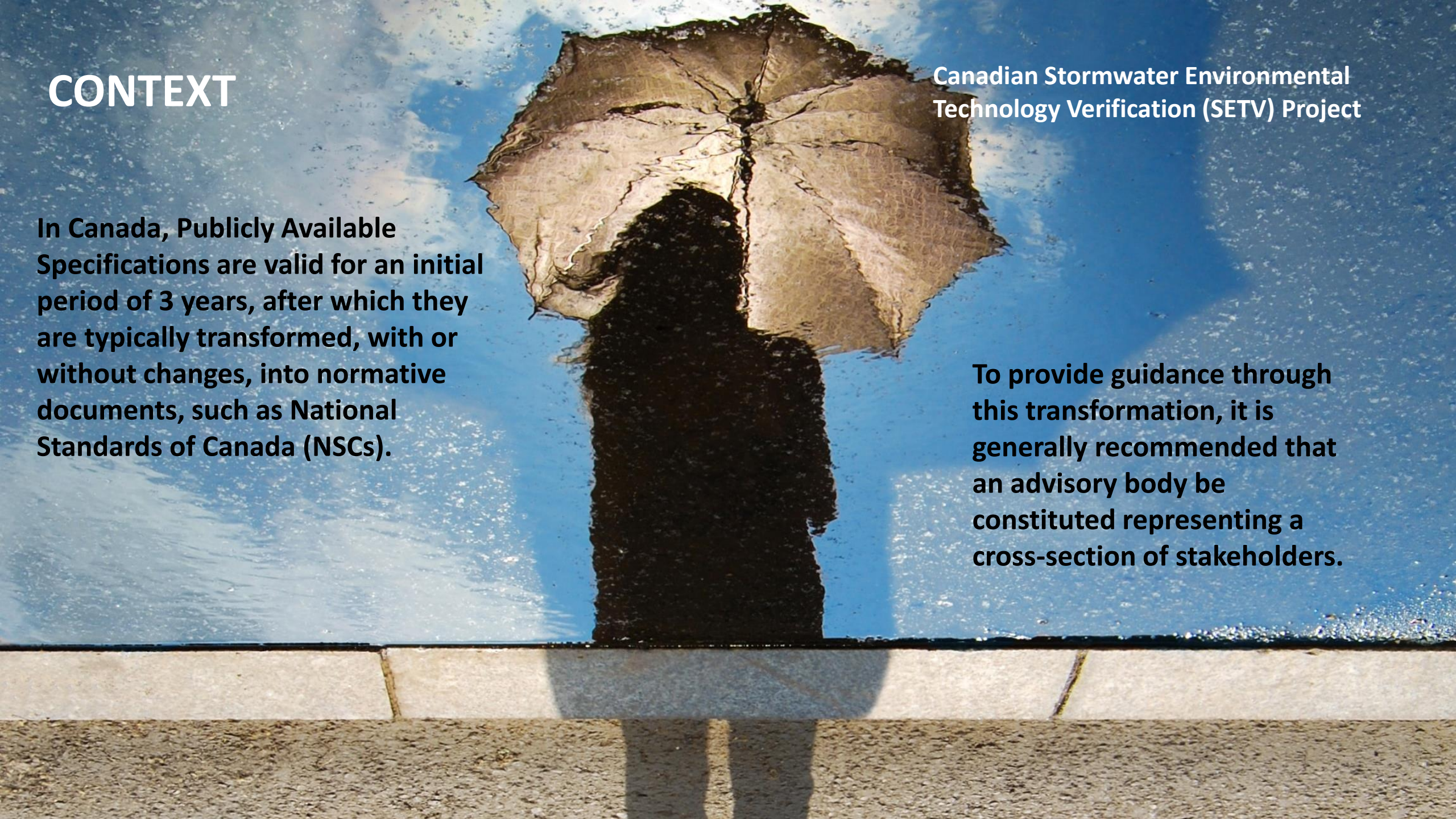
Canadian Stormwater Environmental Technology Verification (SETV) Project

The PAS documents build on research and public consultations with experts, as well as representatives of provincial agencies, municipalities, businesses, non-profit organizations, post-secondary institutions, and others.

Two specifications provide testing requirements for ISO 14034 environmental technology verification (ETV) of stormwater treatment technologies that meet the definitions of an Oil-Grit Separator or a Filtration Manufactured Treatment Device.

The third specification provides guidance on how results from verified testing of stormwater MTDs should be interpreted and factored into agency decisions on the approval and procurement of stormwater MTDs.

CONTEXT



Canadian Stormwater Environmental Technology Verification (SETV) Project

In Canada, Publicly Available Specifications are valid for an initial period of 3 years, after which they are typically transformed, with or without changes, into normative documents, such as National Standards of Canada (NSCs).

To provide guidance through this transformation, it is generally recommended that an advisory body be constituted representing a cross-section of stakeholders.

CONTEXT

Canadian Stormwater Environmental Technology Verification (SETV) Project

In Canada, stormwater technology performance testing and verification follows the process outlined in the ISO 14034 ETV standard.

The process involves the following:

- ✓ Technology owner or licensee applies for independent verification of the performance of its technology
- ✓ Verification Body administers the verification, develops the Verification Plan and issues the final Verification Statement
- ✓ Test Body conducts the technology performance testing
- ✓ Third-party Technical Expert reviews the test plan, verifies performance test results against the performance claims and prepares a Verification Report.

CONTEXT

Canadian Stormwater Environmental Technology Verification (SETV) Project

The PAS testing documents are used as the basis for testing the category of technologies defined in the PAS documents as an OGS or a Filtration MTD.

Other stormwater technologies are evaluated based on a 'technology specific test plan' (TSTP) tailored to the design and treatment objectives of the technology in question and referenced in the Verification Plan.

Technologies verified by VerifiGlobal are listed at:

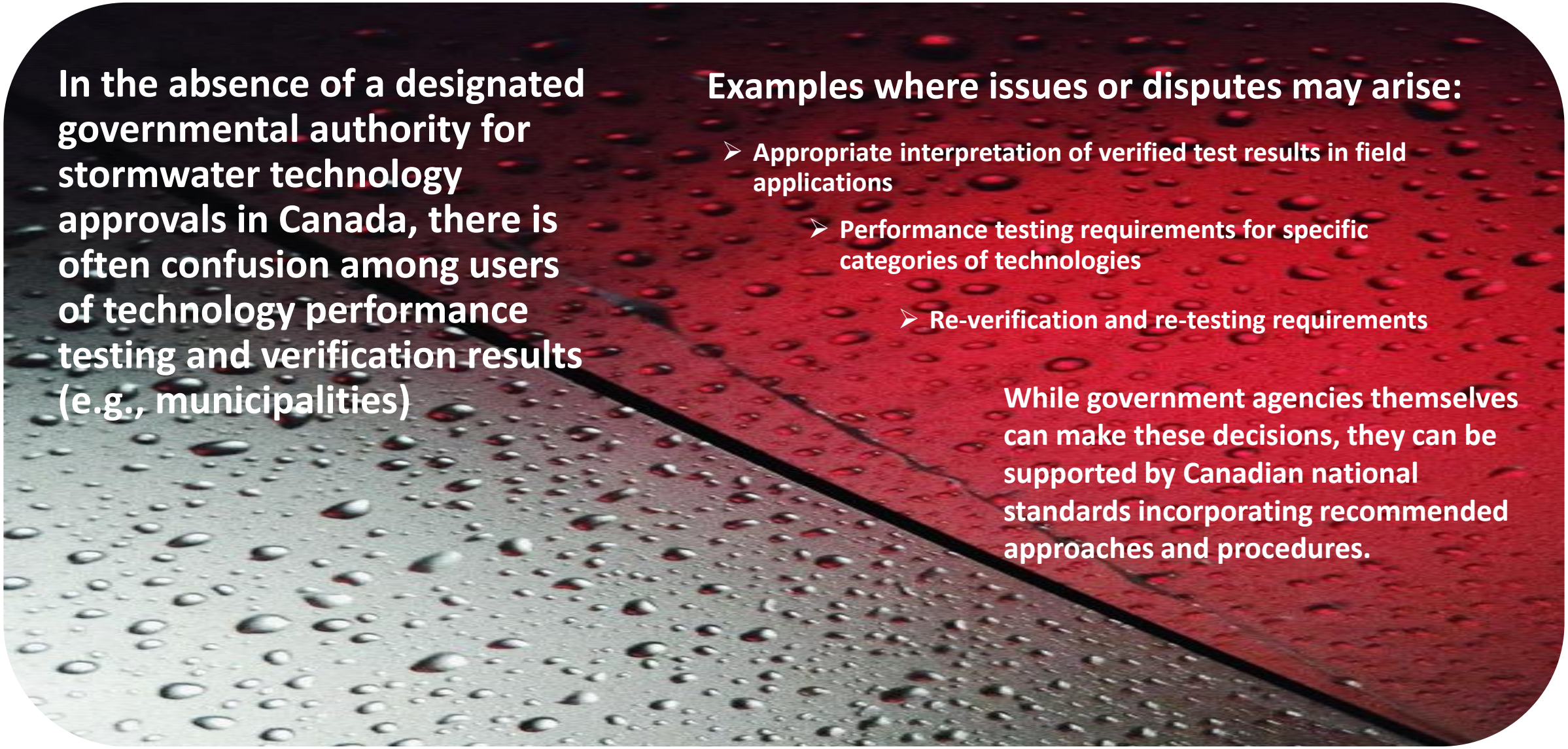
https://www.verifiglobal.com/en/solutions-network/network-members

The TRCA STEP website also lists some verified proprietary stormwater treatment technologies

https://wiki.sustainabletechnologies.ca/wiki/Pretreatment

CONTEXT

Canadian Stormwater Environmental Technology Verification (SETV) Project

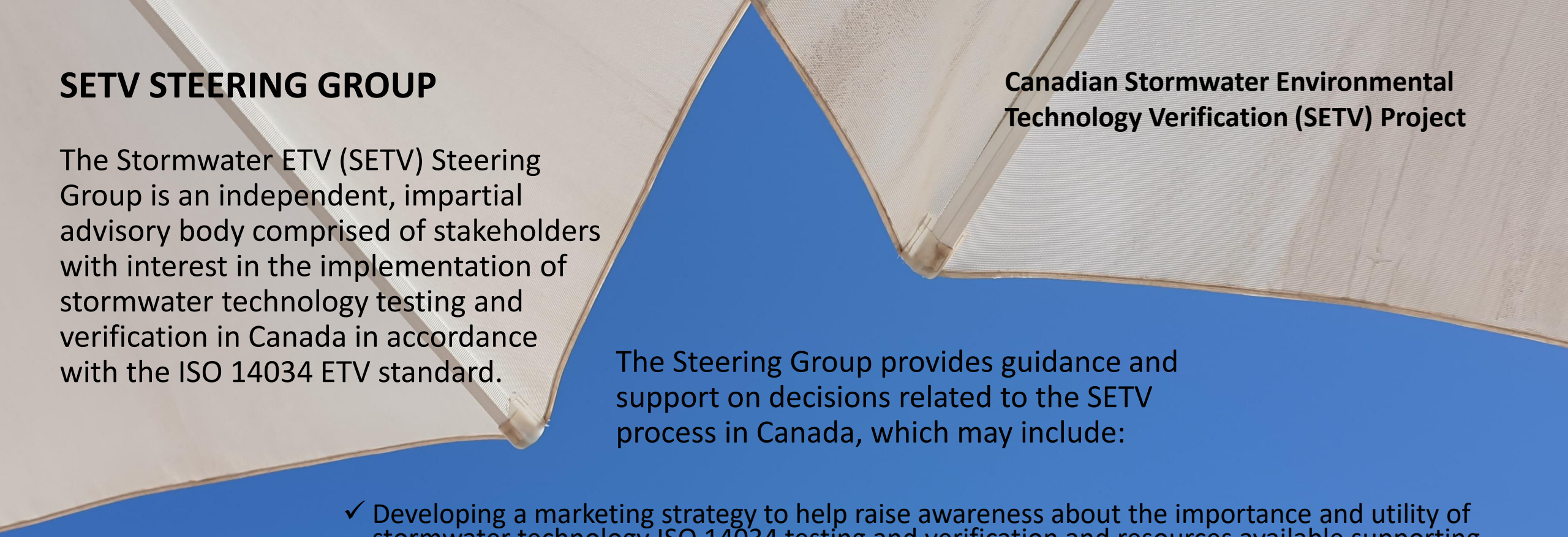


In the absence of a designated governmental authority for stormwater technology approvals in Canada, there is often confusion among users of technology performance testing and verification results (e.g., municipalities)

Examples where issues or disputes may arise:

- Appropriate interpretation of verified test results in field applications
- Performance testing requirements for specific categories of technologies
- Re-verification and re-testing requirements

While government agencies themselves can make these decisions, they can be supported by Canadian national standards incorporating recommended approaches and procedures.



SETV STEERING GROUP

Canadian Stormwater Environmental Technology Verification (SETV) Project

The Stormwater ETV (SETV) Steering Group is an independent, impartial advisory body comprised of stakeholders with interest in the implementation of stormwater technology testing and verification in Canada in accordance with the ISO 14034 ETV standard.

The Steering Group provides guidance and support on decisions related to the SETV process in Canada, which may include:

- ✓ Developing a marketing strategy to help raise awareness about the importance and utility of stormwater technology ISO 14034 testing and verification and resources available supporting the process;
- ✓ Advising on updates or modifications to existing SETV specifications or standards and the process for undertaking these updates;
- ✓ Advising on the need for new standards or specifications for stormwater technologies to help guide the SETV process;
- ✓ Providing recommendations that will help improve consistency in the application of the ISO 14034 standard, or set new requirements that are aligned with the standard (e.g., re-testing)
- ✓ Reviewing documentation or digital resources related to SETV objectives and workplans.

SETV STEERING GROUP

Canadian Stormwater Environmental Technology Verification (SETV) Project

SETV STEERING GROUP MEMBERS (as of June 2024)	
• Toronto and Region Conservation Authority • Lake Simcoe Region Conservation Authority • City of Calgary, AB • City of Moncton, NB • City of Richmond Hill, ON • City of Saskatoon, SK • City of Toronto, ON • City of Vancouver, BC • Town of the Blue Mountains, ON • EPCOR, AB	• Ontario - Ministry of Environment, Conservation and Parks • Québec - Ministère de l'Environnement et de la Lutte contre les changements climatiques • Carleton University, Department of Civil and Environmental Engineering • Fleming College, Centre for Advancement of Water and Wastewater Technologies • Cegep de St-Laurent, Centre des technologies de l'eau, • Lasalle NHC • Globe Performance Solutions (GPS) • VerifiGlobal

SETV STEERING GROUP NEXT STEPS

Since the 3 PAS documents were published in 2023, the SETV Steering Group has met three times; meeting #4, will take place in Toronto during the week of 12 August 2024 (date to be confirmed).

At this point in its deliberations, the SETV Steering Group is primarily focused on the future of the PAS documents and whether they should be further developed as National Standards of Canada (NSCs).

It is important to note that while there continues to be considerable interest in standards pertaining to infrastructure investment, including stormwater management, it also remains unclear whether resources could be secured and made available to complete additional tasks pursuant to options the Steering Group may wish to consider.

SETV STEERING GROUP NEXT STEPS

Canadian Stormwater Environmental Technology Verification (SETV) Project

SETV Project Notification 2023-06-01*, “Canadian Stormwater Environmental Technology Verification (SETV) Project - Strategic Considerations and Next Steps (2023-2026)” states:

“Although a Publicly Available Specification is valid for an initial period of three years, which can be extended for an additional three years, it is expected it will be transformed, with or without changes, into another type of normative document at the end of this period”.

The Report of Findings identifies selected SCC accredited standards development organizations that might be considered for the eventual transformation of a Publicly Available Specification into an NSC.

However, it is also important to note as an alternative approach, some SETV Steering Group members have suggested that National Standards of Canada may not be needed.

* See: https://sustainabletechnologies.ca/app/uploads/2023/06/Canadian-SETV-PAS-Strategic-Considerations-and-Next-Steps-2023-2026.pdf

SETV STEERING GROUP NEXT STEPS

Prior to its August meeting, SETV Steering Group members will be providing feedback to help frame SETV options and potential outcomes related to the future of the 3 PAS documents, as well as the necessary steps required to facilitate Steering Group decisions.

The following options are under consideration:

- **A. Maintain the 3 PAS documents as they are.**
- **B. Further embellish the 3 PAS documents.**
- **C. Change ownership/custodianship of the PAS documents.**
- **D. Convert one or more of the 3 PAS documents to NSCs.**
- **E. Do nothing.**

The next slide provides further elaboration of the key options and decisions required. SETV Steering Group members will be providing feedback by indicating their preferred options (i.e., in favour or against).

SETV STEERING GROUP NEXT STEPS

Canadian Stormwater Environmental Technology Verification (SETV) Project

Options	Elaboration
A. Maintain the 3 PAS documents as they are.	A.1 With no changes
	A.2 With selected changes as may be needed over the next 5 years
B. Further embellish the 3 PAS documents.	B.1 To include other technical aspects and/or technologies (i.e., Technical)
	B.2 To provide greater clarity on intended use and related process requirements (i.e., Procedural)
C. Change ownership/ custodianship of the PAS documents.	C.1 To one or more national organizations
	C.2 To one or more provincial or local organizations
	C.3 By integrating with one or more international organizations involved with this sector
D. Convert one or more of the 3 PAS documents to NSCs.	D.1 Convert all 3 PAS documents
	D.2 Convert only selected PAS documents
E. Do nothing.	E.1 Maintain SETV Steering Group
	E.2 Terminate SETV Steering Group

SETV STEERING GROUP NEXT STEPS

OTHER IMPORTANT INFORMATION

In May 2024, CSA Group submitted a ‘pre-proposal’ to TRCA which provides information on CSA Group’s capabilities in the development of standards, and a possible scope of work for developing the PAS documents into accredited National Standards of Canada.

As a strategic priority, CSA Group has been actively working to develop aligned National Standards of Canada along with other standards products to address flood resilience and stormwater management.

The CSA Group ‘pre-proposal’ was provided to SETV Steering Group members for review. (See: CSA Group “Pre-proposal: National Standards of Canada for the testing and verification of stormwater manufactured treatment devices”.

SETV STEERING GROUP NEXT STEPS

OTHER IMPORTANT INFORMATION

Canadian Stormwater Environmental Technology Verification (SETV) Project

It is important to remember that the objective of the Canadian SETV Project is to help standardize testing and verification for Oil-Grit Separators and Filtration stormwater treatment technologies.

The initial Canadian ‘Procedure for Laboratory Testing of Oil-Grit Separators’ was developed in 2013.

The Canadian SETV Project began in 2022 and the three new stormwater technology related Publicly Available Specification (PAS) documents were published in June 2023.

The Canadian SETV Project did not include resources to conduct technology performance testing and verification.

It remains to be seen whether the number verified stormwater technologies will increase due to the new PAS documents and any related National Standards of Canada that may subsequently be developed.

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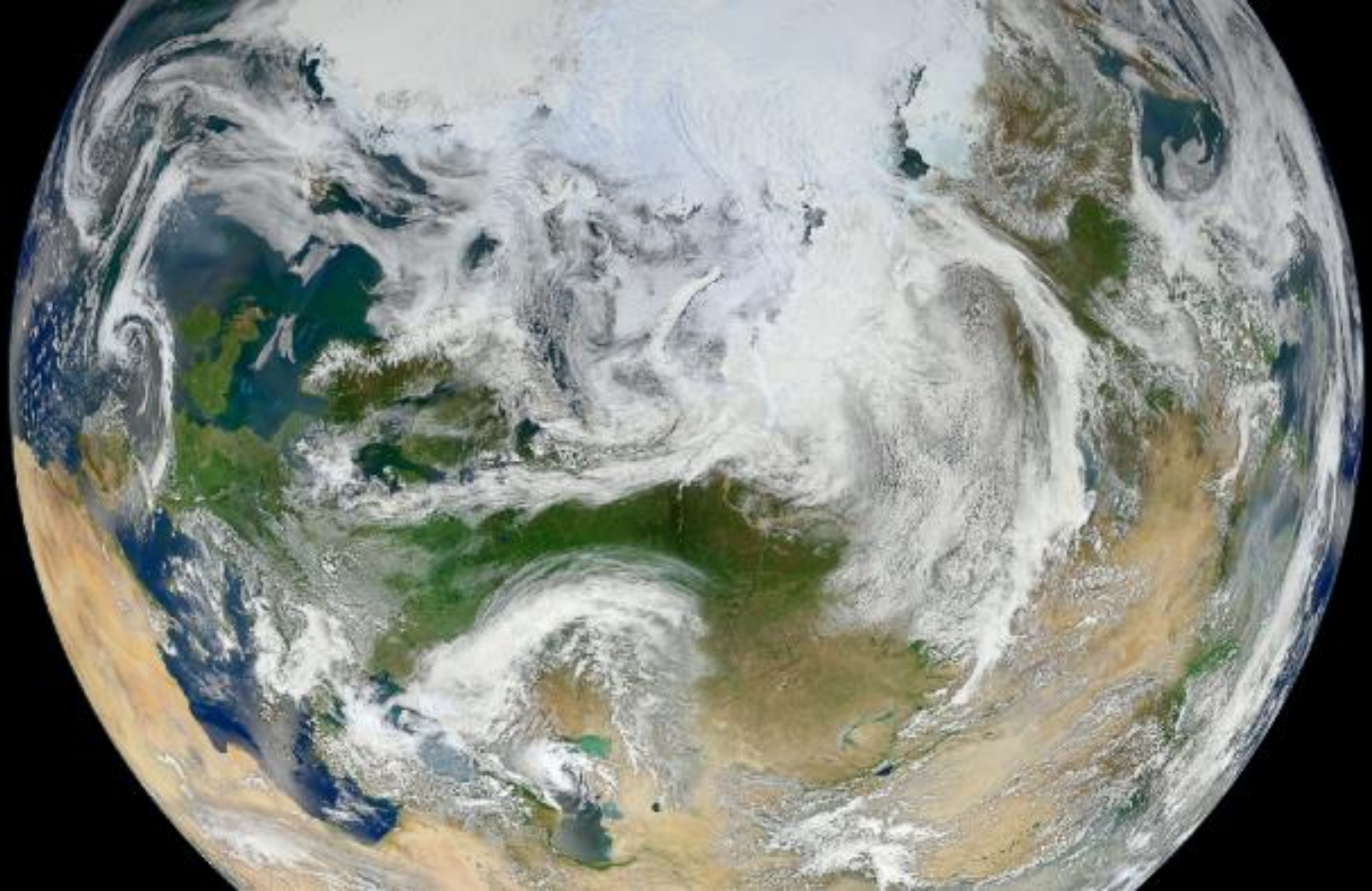
Canadian Stormwater Environmental Technology Verification (SETV) Project - June 2024



Author Bios - Presenter

Christy Graham is a Program Manager for the Sustainable Technologies Evaluation Program (STEP) at the Toronto and Region Conservation Authority.

As part of the STEP team, she has spent nearly 20 years carrying out research and creating tools to support implementation of stormwater management best practices.

For the last 5 years she has been involved with Environmental Technology Verification (ETV) as a Verification Expert and more recently has taken on the role of Chair of the Canadian Stormwater Environmental Technology Verification (SETV) Steering Group.

Author Bios

John Neate is a founder and Co-Managing Director of VerifiGloball with over 40 years' experience in technology environmental assessment and performance benchmarking in the areas of energy, water, infrastructure, innovation and capacity building.

John has led the preparation of numerous studies, reports and assessments on energy and environmental issues requiring objective analysis, leading to effective evidence-based decisions with positive outcomes and broad stakeholder acceptance.

John is a key contributor to international efforts aimed at encouraging mutual recognition and acceptance of technology performance testing and verification.