

# VERIFIGLOBAL NEWSLETTER



*Comprehensive performance verification  
with global market reach*

*Accurate, Reliable, Credible*

*Creating value through informed decisions  
and sustainable results*

## Promoting greater market awareness and acceptance of ISO 14034 ETV

While there is evidence of greater market potential for applying the environmental technology verification (ETV) process based on the ISO 14034: 2016 standard, uncertainty remains about the uptake and acceptance of ETV in various countries around the world.

In some cases, there has been a shift from top-down national ETV program delivery to a suite of more diverse, distributed delivery options incorporating the ISO 14034:2016 standard. In other cases, centralized delivery of ETV is continuing. In both cases, application of the ISO 14034 standard offers greater optimism for possible mutual recognition of verification results and increased potential for reciprocity of verification schemes.

## What's happening around the world?

In **North America**, environmental technology verification programs were established in the late 1990s. More recently, these programs were archived by their respective national governments. Broader application of the ISO 14034 ETV standard is now taking the place of the former US EPA and Canadian ETV programs.

In **Asia**, centralized delivery of ETV through national programs is continuing in selected countries, notably in Japan and South Korea.

In **Europe**, the establishment of ETV programs has evolved over the last decade drawing extensively on the North American ETV experience. Considerable investment has been made to facilitate centralized delivery of ETV both within selected European countries and through the current European ETV Pilot Programme, which was launched in 2011.

In **France**, ADEME (the French environmental and energy management agency) is responsible for implementing Environmental Technology Verification (ETV). Recognizing the significant challenges related

## MARCH 2018

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to market acceptance and use of ETV, ADEME has established a mentorship mechanism for small and medium sized enterprises (SMEs) to facilitate consideration of ETV at an early stage throughout the technology research, development and demonstration process. This helps SMEs understand and prepare for ETV before initiating formal verification, increasing the likelihood of generating high quality, verifiable technology performance data. It also contributes to the establishment of an ETV culture within the innovation community. The methodology is currently tested on three French SMEs. More information is available at:  
[http://www.verification-etv.fr/upload/Le\\_programme\\_ETV/Methodo\\_PME\\_vers\\_ETV\\_Synthese.pdf](http://www.verification-etv.fr/upload/Le_programme_ETV/Methodo_PME_vers_ETV_Synthese.pdf)

**What do these different delivery options have in common?** The short answer is a structured, quality-assured process for competent bodies to verify technology performance based on an internationally recognized standard, ISO 14034.

### What does VerifiGlobal offer?

VerifiGlobal provides a comprehensive international platform for conducting performance verification in accordance with ISO in a manner that facilitates mutual acceptance of data across multiple jurisdictions. Collectively, VerifiGlobal Alliance member organizations represent a critical mass of technology performance testing and verification capability committed to accelerating and advancing development, demonstration and deployment of innovative technologies, based on reliable, quality-assured information.

VerifiGlobal can assist clients by providing verification services through its existing platform, or through an augmented platform with expanded capabilities reflecting the principal technical areas of interest to clients targeting particular market segments. This can also include the creation of customized technology performance testing and verification platforms for specific end uses.

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### Development of a Technical Report (TR) to guide verifiers on how to apply ISO 14034

A meeting of the International Organization for Standardization ETV Working Group (ISO/TC207/SC4/WG5) took place in Edinburgh, Scotland, December 12-14, 2017. The meeting included 18 participants from 11 countries: Australia, Canada, Denmark, France, Japan, Malaysia, Poland, South Korea, Switzerland, USA and the UK. A representative of the European Commission also attended.

The primary focus of the meeting was the review, discussion and consolidation of inputs to the preparation of a technical report (TR) that is intended to accompany the ISO 14034: 2016 ETV standard, providing guidance to verifiers on how to apply the standard.

The proposed TR is intended to help verifiers use the ISO 14034 standard and augment information included in Annex C of the standard. Other interested parties may also benefit from further guidance on the application of ISO 14034.

Considerable progress was made leading up to and during the meeting, including:

- Discussion on the focus of the TR, its target audience, and inputs to the overall structure and content of the TR;
- Examination of linkages to other existing and proposed ISO standards, including those under the purview of other ISO working groups;
- Further discussion on the conformity requirements pertaining to ISO 14034;
- Communications, outreach and country strategies for ISO 14034 adoption and endorsement;
- Agreement on the schedule for completion of the TR and other required actions.

The working group will be meeting again in May 2018 to discuss the next draft of the TR, which will be then be circulated for comments, prior to finalization of the TR during the latter part of 2018.

**For more information, contact: Benoit Desforges, ISO-WG5 Convenor - Email: [benoit.desforges2@canada.ca](mailto:benoit.desforges2@canada.ca)**

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## Aligning public and private interests to address energy efficiency and climate change mitigation opportunities

VerifiGlobal is committed to working with its Alliance members to promote value-added services relating to ISO 14034 ETV, targeting environmental technologies with potential for major beneficial impacts and significant market penetration.

Innovative technology-based solutions for climate change mitigation, ranging from clean and renewable energy generation and storage, to methane capture and carbon dioxide utilization are rapidly emerging and would benefit from the services that VerifiGlobal and its Alliance members can provide applying the ISO 14034:2016 standard.

### Methane Capture

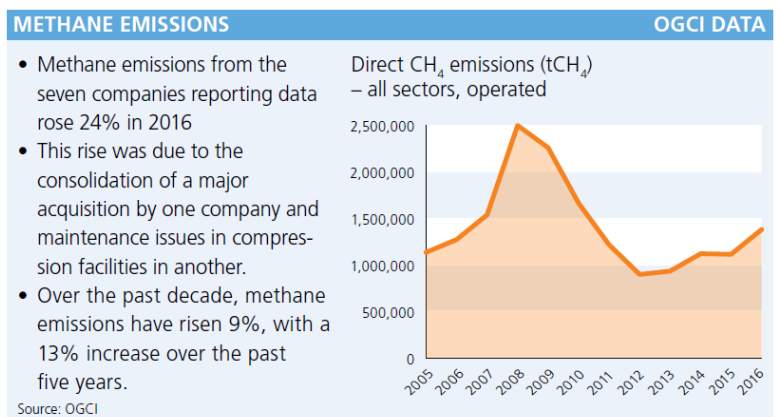
Methane, the second highest concentration greenhouse gas emitted into the atmosphere, contributes 30 percent of current net climate warming, according to Lawrence Livermore National Laboratory (LLNL). Methane's global warming potential (GWP) is about 21 times greater than that of CO<sub>2</sub>.

Concern over methane gas and its effects on climate has increased with the rapid expansion of unconventional oil and gas extraction and as ice cover in the Arctic continues to melt, threatening to release large amounts of the greenhouse gas trapped in decayed material. Methane is also produced and emitted by landfills, during wastewater treatment, in natural gas and petroleum systems, from agricultural activities (livestock and rice cultivation), and during coal mining.

Although some steep declines in methane emissions have been witnessed in the recent past, current trends are increasing again, with increased production. (See chart from the Oil and Gas Climate Initiative (OGCI) 2017 Annual Report

<http://oilandgasclimateinitiative.com/wp-content/uploads/2017/10/OGCI-2017-Report.pdf>.)

The focus on measuring and reducing methane emissions has been growing due to its high GWP, significant growth in oil and gas production, and the emergence of new production techniques with different emission profiles. In March 2016, the US and Canada agreed to cut methane emissions by over 40% from the oil and gas sector, with an emphasis on implementing innovative clean technology solutions. The US Department of Energy is also funding the development of novel methane monitoring technologies as well as technologies to capture and convert methane from stranded assets to transportable and useful products.



**There are two types of methane capture:**

- 1. Capturing and flaring methane.** Through combustion, methane gas is turned into less potent carbon dioxide and water - e.g., capturing and flaring landfill gas and coal mine gas.
- 2. Capturing and using methane to produce either hot water or electricity** - e.g., capturing and purifying methane in wastewater treatment plants or landfills for use in the production of electricity or other forms of energy.

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### Energy efficiency and climate change mitigation opportunities

Internationally, the Global Methane Initiative (GMI) was established as a voluntary, multilateral partnership to reduce global methane emissions and to advance the abatement, recovery and use of methane as a valuable clean energy source. In addition, the Oil & Gas Climate Initiative is partnering with UNEP and the Environmental Defense Fund (EDF) to complete a global methane emissions study focused on accurate measurement of emissions and emerging technologies and practices for emissions mitigation.

Key to all of these actions is the role of innovative technology for both monitoring and measuring methane emissions as well as to capture, recover, and use methane either in the natural gas pipeline and infrastructure or in other ways.

With the surge in interest, VerifiGlobal Alliance members will be looking to establish relationships with the various entities targeting innovative technologies to reduce methane emissions. With a broad and rapidly growing number of technology providers, implementation of a rigorous, independent technology assessment program is warranted. Southern Research (SR) is targeting partnerships in early 2018, including two Canadian oil and gas industry associations, and those mentioned above (GMI, OGCI) to work toward integration of technology verification activities, including ISO 14034, in their programs.

### Carbon Dioxide Utilization

The goal of carbon dioxide utilization is to convert CO<sub>2</sub> into end products that in turn are emissions neutral or emissions negative. From fuels to materials, chemicals, plastics, agriculture and food, captured CO<sub>2</sub> can be used to make many products. As global agreements target greenhouse gas emissions mitigation, efforts to address CO<sub>2</sub> utilization are growing rapidly.



SR staff observing production of a CO<sub>2</sub> infused concrete masonry block for XPrize.

Recent Advances in CO<sub>2</sub> utilization include:

- Development of catalysts that enable new technology pathways and make conversion processes more efficient
- Use of renewable energy sources (solar or wind energy) to power CO<sub>2</sub> conversion
- Advances in mineralization technologies to produce building materials and other products.
- Advances in photocatalytic reduction of CO<sub>2</sub>, which uses light directly in conversion
- Advances in biologic conversion of CO<sub>2</sub> into useful products, using organisms such as algae.

The increased concentration on CO<sub>2</sub> utilization has been significant, with major initiatives over the last two years:

- The Global CO<sub>2</sub> Initiative was established in 2016 in an effort to develop both the market for CO<sub>2</sub> and technologies to utilize CO<sub>2</sub>.
- The NRG COSIA Carbon XPrize was established in 2016, with 22 teams competing in Round 2 of the competition in 2017, and heading toward a final \$7.5M prize winner in 2020.

In addition, nationally funded projects for CO<sub>2</sub> utilization technology are rolling out in significant amounts (>\$10 M in US DOE, >\$5M in Germany).



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### Energy efficiency and climate change mitigation opportunities

New studies are showing that carbon capture and use can reduce global CO<sub>2</sub> emissions by 10% by 2030 and stimulate a \$1 trillion annual market for at least 25 CO<sub>2</sub> based products. This means growing potential for the development of many CO<sub>2</sub> utilization technologies.

VerifiGlobal Alliance member Southern Research served as the Measurement and Verification contractor for the NRG COSIA Carbon XPrize in 2017, focusing on independently verifying the performance of the 22 technologies competing in Round 2 of the competition. SR engineers and scientists travelled the globe, spending up to 5 days at each location, witnessing the operation of each team's pilot technology, observing data collection, and confirming performance of each system. Round 3 of the competition will include up to 10 teams, for which technology verification will also be completed, and could potentially include aspects of the ISO 14034 verification process.

Contact VerifiGlobal to find out how ISO 14034 and Southern Research and other VerifiGlobal Alliance members are supporting performance verification and market acceptance of energy efficiency.

For more information on Southern Research contact: Tim A. Hansen, P.E., Director, Clean Technology Energy & Environment Division, Southern Research, Durham, North Carolina 27712 USA  
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Observation of a compressive strength test of novel concrete replacement



## VerifiGlobal Alliance Members



Solving the world's hardest problems.





## Institute for Ecology of Industrial Areas Joins the VerifiGlobal Alliance

The Institute for Ecology of Industrial Areas (IETU) is a research institute that operates as an independent organization under the Polish Ministry of the Environment. IETU carries out research and development projects as well as provides technical services for local and state authorities, regulators and businesses focused on environmental challenges posed by industrialized and urbanized areas in the context of the circular economy, resource efficiency, adaptation to climate change and mitigation of its effects.

IETU is an experienced partner in international collaborations with an extensive portfolio of over 50 multinational research, development and innovation projects implemented under the flagship of the European Union.

Being involved from the very beginning in the development and implementation of the ETV Programme at the EU and national levels, in 2016 IETU established within its structures an Environmental Technologies Verification Body. The Body received accreditation from the Polish Centre for Accreditation for compliance to PN-EN ISO/IEC 17020 for inspection body type A (Certificate No AK026) to perform verifications under the EU ETV Programme in the technical scope of water treatment and monitoring technologies including:

- Monitoring of water quality for microbial and chemical contaminants,
- Treatment of drinking water for microbial and chemical contaminants,
- Treatment of wastewater for microbial and chemical contaminants,
- Treatment of industrial water.



IETU expertise covers the following themes:

**Waste and resource management** with focus on optimization of processes in municipal waste management towards increasing the recovery of raw materials and energy as well as reduction of environmental impact of products and waste generation using LCA tools and carbon footprint;

**Transformations of urbanized environment** including methods and tools for urbanized environment management in the context of adaptation to climate change;

**Diagnosing the condition and forecasting quality changes of the environment** including methods and tools for identification, characterization and forecasting of pollutant transformations and priority substances in the environment, based on monitoring, modeling, dedicated IT applications and health risk assessment;

**Environmental remediation** with special focus on phytoremediation driven energy crop production;

**Environmental microbiology** including studies on microorganisms with unique biotechnological properties, use of microorganisms in biological treatment technologies (i.e., water, wastewater, soil), and application of microbiological techniques in various segments of the bio-industry.

**For more information contact:**

**ETV Body IETU**

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## Korea Testing Laboratory Joins the VerifiGlobal

For over 40 years, Korea Testing Laboratory (KTL) has provided technical support to industry as a comprehensive testing organization affiliated with the Korean Ministry of Trade, Industry, and Energy. KTL tests and evaluates technologies, products and facilities to enhance their quality, safety, and reliability. KTL also provides performance testing information to exporters and helps companies obtain the necessary international certifications to strengthen their global competitiveness.

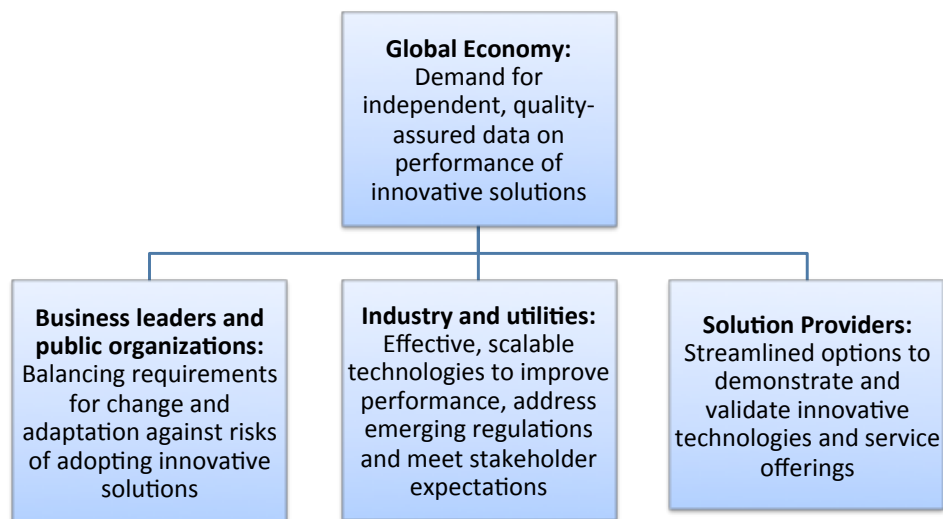
As a specialized institute for environmental measurement and analysis, KTL's Environmental Division measures and analyzes environmental pollutants and evaluates the environmental performance of technologies, products and facilities. Areas of expertise include: air pollution control, indoor air quality, water and wastewater treatment, contaminated soil remediation, waste management and automotive emissions.

With its accumulated knowledge, testing equipment and expertise, KTL plays a key role as a designated testing, inspection, and certification agency. KTL tests and evaluates the performance of environmental measurement and monitoring technologies and instrumentation, and develops standard tests and reference materials. KTL also conducts eco-certification testing for building and construction materials (e.g., flooring, wallpaper, paint, adhesives), custom-built furniture, office equipment (e.g., copiers, printers), air purification technologies, and automotive products (e.g., interior materials). KTL is also responsible for measuring and verifying greenhouse gas emissions.

In addition, KTL serves as Korea's representative accreditation authority and is committed to cooperating and exchanging information with other advanced testing laboratories internationally.

**For more information contact: Won Gee Kim, Environmental Technology Division, Korea Testing Laboratory, Seoul Korea - Tel: +82 2 860 1684 - Email: [tamtam7@ktl.re.kr](mailto:tamtam7@ktl.re.kr) - Web: <http://www.ktl.re.kr>**

## Technology Performance Verification - Market Drivers



## U.S. EPA Advanced Septic System Nitrogen Sensor Challenge - UPDATE

### US EPA Advanced Septic System Nitrogen Sensor Challenge Entering Screening Test Stage

The goal of the US EPA Advanced Septic System Nitrogen Sensor Challenge is to identify, test, and verify the performance of low-cost nitrogen sensor packages that can continuously monitor the performance of advanced nitrogen removal septic systems. The intent is to provide a practical measurement system that would optimize septic system performance and lead to increased acceptance and utilization of advanced and innovative nitrogen reducing septic systems.

The US EPA Advanced Septic Systems Nitrogen Sensors Challenge is now gearing up for the sensor prototype screening test stage. The Test Quality Assurance Plan (T/QAP) document has been completed and is posted on the VerifiGlobal website at:

[http://verifiglobal.com/~media/Files/Verifiglobal/Septic-Sensor-webinar/TD-1-06-Advanced-Septic-System-Nitrogen-Sensor-Challenge\\_final.ashx](http://verifiglobal.com/~media/Files/Verifiglobal/Septic-Sensor-webinar/TD-1-06-Advanced-Septic-System-Nitrogen-Sensor-Challenge_final.ashx).

The T/QAP is based on screening and field performance testing goals for sensor prototype packages and possible future verification of the field test data for each of the sensors in accordance with the International Organization for Standardization ISO 14034 Environmental Technology Verification (ETV) standard.

Sensor prototypes will be tested at the Massachusetts Alternative Septic System Test Center (MASSTC) in accordance with the T/QAP and the requirements of ISO 14034. The quality management and general test requirements referenced in the ISO 14034 standard are those requirements of ISO/IEC 17025 (General requirements for the competence of testing and calibration laboratories) that are considered relevant for the tests to be performed. Therefore MASSTC will ensure that all sampling and analytical testing is performed in a manner that meets the requirements of ISO/IEC 17025.

ISO 14034 provides independent verification of the performance of new innovative environmental technologies that have the potential to improve protection of human health and the environment. The new standard features sections on verification principles, accepted testing practices, and reporting requirements to help create a level playing field for technology developers and encourage greater market acceptance of innovative technologies. The standard helps build developer credibility and buyer confidence by providing the marketplace with the assurance that environmental performance claims are valid, credible and supported by high-quality, independent test data.



**For more information contact:**

**Corey Wisneski, BATTELLE**

**Phone: +1.781.681.5515**

**Email: [sensorchallenge@battelle.org](mailto:sensorchallenge@battelle.org)**



Massachusetts Alternative Septic System Test Center (MASSTC) is operated by the Barnstable County Department of Health and Environment. MASSTC conducts testing on products that remove contaminants contained in domestic wastewater. The MASSTC facility can accommodate over 20 concurrent tests, allowing companies to conduct research and development on their products, as well as testing using a variety of standardized test protocols.

**For more information about MASSTC, contact: George Heufelder, Director, MASSTC**  
**Phone: +1.508.375.6616 - Email: [gheufelder@barnstablecounty.org](mailto:gheufelder@barnstablecounty.org)**





*Opportunity for collaboration:*

## US Interstate Technology Regulatory Council (ITRC)

The Interstate Technology and Regulatory Council (ITRC) is a public-private coalition working to reduce barriers to the use of innovative air, water, waste, and remediation environmental technologies and processes. ITRC produces documents and conducts training that broaden and deepen technical knowledge and expedite quality regulatory decision making while protecting human health and the environment. With public and private sector members from all 50 states and the District of Columbia, ITRC provides a national perspective on pressing issues.

ITRC achieves its mission through its Teams, which are composed of environmental professionals, including state and federal environmental regulators, federal agency representatives, industry experts, community stakeholders, and academia. ITRC Teams develop guidance documents and training courses. These products help state environmental agencies and others gain valuable technical knowledge and develop consistent regulatory approaches for reviewing and approving specific technologies.

ITRC Teams are led by state environmental agency staff. Currently active ITRC Teams include:

- Evaluation of Innovative Methane Detection Technologies (which ties directly to the methane initiatives highlighted on pages 3-4 of this newsletter, "Aligning public and private interests to address energy efficiency and climate change mitigation opportunities")
- Implementing Advanced Site Characterization Tools
- Light non-aqueous phase liquids (LNAPL) Update
- Optimizing In Situ Remediation Performance & Injection Strategies
- Per- and polyfluoroalkyl substances (PFAS)
- Quality Considerations for Multiple Aspects of Munitions Response Sites
- Stormwater BMP Performance Evaluation
- TPH Risk Evaluation at Petroleum-Contaminated Sites.

**For information, please contact:**

**Patricia Reyes at [preyes@ecos.org](mailto:preyes@ecos.org) or (202) 266-4933.**



*Opportunity for collaboration:*

## Canada's Innovation Park – Part of the BRE Innovation Parks Network

The Toronto and Region Conservation Authority (TRCA) has partnered with the Building Research Establishment (BRE) to develop an Innovation Park at the Kortright Centre in the City of Vaughan, Ontario, Canada.

Known as Canada's Innovation Park, part of the BRE Innovation Parks Network, its goal is to accelerate the commercialization and adoption of green building designs, products and services into the Canadian building and construction sector.

Canada's Innovation Park will serve as a test centre for the construction industry to demonstrate solutions to achieve low carbon and sustainable communities. With the addition of

seven new innovative living laboratories, Innovation Park will form a community of living laboratories consisting of eight, fully serviced demonstration buildings and a smart energy grid. The labs will consist of single-family homes, small-scale multi-unit residential buildings, and a small-scale commercial building. Innovation Park will provide academic, industry and government stakeholders with a unique research and demonstration ecosystem and collaborative work environment to advance low carbon and sustainable building technologies and processes.

**For information please contact:**

**Glenn MacMillan, at [gmacmillan@trca.on.ca](mailto:gmacmillan@trca.on.ca)  
Web: [www.sustainabletechnologies.ca](http://www.sustainabletechnologies.ca)**

## Forthcoming events and key initiatives

### ARPA-E

**(March 13-15, 2018 - Washington DC, USA)**

The U.S. Department of Energy's (DOE) Advanced Research Projects Agency-Energy (ARPA-E) will host its ninth annual Energy Innovation Summit from March 13-15, 2018. The Summit draws thousands of participants from across the United States and internationally to explore the future of energy innovation. The Summit encourages leaders from industry, government, and academia to build partnerships that shape the direction of public-private cooperation in energy technology.

The Summit will include the Technology Showcase, which features more than 275 innovative technologies from across all energy sectors, including prototypes and commercial-ready products—many on public display for the first time. In addition, it will also feature panel discussions and main stage addresses from leading experts on a range of technology issues affecting energy innovation.

Tim Hansen of Southern Research will be attending ARPA-E and would be pleased to connect with you to discuss technology verification and implementation of ISO 14034.

**For more information about ARPA-E, go to:**  
<http://www.arpae-summit.com>



**To connect with Southern Research contact:**  
**Tim A. Hansen at [thansen@southernresearch.org](mailto:thansen@southernresearch.org)**



Solving the world's  
hardest problems.



### GLOBE 2018

**(March 13-15, 2018 - Vancouver, British Columbia, Canada)**



The GLOBE Series provides the platforms that lead to solutions for a low-carbon economy. GLOBE events bring together a mix of the brightest minds and innovative thought leaders in sustainability and business – serving as a catalyst for aligning environmental responsibility with profitable business practices.

Representatives from dozens of countries gather for GLOBE Series events, where they get unparalleled networking opportunities, participate in solving critical industry challenges, and hear the latest developments around climate change, global mega trends, clean technology, smart cities, business leadership, new financing mechanisms, and more.

VerifiGlobal will be attending this event and would be pleased to connect with you to discuss technology verification and implementation of ISO 14034.

**For information about GLOBE 2018, go to:**  
<https://www.globeseries.com/forum/>

**To connect with VerifiGlobal contact: John Neate at [jhneate@verifiglobal.com](mailto:jhneate@verifiglobal.com)**



## Forthcoming events and key initiatives

### Environmental Council of States (ECOS) 2018 Spring Meeting (March 20-22, 2018 – St. Paul, Minnesota, USA)

The Environmental Council of States (ECOS) Spring Meeting, “Getting to Results”, will spotlight efforts and initiatives to:

- Accelerate and enhance land cleanups;
- Promote cross-agency partnerships;
- Ensure a secure and sustainable energy future;
- Encourage sustainable materials management;
- Achieve tangible results through Cooperative Federalism 2.0;
- Improve the effectiveness of permitting systems through E-Enterprise;
- Tackle per- and polyfluoroalkyl substances (PFAS); and
- Effectively communicate progress to the public.

Also planned are keynotes by the Governor of Minnesota and an expert on building for future agency success, as well as a session on the US Clean Water Act.



For more information about the ECOS 2018 Spring Meeting, go to:  
<https://www.ecos.org/event/2018-ecos-spring-meeting/>



### TRIECA Stormwater and Erosion Control Conference (March 21-22, 2018 - Brampton, Ontario, Canada)

## TRIECA | CONFERENCE

Toronto and Region Conservation (TRCA) and the Canadian Chapter of the International Erosion Control Association (IECA) are hosting the annual TRIECA Conference, March 21-22, 2018, at the Pearson Convention Center in Brampton, Ontario, Canada

TRIECA is Canada's premier stormwater and erosion and sediment control conference, bringing together leading experts, influencers and research partners. Together, these participants are shaping the future direction of the stormwater, erosion and sediment control and natural channel design industries. The conference format includes two full days of concurrent sessions with speakers from across North America presenting the latest technological innovations, case study findings and academic research.

TRIECA also features an industry tradeshow, offering delegates the opportunity to speak directly with representatives from a wide variety of leading solutions providers.

Participation at the TRIECA conference offers a unique opportunity to increase your organization's visibility and reach key market segments.

**For information contact:**  
**Glenn MacMillan**  
**Sustainable Technologies Evaluation Program**  
**Toronto and Region Conservation Authority**  
**Vaughan, Ontario, Canada**  
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**Web: [www.sustainabletechnologies.ca](http://www.sustainabletechnologies.ca)**

## Forthcoming events and key initiatives

**Sarnia Lambton Water Symposium 2018**  
(April 12th, 2018 - Sarnia, Ontario, Canada)

### Sarnia-Lambton Water Symposium



The Sarnia-Lambton Water Symposium 2018 is the 4th annual event hosted by Lambton College Applied Research and Innovation, the Lambton Water Centre, the Western Sarnia-Lambton Research Park and the Sarnia Lambton Economic Partnership (SLEP).

The Symposium showcases new and emerging trends, research and technologies in the water and wastewater industry. Symposium participants benefit from expert presentations and networking with representatives of government agencies, funding organizations, academia, technology development companies, and leading researchers in this sector.

Greg Williams of Good Harbour Laboratories (GHL), a VerifiGlobal Alliance member organization, will be attending the Symposium to give a presentation on the ISO 14034 environmental technology verification (ETV) standard. The presentation will address the transition to market driven technology verification and how companies can get their environmental technologies verified.

**For more information about the Sarnia-Lambton Water Symposium, contact the Lambton Water Centre at: [LWC@lambtoncollege.ca](mailto:LWC@lambtoncollege.ca)**

**To connect with Good Harbour Laboratories contact: Greg Williams at [GWilliams@goodharbourlabs.com](mailto:GWilliams@goodharbourlabs.com)**



**Interstate Technology Regulatory Council (ITRC) Annual Meeting**  
(April 16-18, Garden Grove, California, USA)



The ITRC 2018 Annual Meeting, Shaping Our Environmental Future, will be held April 16-18, 2018 at the Wyndham Anaheim Garden Grove in Garden Grove, California. The theme of the meeting focuses on looking ahead in the face of challenges, and moving forward by leading the way for innovative environmental solutions. Agenda highlights include working meetings for all technical teams, a “meet-and-greet” for new and non-members interested in learning more about ITRC, and a plenary luncheon and award ceremony.

**To register for the meeting online or access additional information, including the preliminary agenda, visit:**  
<https://www.itrcweb.org/Meetings/Upcoming>.

**For information, please contact:**  
Patricia Reyes at [preyes@ecos.org](mailto:preyes@ecos.org) or (202) 266-4933.



## Forthcoming events and key initiatives

**National Forum of Eco-Enterprises  
(March 29, 2018 - Paris 12e FRANCE)**



PEXE, the French association for the development of eco-companies in France, and ADEME, the French environmental agency are organizing the 9th National Forum of eco-companies on March 29, 2018 at the Centre Pierre Mendès-France, Ministère des Finances à Bercy, Paris 12e. The Forum is aimed at innovative eco-SMEs, government agencies and manufacturers seeking to promote and apply sustainable environmental solutions. The Forum program includes several events held in parallel throughout the day examining trends and market opportunities for eco-industries, as well as an Innovative Eco-enterprise competition.

Rescoll, a VerifiGlobal Alliance member organization will be participating in the 2018 PEXE Forum and will be presenting an ETV verification statement to Fluidion, an innovative high-technology company that provides autonomous in-situ sampling and measurement solutions for environmental monitoring and water quality applications.

**For more information on 9th National Forum of eco-companies, please contact:**  
**Sandrine LACOMBE, Ingénieur**  
**Service Entreprises et Ecotechnologie (SEET)**  
Email: [sandrine.lacombe@ademe.fr](mailto:sandrine.lacombe@ademe.fr)  
or  
**Pierre KERDONCUFF, Animateur de secteur**  
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**ADEME**



**Battelle 2018 Conference on Remediation of Chlorinated and Recalcitrant Compounds  
(April 8-12, 2018 - Palm Springs, California, USA)**

The Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds will be held April 8-12, 2018, at the Palm Springs Convention Center in Palm Springs, California. Battelle's Chlorinated Conference is one of the world's largest and most comprehensive meetings on the application of innovative technologies and approaches for characterization, monitoring and management of chlorinated and complex sites.

The Conference features a Panel Session on Wednesday April 11<sup>th</sup>, "Technology Evaluation: Challenges and Solutions", which will examine various options for evaluating the performance of innovative technologies, and the need to develop clear metrics and lines of evidence for remedy success. Best practices from the environmental restoration field will be shared. The panel will also discuss the role of the ISO 14034:2016 international standard, which specifies the requirements for Environmental Technology Verification, with the ultimate goal of accelerating the acceptance, approval and market deployment of innovative technologies and solutions.

Amy Dindal of Battelle will moderate the session. Panelists include: Jim Cummings (U.S. EPA), John Neate (VerifiGlobal), Richard Stewart (Ziltek), and Hans Stroo (Stroo Consulting)

**For more information about the conference contact:**  
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**BATTELLE**

## Forthcoming events and key initiatives

### Environmental Technology Verification (ETV) Webinar: Understanding and interpreting the results of the new Oil Grit Separator Verifications

(April 19, 2018 - 12:00 - 1:00 pm)

Instructor: Tim Van Seters



This webinar will provide an update on testing results of oil grit separators (OGS) that have been verified through the former Canadian ETV program and discuss how these verifications can and are being used by municipalities and other agencies as part of their approval processes.

In particular, the webinar will review some of the decision support tools being used by municipalities and provinces to ensure consistent sizing of OGS and efficient review of submissions.

Please register at:

<https://sustainabletechnologies.ca/events/canadian-etv-program-understanding-interpreting-results-new-oil-grit-separator-verifications/>

For information contact:

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Toronto and Region Conservation Authority  
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Web: [www.sustainabletechnologies.ca](http://www.sustainabletechnologies.ca)



### TechConnect World Innovation Conference and Expo (May 13-16, Anaheim, California, USA)



The TechConnect World Innovation Conference is an annual event uniquely designed to accelerate the commercialization of innovations out of the lab and into industry. The Technical Program spotlights applications focused innovations, materials and devices emerging from industrial, government and academic laboratories worldwide. The Innovation Partnering Program gathers market-ready, commercially-viable innovations into the largest global technology accelerator program.

Early-stage companies are reviewed and selected by the board of corporate and investment partners. Technical submissions are reviewed and selected by the symposium chairs and program review committee.

The 2018 TechConnect World Innovation event also serves as a national small business innovation research (SBIR) conference, with hundreds of small businesses, mainly technology developers, attending.

Tim Hansen of Southern Research will be attending TechConnect and would be pleased to connect with you to discuss technology verification and implementation of ISO 14034.

For more information about TechConnect, go to:  
<https://www.techconnectworld.com/World2018>

To connect with Southern Research contact:

Tim A. Hansen at [thansen@southernresearch.org](mailto:thansen@southernresearch.org)



Solving the world's  
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## VerifiGlobal Alliance General Assembly Meeting (May 2018)

The main objective of the VerifiGlobal Alliance is to enhance and promote the role of independent environmental performance verifications worldwide and to develop mutual confidence in the verifications made by its members. Members help facilitate the transfer of national technologies to the global marketplace through the performance verification services they provide. This is accomplished by:

- Exchanging information, advice, and experience on the scope and procedures used in verification procedures in various countries
- Establishing a common understanding of the verification procedures and requirements in members' countries to minimize duplication of effort
- Establishing guidelines for mutual exchange of protocols
- Where possible, achieving mutual recognition of test data, inspection schemes and verification procedures
- Producing harmonized verification procedures where possible.

The VerifiGlobal Alliance General Assembly is composed of all members. The General Assembly meets at least once every year. If decisions have to be taken by voting, the following is applicable:

- Changes in the statutes require 2/3 of positive votes of all membership
- Designation of the Advisory Council requires a simple majority of a quorum comprising 2/3 of members present or represented
- All other decisions require a simple majority of those present at the meeting, including proxies.

The Advisory Council, acting on behalf of the General Assembly, manages the administrative activities of the VerifiGlobal Alliance and makes recommendations to the General Assembly for membership nominations. The Advisory Council is appointed from the membership of the VerifiGlobal Alliance by the members of the General Assembly for a period of two years.

**For more information please contact VerifiGlobal**

### VerifiGlobal Alliance Members

Battelle, USA

Centre for Advancement of Water and Wastewater Treatment, Canada

ETA-Danmark, Denmark

Good Harbour Laboratories, Canada

Institute for Ecology of Industrial Areas, Poland

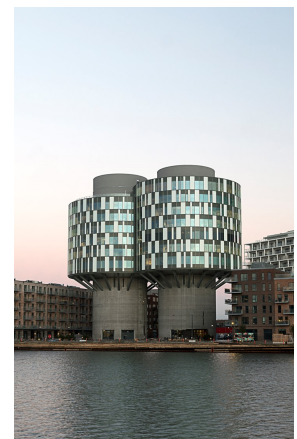
Korea Testing Laboratory, South Korea

RESCOLL, France

Southern Research, USA

TRCA Sustainable Technologies Evaluation, Canada

VTT Expert Services Ltd., Finland



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