VerifiGlobal Newsletter

Independent verification of technology performance provides valuable information to reduce the risk of adopting innovative technologies, allowing the right decisions to be made based on quality-assured data. Verification provides evidence that the technology has reached maturity at a demonstrated scale with a high level of confidence that repeatable performance results will be achieved under specified operating conditions. Verified technologies can more easily be compared with other representative technologies and are more likely to be viable candidates for further development and investment.



ISO 14034 Environmental Technology Verification (ETV) provides a path for technology performance assessments where sustainability and innovation are inextricably linked.

Use of ISO 14034 increases confidence that environmental technology performance claims are true and supported by high quality, independent data.

Advancing and deploying innovative, sustainable solutions

to protect and enhance environmental quality and the regenerative capacity of natural ecosystems requires effective dialogue and new ways of thinking to raise awareness about economic, social and environmental resiliency. Important elements for success include:

Engagement and participation of companies, industry associations, government agencies and other stakeholders in identifying technology needs and the associated data required to reliably inform and continuously improve decisions;

Cooperation with committed public and private organizations that have practical experience in using, implementing and financing new innovations;

Recognition and acceptance of technology performance verification within key economic sectors as a means of reducing risk associated with the adoption of new technologies to meet environmental and sustainability targets. Directed transformations are required to encourage public and private investments in effective, innovative technologies that achieve the timebound, sustainability goals.

These directed transformations require careful design and policy coherence to ensure technical feasibility, efficient investment, and buyin from all parts of society.



1. New VerifiGlobal Forum:

Thinking differently about stakeholder engagement

The VerifiGlobal Forum has been established to facilitate engagement with organizations interested in innovative technologies and the benefits that VerifiGlobal and its Alliance members provide.

Forum participation is geared towards cooperative and supportive organizations that recognize the importance of innovative technology solutions to address global challenges and the value-added role of independent quality-assured technology performance testing and verification. This includes a range of different organizations, such as industry associations, government agencies, corporations, impact investors, NGOs, procurement bodies, technology incubators and accelerators, financial sponsors, philanthropic organizations, and others.



Encouraging companies, industry associations, government agencies and other stakeholders to identify their technology needs, interests and associated data requirements that can be supported by independent verification.

Promoting market acceptance of technology performance verification within key sectors as a means of reducing risk associated with the adoption of new technologies that meet environmental and sustainability targets.

Facilitating market penetration of verified environmental technologies through direct access to potential customers, policymakers and supportive organizations that recognize the value of independent quality-assured technology performance testing and verification.



Contact us about joining the Forum: http://verifiglobal.com



December 2019 Newsletter Topics:

- 1. New VerifiGlobal Forum
- 2. '350Solutions' Joins VG Alliance
- 3. Value of Verification
- 4. Technology Readiness and ISO 14034
- 5. Nitrogen Sensor Challenge Update
- 6. Downstream Defender Verification
- 7. WWT Innovation Summit 2020
- 8. UN Climate Technology Update

Leading organizations are increasingly demanding independent, quality-assured data on the performance of technologies, processes and products.

The VerifiGlobal Forum is an effective platform for: Public and private organizations with sustainability or GHG reduction targets; Associations and agencies supporting industry in selecting new technologies to achieve environmental goals; Policy-makers, program managers and investors interested in potential solutions to achieve or monitor pollutant reductions.

VerifiGlobal is committed to ensuring that these "demand-side" clients have access to high quality performance information to effectively guide their decisions.



2. '350Solutions' Joins the VerifiGlobal Alliance

'350Solutions', a clean technology evaluation and engineering firm based in Raleigh, North Carolina, is now part of the VerifiGlobal Alliance and is well positioned to support the development of innovative technologies and approaches to address climate change and other environmental issues on a global scale.

The 350Solutions team has more than 73 years of combined experience in independently verifying clean technologies and working with clean technology companies, investors, and users to successfully verify, analyze, improve, and deploy developing environmental and climate conscious technologies.



350Solutions is accredited by the American National Standards Institute (ANSI) ASQ National Accreditation Board (ANAB) under ISO 17020 to independently verify the performance and impact of environmental technologies in accordance with the ISO 14034 Environmental Technology Verification (ETV) standard.

In addition to technology performance evaluation and verification, 350Solutions analyzes clean technology through feasibility studies, techno-economic evaluations, and lifecycle carbon emissions assessments. 350Solutions also provides technology development support and field demonstration management. In the end, clients working with 350Solutions will have the information and data needed to help decision-makers determine the overall impact of clean technology innovations and related investments, policies, and programs.

Areas of Expertise:

- Low carbon technologies
- Renewable energy
- Energy storage
- Distributed generation
- Building energy technologies
- Climate change and methane mitigation
- CO2 capture and utilization
- Chemical process technologies
- Waste recovery technologies

For more information, contact: *Tim A. Hansen, 350Solutions, Inc., Raleigh, NC 27604 info@350Solutions.com www.350Solutions.com*



3. The Value of Verification: How independent verification is being used to support a major prize competition

[Note: This is an excerpt from a paper, "Pilot Scale Demonstration & Independent Verification of Carbon Utilization Technologies for the NRG COSIA Carbon XPRIZE" (Hansen, Woolcock, Leitch, Extavour, McCabe), presented during the 2019 TechConnect conference. To read the report in full, including a full explanation of the evaluation criteria, see: https://briefs.techconnect.org/wp-content/volumes/TCB2019/pdf/367.pdf]

The \$20 million NRG COSIA Carbon XPRIZE is a global competition to develop breakthrough technologies that will convert CO₂ emissions from power plants and industrial facilities into valuable products like building materials, alternative fuels and other items that we use every day.

Primary results from the pilot scale demonstration phase of the Carbon XPRIZE competition indicate a wide range of performance characteristics for the technologies demonstrated. Summary carbon conversion values for each of the 16 with field-verified results are provided in Figure 1.



The verified total carbon conversion capacity (capture and conversion) for the competing technologies ranged from 1% to 93%, with the top three performers above 80% overall conversion to products and 50% of the teams achieving a verified conversion greater than the 30% competition requirement.

Figure 1: Submitted and verified results comparison

Initially, based on submitted data, it appeared that many of the technologies converted a large portion of the flue gas CO₂. However, based on independent verification of the demonstration results, it was confirmed that only some technologies achieved actual claimed or higher conversion during an on-site observation period.

In addition to carbon conversion, results for other key criteria are summarized in Table 1.

As expected with a spectrum of innovations at various stages of development, some technologies were ready for operation at the required scale, performing above target requirements and meeting required competition criteria. However, other technologies could not perform at required levels of CO₂ conversions, or did not meet screening criteria, such as water usage. It should also be noted that some technologies could not achieve the scale of operation and could not provide valid data for the required 24 hour operating period.

Range of Verified Performance for Teams					
Parameter	High	Low	Mean (*Median)		
CO ₂ capture from flue gas (%)	95.9%	77.0%	86.4%		
CO ₂ conv. (%)	100.0%	0.1%	53.4%		
CO ₂ in product (kgCO ₂ /kgProduct)	2.042	0.001	0.663		
Water use (L/tCO ₂)	128000	4.55	1948*		
Land Use (m²)	1932	24	480		
Scale (Kg/d)	621143	0.0035	200*		

Table 1.	Range of	Verified	Performance	for Teams
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Value of Verification -

Figure 2 provides examples of two different technologies which were verified through field observation.



Figure 2: Comparison of submitted and verified data for two teams for all verification parameters

In terms of verified technology performance, the percentage of technologies that met their claimed performance values within +/- 5% was generally less than 20% (with the exception of system input, for which over 30% of teams performed as claimed). The percentage of teams within 30% of their submitted values for key performance criteria increases to over 50% for system input scale, and >32% for conversion and market value.

It should be noted that 50% of teams exhibited greater than 30% difference from their submitted conversion efficiency values - a key performance criteria. Also, a significant number of teams either did not submit or could not have verified market value, net value, or water use (>44%).

It is important to acknowledge that a poor verification result does not necessarily discount the merit of the innovation. Poor verification simply demonstrates that the current implementation does not provide sufficient certainty to warrant further scale-up at the time of verification. More development, data, or attention to detail is required to show improved confidence and reduced risk.

On the other hand, a successful verification provides a level of assuredness that repeatable results can be expected from the technology, that the technology has reached maturity at the demonstrated scale, and that proper operation, testing, and quality assurance methods are utilized. Verified technologies can therefore be more easily compared directly with other verified technologies and are more likely to be considered favorable candidates for further development and potential investment. This support the rationale for using independent technology performance verification in this competition, as well as in evaluating innovative technologies in general.

A staged approach to development and evaluation is also important to ensure appropriate technology maturity at each stage before pursuing further development.

Next steps in the NRG COSIA Carbon XPRIZE -

Ten teams have been selected by independent judges based on data generated following the principles of ISO 14034 ETV assessment. These teams are currently scaling up their processes for the next round verification, which will be completed early 2020, culminating in a top prize purse of \$7.5M for the two top teams.

For more information, contact - Tim A. Hansen at 350Solutions - E: info@350Solutions.com

4. Technology Readiness and ISO 14034

Defining technology readiness levels (TRLs) through a technology readiness assessment is a way of estimating technology maturity in the context of user needs, technology requirements and demonstrated technology capabilities.

Defining the TRL of a technology provides a common understanding of status of the technology, which can inform decisions about the development and transitioning of the technology and help manage investment risk. An assessment of technology readiness is also important in determining the useful scope of an ISO 14034 technology verification for specific applications and targeted outcomes.

Guidance on the development status and market readiness of a technology proposed for verification is provided in the ISO 14034 standard, which states that a technology proposed for verification shall be either already available on the market or available at least at a stage where no substantial change affecting its performance will be implemented before market entry.

A commercially viable product or technology is generally defined as capable of generating market interest and acceptance with the potential for successful market deployment and growth. This typically means that the technology and all its components are full-scale and commercially available, and data provided to the verifier is from the use or demonstration of a commercial unit with a unique identifier (i.e., a registered commercial name and model of the technology).

In some cases, the technology could be a final prototype design prior to the manufacture or supply of commercial units (i.e., the technology to be verified is a representative pre-commercial unit). There may also be instances where the technology is a pilot scale unit used to provide data, which when implemented with demonstrated scale-up factors that do not influence its performance, proves that the commercial unit satisfies a performance claim. However, it is important to recognize that the ISO 14034 verification will only be valid for subsequent commercial units that incorporate the same technology design as the verified prototype unit.

Disruptive innovation often trades off performance along one dimension for performance along another, so it is also important to consider integration of the technology within a specified operational system and recognize that a mature product may possess a greater or lesser degree of readiness for use in a particular system than one of lower maturity. The key is understanding which trade-offs buyers and technology users are willing to make.

When applying TRLs to assess technology maturity level, the technology is evaluated against broad criteria for each level and assigned a TRL rating based on its stage of development. There are nine TRLs, ranging from TRL 1 (Basic Research) to TRL 9 (Proven System Ready for Full Commercial Deployment) and, although there are various ways of defining and interpreting the criteria at each level, there tends to be general agreement that, depending on the market relevance and intended use of a particular technology, application of the ISO 14034 verification standard may be justifiable in the range of technology demonstration (TRL 6) through to full commercial deployment (TRL 9) i.e.,

TRL 6 - Prototype Demonstration in a Simulated Environment - (i.e., beta prototype system level) **TRL 7** - Prototype Demonstration in an Operational Environment - (i.e., pre-commercial technology demonstration level)

TRL 8 - Commercial System Demonstration in an Operational Environment - (i.e., commercial technology demonstration level)

TRL 9 - Commercial System Deployment - (i.e., market deployment level).

5. Nitrogen Sensor Challenge Update



The US EPA Advanced Septic Sensor Nitrogen Sensor Challenge (ASSNSC) is continuing with performance testing currently underway at the Massachusetts Alternative Septic System Test Center (MASSTC) in Barnstable County, Massachusetts. This technology demonstration project is providing a credible platform for sensor developers to improve and optimize their technologies.

Benefits include:

- Stakeholder-driven identification and refinement of sensor performance goals;
- Development and optimization of innovative nitrogen sensor technology performance;
- Further refinement of the nitrogen sensor testing Test/Quality Assurance Plan (T/QAP);
- Recognition and oversight of the Massachusetts Alternative Septic System Test Center (MASSTC) as a credible sensor test facility;
- Validation of the 'challenge model', together with the Nature Conservancy (TNC), as a mechanism to actively engage stakeholders and interested parties and to reward top performers;
- Enhanced potential for global acceptance of verified nitrogen sensor performance by following the International Organization for Standardization Environmental Technology Verification Standard (ISO 14034 ETV).

As the project progresses from technical validation of innovative prototype sensors to verification and market acceptance of commercially viable technologies, it will remain important to continue to explore and better understand operational requirements and functionality in relation to performance expectations and the intended market deployment of these technologies.



The testing currently underway in December is the final stage of a sensor screening process to determine eligibility for a six-month ISO ETV 14034 field verification test at MASSTC. The first stage of screening was a one-week preliminary test in August 2019. A sensor package must successfully complete the one-month screening test to receive an invitation to the extensive six-month field performance test that will take place in 2020.

Battelle will verify the results of the field performance tests based on the VerifiGlobal Performance Verification Protocol and the requirements of the ISO 14034 ETV standard. EPA will award ISO ETV verification reports and statements for sensors that complete the six-month field testing and meet the minimum performance goals.

Following the release of the verification reports and statements, anticipated in 2021, an external technical panel and TNC will review the results. TNC and others are seeking funding for an order of 200 deployable septic sensor units, not to exceed a total cost of \$300,000. The order may be presented in 2021 to the best performing sensor(s) completing the 6-month field performance test and meeting or exceeding the performance goals.

EPA selected Battelle Memorial Institute (Battelle) to support development of a Test/Quality Assurance Plan (T/QAP) and Verification Plan, and to oversee the testing of the sensors. The T/QAP is based on the International Organization for Standardization Environmental Technology Verification (ETV) Standard - ISO 14034.

Funding for the testing program is from the US EPA Office of Research and Development and the Office of Water/Wastewater Management.

For more information, contact Gail DeRuzzo at: sensorchallenge@battelle.org



This project is being conducted by Battelle Memorial Institute (Battelle) for the US EPA under contract #EP-C-16-014



6. Verification of the Hydro International Downstream Defender[®] Oil Grit Separator

The Downstream Defender[®] Oil-Grit Separator is an advanced vortex separator designed to utilize the principles of swirl-enhanced gravity separation to remove Total Suspended Solids (TSS), trash and hydrocarbons from stormwater runoff.

Depending on water quality objectives, the Downstream Defender[®] OGS can be used as a stand-alone stormwater treatment technology, or as a pretreatment component in a treatment train when higher TSS removals are required and polishing or volume reduction best management practices, such as infiltration or bioinfiltration, are installed downstream.

Downstream Defender[®] OGS applications include: - Stormwater treatment at the point of entry into the drainage line;

- Sites constrained by space, topography or drainage profiles with limited slope and depth of cover;

- Retrofit installations where stormwater treatment is placed on or tied into an existing storm drain line;

 Pretreatment for filters, infiltration, other sedimentation BMPs and storage.



Schematic of the Hydro International Downstream Defender[®] Oil Grit Separator

The Hydro International Downstream Defender[®] Oil Grit Separator (OGS) was tested by Good Harbour Laboratories Inc. (GHL), Mississauga, Ontario, Canada in 2016 The performance test results were verified by Toronto and Region Conservation Authority (TRCA), Vaughan, Ontario, Canada following the requirements of ISO 14034:2016 and the VerifiGlobal Performance Verification Protocol.

The Downstream Defender[®] has a tangential inlet to introduce a rotary flow path to the precast treatment chamber while high density polyethylene (HDPE) flow-modifying internal components stabilize the swirling flow path to reduce turbulence. The swirling flow path of the Downstream Defender[®] augments gravitational (FG) forces with swirl-induced forces to remove solids from stormwater runoff.

Stormwater enters the Downstream Defender[®] through a submerged tangential inlet. Hydrocarbons and other floatable solids rise to the surface where they are captured in the chamber as the stormwater spirals downward around the interior cylindrical baffle. When it reaches the center cone the flow changes direction from downward to upward, passing through a zero flow velocity "shear" zone where solids settle out of the flow scheme and into the pollutant storage sump. After flow is deflected upward by the center cone, it spirals upwards around the center shaft inside the cylindrical baffle and discharged via the effluent pipe. To prevent washout, a benching skirt protects settled particles in the pollutant storage sump from high scour velocities.

The Downstream Defender[®] is available in five model sizes. The 1.8, 2.4, 3.0 and 3.7 m diameter Downstream Defender[®] models are geometrically proportional to the 1.2m test model. All inside dimensions of length and width are geometrically scaled. Additionally, the aspect ratio of depth to diameter slightly increases with model size.

For more information, contact: Hydro International - www.hydro-int.com



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7. Developing Resilient Water Systems for a Sustainable Future

The 2020 World Water-Tech Innovation Summit takes place in central London on February 25-26, 2020.

The summit brings together over 300 water leaders for two days of collaboration, dialogue and deal-making.

Attendees include water utilities, start-ups, technology innovators, engineers and investors from all over the globe, seeking solutions to today's challenges of digitization, security, energy recovery and water resources management. Each year the World Water-Tech Innovation Summit is produced in partnership with the UK Department for International Trade, attracting large delegations from Europe, Asia, North America, South America, the Middle East, Africa and Australasia who come to showcase best-in-class innovation and form lasting business partnerships.

Networking is made easy, including advance connections with speakers and delegates via a 1:1 meeting system and a dedicated networking hub throughout the summit.

New for 2020 is a half-day, in-depth workshop program exploring the question: *How can the global water industry best meet the challenges of extreme flooding events?*

Key summit themes include:

- Advanced Flood Tech and Dynamic Watershed Management
- Asset Optimisation: Clean Growth and Resiliency
- Sustainable Industry: Stewardship and Strategy
- The War Against Leakage: Breaking New Ground
- Analytics and the Cloud: Digital Integration to Optimise
 Water
- Engineer 2.0: From Desk to Field
- Investor Forum: Accelerating Water Project Financing
- Building Collaborative Innovation in the Water Industry
- Reducing Energy Use in Wastewater Treatment and Reuse

VerifiGlobal is pleased to be a World Water-Tech Innovation Summit marketing partner

Register now for the February 25-26, 2020 Summit and save £250 on a delegate pass with the Early Bird rate

Discover the speaker line-up and download the Summit agenda at: https://bit.ly/2sG4kfM



What is ISO 14034 ETV and how does it work?



The ISO 14034:2016 standard provides a process for
verifying the performance of environmental technologies
and charts a path for technology performance
assessments where sustainability and innovation are
inextricably linked.Tec
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Use of ISO 14034 helps build credibility, increasing market confidence that environmental technology performance claims are true and supported by high quality, independent test data.

Technology verification following the ISO 14034 ETV standard is conducted by a qualified Verification Body that meets the conformity requirements outlined in ISO 17020, which specifies requirements for the competence of bodies performing inspection and, in the case of ISO 14034, verification.

Data submitted to support a performance claim must meet the quality requirements pursuant to ISO 17025, which specifies requirements for the competence of testing and calibration laboratories.

VerifiGlobal and the VerifiGlobal Alliance





VerifiGlobal: c/o ETA-Danmark A/S, Göteborg Plads 1 DK-2150 Nordhavn - www.verifiglobal.com

Forthcoming events

Over the next year VerifiGlobal Alliance members will be participating in a number of key events to promote and build greater confidence in ISO 14034 ETV verification.

January 2020	- Cleantech Forum, San Francisco USA, 27-29 January 2020
February	- GLOBE Forum, Vancouver Canada, 10-13 February 2020
2020	- World Water-Tech Innovation Summit, London England, 25-26 February 2020
March	- National Stormwater Symposium, Cincinnati OH USA, 15-17 March 2020
2020	- Sustainability Summit 2020, London England, 26 March 2020
	- WEF Residuals and Biosolids Conference, Minneapolis USA 31 March - 03 April 2020
April	- NASTT No-Dig Trenchless Technologies Conference, Denver CO USA, 5-9 April 2020
2020	- WEAO Technical Symposium and OPCEA Exhibition 2020, Toronto Canada, 26-28 April 2020 - Florida Water Resources Conference, Palm Beach County, FL USA, 26-29 April 2020
May	- Blue Cities Forum 2020, Toronto Canada, 7-8 May 2020 World Water Congress XVIII, Desgu Benublis of Keres, 11, 15 May 2020
2020	- 2020 Trenchless Technology Road Show, Niagara Falls ON Canada, 20-21 May 2020
	- 12th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Portland OR
	USA, 31 May - 4 June 2020
June	- WEF Collection Systems Conference, El Paso TX USA, 02-05 June 2020
2020	- ACE 2020 American Water Works Association Conference and Exposition, Orlando USA, 14-17 June 2020 - Sustainability Research & Innovation 2020, Brisbane Australia, 14-17 June 2020
	- TechConnect World Innovation Conference & Expo, National Harbor Maryland USA, 29 June - 01 July 2020
	- Air & Waste Management Assoc'n Conference & Exhibition, San Francisco CA USA, 29 June - 02 July 2020
September	- International Conference on Circularity in the Built Environment, Delft Netherlands, 22-24 September 2020
2020	- European Conference on Sustainable Cities and Towns, Mannheim Germany, 30 Sept - 2 Oct 2020.
October	- WEFTEC 2020, New Orleans LA USA, 3-7 October 2020
2020	- IWA World Water Congress & Exhibition, Copenhagen Denmark, 18-23 October 2020
	- Wond Water-Tech North America, Los Angeles CA USA, 27-26 October 2020
November	- 12 th International Exhibition & Conference on Trenchless Technology, Kuala Lumpur Malaysia, 17-18
2020	November 2020 - Association of Equipment Manufacturers Annual Conference, Nana CA USA, 18-20 November 2020

Contact us about joining the VerifiGlobal Forum - Participation Facilitates Access, Engagement, Alignment						
Ready access to: - Services provided by qualified performance testing and verification organizations that are members of the VerifiGlobal Alliance; - Verified environmental technologies, solutions and business opportunities available through progressive companies that are part of the VerifiGlobal Solutions Network.	Meaningful engagement through: - Dialogue with other committed organizations with practical experience in evaluating, using, implementing and financing new innovations; - Reliable information to inform and continuously improve decisions based on appropriate benchmarks, supported by quality- assured performance verification; - New ways of thinking to raise awareness about economic, social and environmental resiliency; - Participation in the development of new verification protocols for technologies of interest.	Effective alignment in: - Advancing and deploying innovative, sustainable solutions to protect and enhance environmental quality and the regenerative capacity of natural ecosystems with measurable results; - Addressing stakeholder needs and market opportunities in meeting sustainability goals, facilitating the transformation towards a sustainable future.				



Madrid, 9 December 2019 - Demand for the services of the Climate Technology Centre and Network (CTCN) reached a record high in 2019. The CTCN reported that requests for technology assistance submitted by developing countries increased 240% over the last 12month period. Taking into account that requests were often submitted jointly by several countries at once, the growth in demand for technology support can be considered even higher.

In its 2019 CTCN Progress Report, launched on 2 December at the UN Climate Change Conference (COP25) in Madrid, the CTCN presents trends in technology demand as countries around the world scale up their climate change efforts.

One such country is the Cook Islands, where, like many small island developing states, the government is working to identify the equipment, techniques, practical knowledge and skills needed to implement its Nationally Determined Contribution. The Office of the Prime Minister, together with the CTCN and its partner, the UNEP-DTU Partnership, are therefore conducting a national Technology Needs Assessment in the Cook Islands to support this effort. Based on this process, a roadmap for prioritized technologies will guide technology development and transfer activities for strengthened climate resilience and low-carbon development in the 15-island nation.

"As host of the Climate Technology Centre and Network, the UN Environment Programme is proud of the customized and tangible solutions provided to developing countries, which support the implementation of critical Nationally Determined Contributions," said Inger Andersen, Executive Director of the UN Environment Programme (UNEP).

Established by the Conference of Parties, the CTCN connects countries' technology goals with world-class expertise, providing targeted interventions that help unlock transformational climate change action. The CTCN delivers support across a broad spectrum of technology needs, from identifying technology priorities, conducting feasibility studies and piloting technologies, to building enabling policy and regulatory environments that facilitate upscaling and finance. The Centre has received 240 technology requests from 93 countries.

8. UN Climate Technology Update:

The CTCN reports record number of requests for climate technology transfer

This 9 December 2019 press release was issued jointly by the UN Environment Programme and Climate Technology Centre & Network (CTCN)

"To meet this growing demand, we have taken many steps to scale-up our support this year. We completed our 100th technical assistance intervention, added our 500th Network member, and through our accredited cohosts, the UN Environment Programme and the United Nations Industrial Development Organization (UNIDO), submitted our 25th Readiness proposal for consideration by the Green Climate Fund (GCF). Other vital new partnerships will be announced at COP25", noted Dr. Rose Mwebaza, CTCN Director.

Fifty two per cent (52%) of requests received by the CTCN focus on mitigation, while 27% are adaptation related, with a strong emphasis on agriculture and forestry. Twenty one per cent (21%) of requests impact both adaptation and mitigation.

The CTCN and the Technology Executive Committee together form the United Nations Framework Convention on Climate Change Technology Mechanism. At COP25, the two bodies shared how the Technology Mechanism plans to further assist countries with raising and implementing their climate change commitments at a December 2nd event: Delivering technological transformation to support countries in implementing the Paris Agreement.

About the Climate Technology Centre and Network:

The Climate Technology Centre and Network (CTCN) promotes the accelerated development and transfer of climate technologies for energy-efficient, low-carbon and climateresilient development. The CTCN is the implementation arm of the UNFCCC Technology Mechanism and is hosted and managed by UN Environment Programme and the United Nations Industrial Development Organization.

About the UN Environment Programme:

UNEP is the leading global voice on the environment. It provides leadership and encourages partnership in caring for the environment by inspiring, informing and enabling nations and peoples to improve their quality of life without compromising that of future generations.

For more information, please contact:

Keishamaza Rukikaire, Head of News & Media, UN Environment Programme, *rukikaire@un.org* Irma Juskenaite, Communications Associate, Climate Technology Centre & Network (CTCN) *i.juskenaite@unido.org*



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The VerifiGlobal Alliance is a global network of 13 organizations providing testing and verification services across multiple sectors and areas of expertise. Current member organizations are - Battelle (USA), CAWT (Canada), CMI (Australia), ETA-Danmark (Denmark), Eurofins (Finland), GHL (Canada), IETU (Poland), KTL (South Korea), MASSTC (USA), RESCOLL (France), Southern Research (USA), TRCA-STEP (Canada), 350Solutions (USA).

VerifiGlobal Alliance members demonstrate their conformity with the requirements of ISO 14034 and ISO 17020 through a peer assessment process designed in accordance with the requirements of ISO 17040.

Contact VerifiGlobal about joining the VerifiGlobal Alliance.

The VerifiGlobal Solutions Network

is comprised of progressive, forward-looking companies with innovative technologies that have been independently verified in accordance with the ISO 14034 ETV standard and the VerifiGlobal Performance Verification Protocol.

Contact VerifiGlobal about independent verification of your technology performance claims.



The VerifiGlobal Forum has been established to engage with cooperative and supportive organizations that recognize the importance of innovative technology solutions to address global challenges and the value of independent quality-assured technology performance testing and verification.

Contact VerifiGlobal about participation in the VerifiGlobal Forum.

ETA-Danmark A/S, a subsidiary of Danish Standards, hosts the VerifiGlobal Secretariat. Accredited by Danish Accreditation (DANAK) in accordance with ISO 17020, ETA-Danmark is the Danish verification body for both ISO 14034 ETV and the EU ETV Pilot Programme. For information on ETA-Danmark, contact Thomas Bruun: tb@etadanmark.dk

For more information on VerifiGlobal, go to: www.verifiglobal.com