



Environmental Technology Verification Program

www.epa.gov/etv

What Is ETV?

The EPA Environmental Technology Verification Program (ETV) develops test protocols and verifies the performance of innovative technologies that have the potential to improve protection of human health and the environment. The program was created in 1995 to help accelerate the entrance of new environmental technologies into the domestic and international marketplaces. ETV is a voluntary program that makes objective performance information available to support decision-making. ETV verification establishes or proves the truth of the performance of a technology under specific, pre-determined criteria or protocols and a strong quality management system. ETV does not endorse, certify, or approve technologies. Verification reports and statements are published on the ETV Web site.

ETV's Goal

The goal of ETV is to provide credible performance data for commercial-ready environmental technologies to speed their implementation for the benefit of purchasers, permittees, vendors, financiers, and the public.

ETV Accomplishments, Impacts, and Outcomes

ETV has verified over 440 technologies and developed more than 90 protocols. A survey of participating vendors completed in 2001 showed overwhelming support for the ETV Program. Responses indicated that 73 percent of the vendors were using ETV information in product marketing, and 92 percent of those surveyed responded that they would recommend ETV to other vendors.

In 2006, EPA published a two-volume set of case studies which document actual and projected outcomes from verification publications of technologies in 15 categories (EPA/600/R-06/001 and EPA/600/R-06/082). In 2010, EPA published a third volume of case studies that focused on outcomes from verification of waste-to-energy and decentralized waste water treatment technologies (EPA/600/R-10/119).

ETV Process

ETV operates as a public-private partnership, mainly through cooperative agreements between EPA and private nonprofit testing and evaluation organizations. These ETV verification organizations work with EPA technology experts to create efficient and quality-assured testing procedures that verify the performance of innovative technologies. ETV efforts are guided by the expertise of stakeholder groups. These stakeholders represent verification customers for particular technology sectors, including technology purchasers and users, technology developers and vendors, the financial community, state and federal regulators and permittees, consulting engineers, environmental organizations, and others. ETV stakeholders assist the program by helping to develop verification protocols for testing, prioritizing the types of technologies to be verified, and implementing outreach activities to the customer groups they represent.

ETV operates verification centers that verify environmental technologies across a broad range of categories. Vendors and others in the private sector, as well as federal, state, and local government agencies, cost-share with EPA to complete protocols and verifications. In 2005, ETV initiated Environmental and Sustainable Technology Evaluations (ESTE) in which priority technology categories for meeting EPA needs are verified through contracts with verification organizations.

Benefits of ETV

- Provides objective, credible performance data to purchasers
- Facilitates technology acceptance and permitting at the state/local level
- Reduces risk for financial investors
- Levels the playing field among competitors through standardized tests and objective reporting
- Facilitates export of environmental products

Numerous EPA offices and state programs are being supported by ETV technology testing results. These include technologies related to mercury, particulates, NO_x and SO_x, emissions control and monitoring, stormwater control and treatment, infrastructure rehabilitation, control of runoff and energy recovery from combined animal feeding operations, distributed energy generation for greenhouse gas reduction, pathogen and arsenic treatment in drinking water systems, and lead in paint monitoring.

An Association of State Drinking Water Administrators (ASDWA) 2009 survey showed that 35 states recognize and use ETV reports. ASDWA and its members rely heavily on these evaluations to support the use of new technologies and products in the drinking water industry.

ETV International

International interest in verification is growing. In addition to the U.S. Program, other countries such as Canada, the European Union (EU), Japan, Korea, the Nordic countries, and the Philippines have developed pilot or fully operating verification programs.

ETV helped foster the development of many of these programs by sharing information and hosting workshops about its structure, operating values, outcomes, and lessons learned. U.S. ETV hopes that international collaboration will reduce or eliminate duplicative efforts and allow shared environmental goals to be met more effectively. Program harmonization could also help verified vendors access international markets more efficiently.

The ETV Program was a founding member of the International Working

“The timely, accurate data obtained from this (ETV) testing has helped guide NYSERDA’s program and has been valuable in program metrics assessment. In addition, with the performance data developed under this program, technology buyers, financiers, and permitting authorities in the United States and abroad will be better equipped to make informed decisions regarding environmental technology purchase and use.”

James Foster, *Project Manager for Transportation and Power Systems Research, New York State Energy Research & Development Authority (NYSERDA) (2010)*

Group on Environmental Technology Verification (IWG-ETV), with Canada and the European Commission, to develop a common approach to verification. In 2009, The Philippine ETV program became a member of the IWG-ETV. Due to a lack of resources, the U.S. ETV Program suspended its participation in the IWG in September 2010.

The European Commission is moving forward to launch the European Environmental Technology Verification (EU ETV) pre-program. This program will address two to three broad environmental technology areas and will operate out of volunteering member states in parallel with ETV programs in other countries.

“It can’t be emphasized enough that ETV ignited our company and its growth and continues to be used by us every day in the expansion of our company. So, in a very unique way, you can never put a fixed value on ETV, because it has become a cornerstone of our company’s existence, and it allows us to increase in value every day.”

Claude Smith, *President, International Wastewater Systems (2010)*

ETV Verification Centers

Advanced Monitoring Systems Center

John McKernan, EPA (513) 569-7415
Amy Dindal, Battelle (561) 422-0113

Air Pollution Control Technology Center

Mike Kosusko, EPA (919) 541-2734
Jason Hill, RTI International
(919) 541-7443

Drinking Water Systems Center

Jeff Adams, EPA (513) 569-7835
Bruce Bartley, NSF International
(734) 769-5148

Greenhouse Gas Technology Center

Lee Beck, EPA (919) 541-0617
Tim Hansen, Southern Research Institute
(919) 282-1052

Materials Management and Remediation Center

Teri Richardson, EPA (513) 569-7949
Amy Dindal, Battelle (561) 422-0133

Water Quality Protection Center

Ray Frederick, EPA (732) 321-6627
Tom Stevens, NSF International
(734) 769-5347

ETV ESTE Projects

ESTE Pesticide Drift Reduction

Mike Kosusko, EPA
(919) 541-2734

ESTE Microbial-Resistant Building Materials

Timothy Dean, EPA
(919) 541-2304

ESTE Anaerobic Digestion

Wendy Davis-Hoover, EPA
(513) 569-7206

ESTE Assess/Rehab of Drinking Water Distribution and Wastewater Collection Systems

Ray Frederick, EPA
(732) 321-6627

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To Learn More about ETV

ETV’s Web Site, www.epa.gov/etv, provides users with ETV verification reports and statements, protocols and test plans, stakeholder information, meeting summaries, and other important resources. ETV distributes monthly newsletters using the program’s listserv, ETVoice, to inform subscribers about the availability of new information on recent technology verifications, future events, vendor solicitations, and highlights in the ETV Program.

View the ETVoice newsletters at <http://www.epa.gov/nrmrl/std/etv/etvcurrent.html>. To subscribe to the ETVoice listserv, send a blank e-mail to join-etvoice@lists.epa.gov.