

# EPA's Environmental Technology Verification Program



## ETV Centers

**ETV Advanced Monitoring Systems Center** - Battelle

**ETV Air Pollution Control Technology Center** - RTI International

**ETV Greenhouse Gas Technology Center** - Southern Research Institute

**ETV Drinking Water Systems Center** - NSF International

**ETV Water Quality Protection Center** - NSF International

**ETV P2 Coatings and Coating Equipment (pilot)** - Concurrent Technologies Corporation

**ESTE Environmental and Sustainable Technology Evaluations**

## ETV Definitions

### ETV Does Evaluate and Verify

**ver.i.fy:** to establish or prove the truth of the performance of a technology under specific, predetermined criteria or protocols and adequate data-quality assurance procedures

**synonym:** confirm, corroborate, substantiate, validate

**eval.u.ate:** to carefully examine and judge the efficacy of a technology; to submit technologies for testing under conditions of observation and analysis

**synonym:** measure, estimate, classify, test

### ETV Does Not Certify

**cer.ti.fy:** to guarantee a technology as meeting a standard or performance criteria into the future

**synonym:** ensure, warrant, guarantee

## What is ETV?

Throughout its history, the U.S. Environmental Protection Agency (EPA) has evaluated technologies to determine their effectiveness in monitoring, preventing, controlling, and cleaning up pollution. Since the early 1990s, however, numerous government and private groups have determined that the lack of an organized and ongoing program to produce independent, credible performance data is a major impediment to the development and use of innovative environmental technology. Such data are needed by technology buyers and permittees, both in the United States and abroad, to make informed technology decisions. To overcome this impediment, EPA established a program to accelerate the implementation of environmental technology through objective verification and reporting of technology performance. In October 1995, the Environmental Technology Verification (ETV) Program was established by EPA. The ETV Program develops testing protocols and verifies the performance of innovative technologies that have the potential to improve protection of human health and the environment.

## What is the Goal of ETV?

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

## What are the Benefits of the ETV Program?

- 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

## How does ETV Operate?

The ETV Program operates as a public-private partnership 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 now operates five centers and one pilot program which, cover a broad range of environmental technology categories. Vendors and others in the private sector, as well as federal, state and local government agencies, cost-share with EPA to complete priority ETV protocols and verifications. In 2005 a new element of ETV is being initiated called "Environmental and Sustainable Technology Evaluations" (ESTE), in which the most important technology categories for meeting Agency mandatory and voluntary program needs are verified under contract with verification organizations.

## ETV Accomplishments and Impact

Since its inception in 1995, ETV has verified more than 300 environmental technologies and developed more than 80 protocols for technology testing. A survey of participating vendors completed in 2001 showed overwhelming support for the ETV Program and its results. 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. To date, more than 45 vendors have had multiple products verified by ETV. During 2002 - 2005, ETV conducted verification of monitoring and treatment technologies relevant for the Nation's homeland security.

Visit the ETV Web Site and Subscribe to the ETVoice Listserv  
at:  
<http://www.epa.gov/etv>

Numerous EPA program offices and state programs are being supported in their decision making by ETV technology testing results. These include technologies related to mercury, particulates, NOx and SOx, 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 dust monitoring. ETV's support of state drinking water programs has been documented by a 2003 Association of State Drinking Water Administrators survey, which showed that 27 states are using ETV protocols in a variety of ways, including methods for site-specific testing, guidance to supplement state requirements, and reduction or elimination of pilot testing.

### How do the ETV Centers and ETV-ESTE Operate?

**Stakeholder Guidance** – The efforts of ETV centers are guided by the expertise of stakeholder groups. These groups consist of representatives of verification customers for a particular technology sector: buyers and users of technology, developers and vendors, state and federal regulatory personnel, consulting engineers, environmental organizations, financiers, and underwriters. More than 800 individuals are active in ETV stakeholder groups. Their primary functions are to assist the centers in developing protocols for testing, prioritizing the types of technologies to be verified, and designing and implementing outreach activities to the customer groups they represent. In ETV-ESTE, although EPA chooses priority technologies for verification, stakeholder groups are critical to developing balanced test plans, reviewing reports and helping to disseminate results.

**Performance Verification Objectives and Reporting** – ETV is a voluntary program that makes objective performance information available to help decision-making. ETV does not rank technologies, label or list technologies as acceptable or unacceptable, determine “best available technology,” or approve or disapprove technologies. Verification activities are announced in relevant publications, and on the ETV Web site and ETV listserv. Test plans are prepared with developers and tests are conducted by independent third parties. Appropriate quality assurance procedures are incorporated into all aspects of the process and all reports are subjected to peer review. Verification statements of three-to-five pages, based on the performance data in the reports, are signed by EPA and the verification organization, and are posted on the ETV Web site.

### What is the International Interest in ETV?

Strong international interest in technology verification has bolstered ETV's impact abroad. ETV, with its co-sponsors – EPA Office of International Activities, U.S. Agency for International Development, and the U.S. Asian Environmental Partnership – has conducted workshops on technology verification in India, Thailand, and Taiwan, and in the United States for Malaysia and the Philippines. A 2004 agreement with the Singapore Institute of Environmental Science and Engineering outlines plans to collaborate on protocols and testing of environmental technologies, starting with ballast water treatment technology. To date, over 30 technologies from international vendors have been verified by the ETV Program. More than 10 percent of the visits to the ETV Web site are from foreign nations, and ETV protocols are being used worldwide to verify technologies. In 2005, ETV will host the Environmental Technology Verification International Forum in which representatives from verification programs operating or planned in Canada, Korea, Japan, Singapore and the European Union will discuss the potential for collaborating internationally on verification.

### Want to Know More About the ETV Program?

With over 1 million hits per year, the ETV Web site, at [www.epa.gov/etv](http://www.epa.gov/etv), provides users with up-to-date information on the ETV Program. The site contains descriptions of each ETV center, as well as its protocols and test plans; a list of stakeholders; fact sheets; other publications, and meeting summaries; and ETV verification statements/reports. The ETVoice listserv informs subscribers about the availability of new information on technology testing procedures, upcoming testing events, the performance of ETV-verified technologies, verification meeting events, and general news related to the ETV Program. Subscribe to ETVoice on the Internet at <http://www.epa.gov/etv>.

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