

## **U.S. EPA Environmental Technology Verification Program, the Founder of the ETV Concept**

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The U.S. EPA Environmental Technology Verification (ETV) Program 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. 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. Benefits of the ETV Program include:

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

ETV is a voluntary program that makes objective performance information available to support decision-making. Verification through the program 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 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.

ETV has verified over 460 technologies and developed more than 100 protocols. In 2010, the Association of State Drinking Water Administrators (ASDWA) surveyed state drinking water agencies

regarding their use of ETV reports and products. The survey indicated that 35 states use ETV in guidance and to make decisions on permitting new technologies, and 31 states allow for reduced pilot testing prior to certification based on ETV performance. Another survey of participating vendors completed in 2001 showed a great majority supporting the ETV Program. Responses indicated that approximately ¾ of the vendors surveyed were using ETV information in product marketing, and about 90 percent of those surveyed responded that they would recommend ETV to other vendors.

In 2006, EPA published a two-volume set of case studies that document actual and projected outcomes from verification publications of technologies in 15 categories. 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.

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 supports international collaboration, since it 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 Group on Environmental Technology Verification (IWG-ETV), with Canada and the European Commission, to develop a common approach to verification. Due to a lack of resources, the U.S. ETV Program suspended its participation in the IWG in September 2010. The IWG-ETV is proceeding with its efforts to submit a draft ETV standard to the International Standards Organization (ISO) in June 2012. The ISO standard, when promulgated, will establish a harmonized approach to technology verification worldwide.