Environmental Technology Verification systems and EU projects in this field

Innovative environment-friendly technologies are needed to address the environmental challenges faced by Europe and the world, such as climate change, scarcity of natural resources or the loss of biodiversity. At the same time, developing and using these technologies opens up new technology fields and creates new business opportunities – eco-innovation could become a driver for future growth.

But many new technologies lack proven information on their performance under real or field conditions. This makes it difficult for their manufacturers to convince first customers due to the perceived risks, to secure the sources of finance necessary to fund related industrial developments and sometimes it delays the necessary authorisations to place the technologies on the market. In a recent survey of former recipients of a UK R&D grant scheme, testing and certification were identified as some of the most significant challenges they face en-route to market (see EIAG webpage in annexed list).

Along with other ways to meet the needs of reliable information on new technologies, technology verification systems have several advantages:

- They use qualified third parties and recognised procedures to ensure the reliability of verification results: investors and customers can have confidence that the new technology indeed meets the claimed performance;
- Most existing schemes are voluntary and therefore not part of mandatory requirements but can help prove the compliance with regulatory or customers requirements; their flexibility allows them to integrate different requirements and market situations;
- The establishment of such a scheme at EU level could offer the wide recognition necessary, both within Europe and globally, to make the most of verification results, following the principle 'verified once, accepted everywhere'.

In this context, verification is to be understood as the independent quantitative assessment of the performance of an environmental technology, based on performance claims or pre-determined protocols.

It is to be distinguished from certification, which aims at guaranteeing that a technology meets technical standards or regulatory requirements permanently.

Verification is most useful in areas where standards do not exist, in which case it may act as a standard precursor for specific products, tools or instruments, or in areas where standards are normally not applied.

Several technology verification systems are already established in the world. In particular, the US Environmental Protection Agency and Environment Canada have been running such programmes for a decade.

More recently, South Korea and Japan have launched similar programmes, on a pilot basis in the case of Japan.

The US system is based on verification protocols in pre-determined technology areas, the testing being done within the system. The main output is an extensive verification report, publicly available, with no judgement on the merits of the verified technology. Potential buyers have all the necessary information to make their own judgment, but analysing this information often requires a high level of expertise.

The Canadian system aims at verifying the claims on technology performance put forward by the vendors, and accepts tests data from any reliable independent third party. The main output is a verification certificate, including a short description of the technology and the performance claim that has been verified, giving a high level of assurance on the correctness of the claim.

In the framework of the Environmental Technologies Action Plan (ETAP), the Commission has supported several research projects and one pilot project on ETV in a limited number of technology areas: soil and groundwater remediation, water technologies including monitoring, clean production technologies, air emission reduction and energy technologies (see the common webpage of RTD projects in the annexed list).

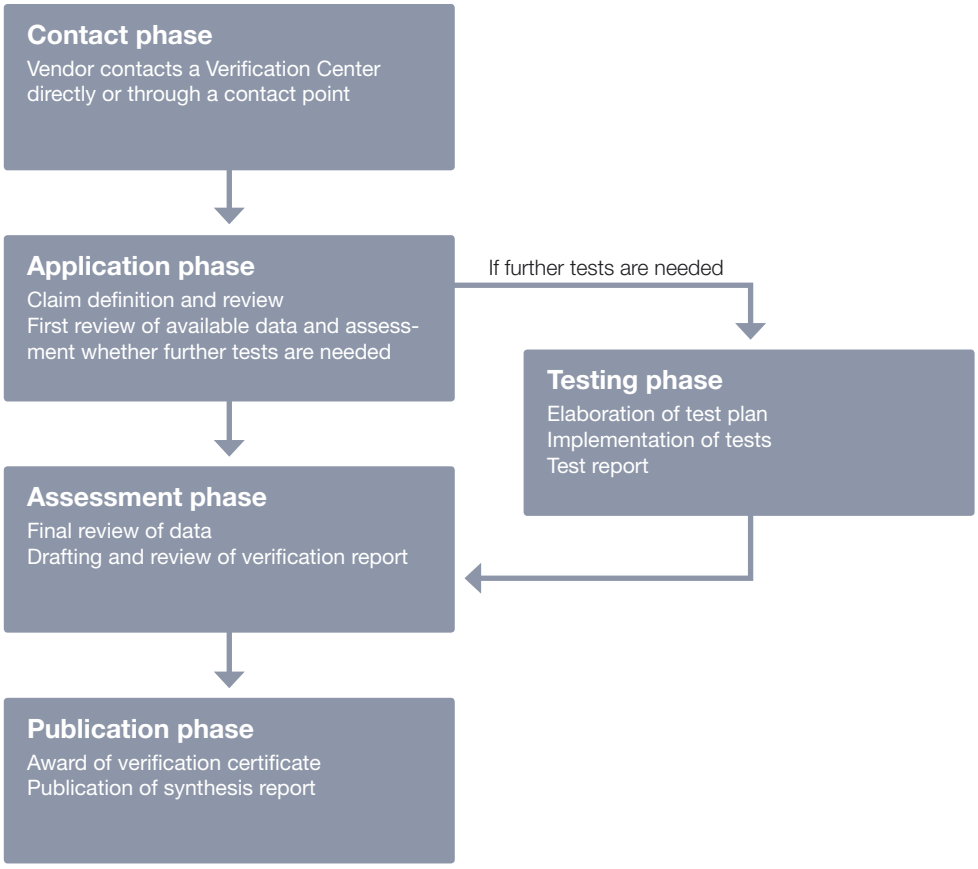
A recent report on ETV systems by the Commission's Institute for Prospective Technological Studies discussed some options for an EU scheme and presented the results of a market survey (see IPTS webpage in the annexed list).

On the basis of these projects and studies, the European Commission is considering proposing the establishment of an EU-wide system, which would build on existing schemes and use existing capacities in Europe as far as possible. At this stage, it seems that a possible EU scheme could be based on the following operational principles:

- the ETV scheme verifies the claim put forward by the technology developer or vendor, after review of the claim to ensure that it addresses the relevant technical information and environmental impacts;
- the verification itself is based on the assessment of test data provided by the technology developer or vendor, following quality assurance procedures;
- if further tests are needed to assess the claim, a qualified laboratory performs the additional tests; available protocols and test standards are used whenever relevant;
- at the end of the process, a synthesis report is made publicly available describing the technology and performance claim and a certificate awarded to the technology vendor for use in business-to-business relations.

The system would be designed for environment-friendly technologies ready-for-the-market: production processes, industrial equipments or final products could be verified. It would not be designed for technologies at the pilot stage, which can still evolve before being put on the market, nor for standard technologies, which should be able to present enough references to convince customers. The system would be designed to meet in particular the needs of small and medium-sized enterprises, both as technology developers and users.

The EU scheme could be implemented by a network of Verification Centres, one per technology area, and follow the procedure summarized below:



The EU ETV system would begin in a few thematic areas and would enlarge its scope progressively. Based on research projects in this field and on the experience of the US and Canadian systems, potential areas for the initial stage include monitoring techniques (such as continuous emission monitors or water quality control), waste water treatment technologies, equipments for renewable sources of energy and energy efficiency, air pollution abatement technologies including Greenhouse Gas abatement, clean technologies including waste and resource recycling.

A public consultation is open until January 20th, 2008 to gather a wide variety of views on the main features of a possible EU scheme, in order to prepare a Commission proposal in 2008.

All people interested are invited to read the consultation paper and respond to the questionnaire of the on-line survey at the following address:

http://ec.europa.eu/yourvoice/consultations/index_en.htm

Links to relevant documents and websites

General information on ETAP and related actions and projects:
http://ec.europa.eu/environment/etap/index_en.htm

Studies commissioned by the Commission, Joint Research Centre (Institute for Prospective Technological Studies) on Environmental Technologies Verification systems:
www.jrc.es/publications/pub.cfm?id=1504

Paper of the UK Environmental Innovations Advisory Group on 'Testing and Certification' available on the EIAG page:
www.dti.gov.uk/sectors/environmental/EIAG/page10066.html

Research projects funded by the EU RTD 6th Framework-Programme and relevant for technology verification:
www.eu-etv-strategy.eu/

Website of the US Environment Technology Verification programme:
www.epa.gov/etv/

Website of the Canadian Environmental Technology Verification programme:
www.etvcanada.ca/overview.asp

Website of the South Korean system for the designation and verification of new environment technologies:
www.koetv.or.kr/eng/index.html

Website of the pilot project on Environmental Technology Verification in Japan:
www.env.go.jp/policy/etv/en/index.html

Website of the UK Monitoring Certification Scheme (MCERTS):
www.sira.co.uk/services_mcerts.html

Presentation of the Nordic project on Water Technology Verification Centres:
www.nordicinnovation.net/prosjekt.cfm?Id=1-4415-201

Website of EXERA, French network of users of measurement, control and monitoring equipements:
www.exera.com