



Coordination Action on Environmental Technology Verification

A COORDINATION ACTION FUNDED BY THE 7TH FRAMEWORK PROGRAMME OF THE EUROPEAN UNION

SEVENTH FRAMEWORK
PROGRAMME

EDITORIAL

ETV – Acting within an international framework: cooperation – mutual recognition – harmonisation

The European ETV pre-programme is developing structure - Its general verification protocol is completed, the initial technology areas have been defined, and the process of accrediting institutions as first verification bodies has begun. The first pre-programme activities will follow in the coming months.

It is now time to clarify and further elaborate on the international context and framework within which the EU-ETV pre-programme will operate. Verification schemes were first set up in the U.S. and Canada in the mid-1990s. In recent years

the Philippines, Korea and Japan established their national programmes. The European pre-programme is close to operational, and China is working on plans to create its own national programme.

The International Working Group (IWG) on ETV was established by Canada, the U.S. and Europe, with the Philippines joining subsequently and other systems participating as observers. Its major task is to develop an international framework whereby ETV programmes can co-operate and accept each other's verifications.

This newsletter takes the reader on the journey to international mutual recognition.

The EU-ETV pre-programme and international perspectives will be introduced at the Conference and Workshop "Helping eco-innovations reach the market – European and international perspectives on Environmental Technology Verification (ETV)" on May 24-26, 2011, at CEN, Brussels, Belgium.

Thomas Track (AdvanceETV Co-ordinator)

Announcement

Conference and Workshop

Helping eco-innovations to reach the market – European and international perspectives on Environmental Technology Verification (ETV)

**on May 24 – 26, 2011,
at the CEN-CENELEC Meeting Centre, Brussels, Belgium**

The conference on **May 24-25, 2011** will introduce the European ETV pre-programme and the international context for ETV.

The workshop on **May 26, 2011** will focus on the operational aspects of the EU-ETV pre-programme and the requirements for international market recognition.

Participation is free of charge.

The programme and registration information are available via: www.eu-etv-strategy.eu

More information on the ETV event is available from Thomas Track
(track@dechema.de; Tel.: +49 (0)69 7564 427)

The Journey to Mutual Recognition

In simple terms, Environmental Technology Verification (ETV) is a way of testing, verifying and documenting how a technology can perform. Amongst other things, performance parameters are based upon a manufacturer's claims, the requirements of an environmental regulator or the needs of a customer. Regardless of the source of the performance parameters, they all have the same aim, which is to ensure fitness-for-purpose. In other words, the environmental technology does exactly what it is meant to do, and what the manufacturer claims the technology can do.

A growth in environmental technologies therefore creates a need for ETV programmes, as users and investors need confidence in such technologies. There are already several ETV programmes worldwide and it is likely that there will be more. On first sight, the existing programmes appear to be very different, other than a shared objective. When looking at these programmes in more depth, they do have a great deal in common. On the other hand, the differences are sufficient to show that each programme has its own ways of testing and verifying technologies.

This can create problems with mutual recognition and then create trade barriers, i.e. verification in one country might not be acceptable in another. This might not be due to any problems with the quality of the verifications, but simply because of the differences between different programmes. This article explores the issue of mutual recognition in more detail, and describes how the AdvanceETV project is contributing to the work of the International Working Group on ETV (IWG ETV) to promote mutual recognition for ETV programmes worldwide.

Mutual recognition – and what happens when it does not exist

If ETV exists to help technology vendors prove that their products work as intended, then ETV is also intended to support these technology vendors in accessing new markets for their products. Additionally, ETV helps buyers reduce the risks with new technologies, and provides authorities with the confidence to accept them. Perhaps more importantly, ETV also helps investors reduce their risks by demonstrating that a technology has a sound future – without investors, there would be no technology at all.

However, if the full benefits of ETV are to be achieved, and the costs and delays in market introduction kept at a minimum, it is essential that ETV performed by one verification programme is accepted universally, without the need for further testing and verification by other ETV programmes. Whereas the growing number of ETV programmes may be seen as recognition of the need for ETV, ironically it may ultimately jeopardize the idea of Verify once, accept

everywhere if the differences between ETV programmes are large enough to prevent universal acceptance. In such cases, a vendor may have progressed a technology through an ETV programme in one country, only to find that the verification has to be largely repeated in another country.

ETV development and towards mutual recognition

Therefore, quite simply, if we wish to achieve the overall objective of a faster use of better environmental technologies, then we need to work towards mutual recognition internationally. Figure 1 illustrates how this process of evolution could work. So how could this work when there are programmes with different levels of maturity and complexity?

Whereas the ETV programmes have been operating for 10-15 years in the USA and Canada, efforts are currently made to establish a broad European ETV programme under the European Union (EU). Further-

more, an ETV programme is currently being established for agricultural environmental technologies based in Denmark, Germany and the Netherlands: Verification of Environmental Technologies for Agricultural Production (VERA). ETV schemes have been established and are developing quickly in Japan. South Korea and the Philippines, and early initiatives are evolving in Singapore and China. Furthermore, an initiative has been launched to promote cooperation on ETV within the countries of the Association of Southeast Asian Nations (ASEAN). In essence, these programmes work according to similar principles towards a common goal: promotion of environmental technologies through performance documentation, but with, sometimes slightly, different organizations, processes of work and applying different terminologies.

Co-ordination and cooperation

However, if a fully recognized global ETV regime is going to be viable, it requires de-

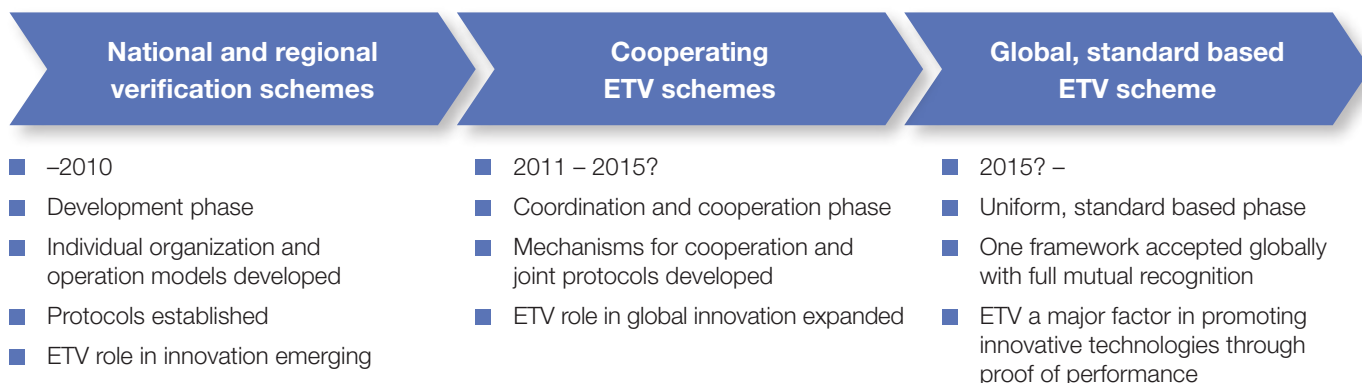


Figure 1 – The potential evolution of national to international ETV schemes

velopment of a coordinating organization (ensuring harmonized performance parameters for verified applications), involvement of the standardization organizations (providing standards for tests and analysis and possibly, an environmental technology verification standard) and participation of conformity assessment bodies (oversight with verification and test bodies, and with analytical laboratories) and not the least dedicated cooperation between existing ETV programmes.

Fortunately this work has already begun, both within AdvanceETV, and through the International Working Group (IW) ETV, which includes representatives from ETV programmes worldwide, as well as partners from AdvanceETV as representatives of the emerging EU ETV pre-programme. Although the members of the IWG represent different programmes, they have many common goals; their overall aim is to evolve national and regional ETV programmes into a structured, yet flexible framework which provides commonality, harmonized approaches, and ultimately full mutual recognition.

A key activity in this phase is to promote common understanding of required organization, processes of work and terminologies among the ETV programmes of the world. The IWG ETV met in Manila in November 2009 to advance their aims. Before this pivotal work, the Quality Assurance Group of the IWG ETV had both met and worked internationally to develop a strategy document, outlining their common goals, and how to achieve them. The IWG ETV then progressed this work in Manila towards a final strategy document.

Finally, practical cooperation on verifications has been initiated, and this is also enhanced through European programmes associated with AdvanceETV. The cooperative work of verification can include parallel verifications to confirm reproducibility, joint verification programmes, and co-verification verifications. Figure 2 shows how these connected approaches work. Until now, four technologies have been or are on the path to being verified in cooperation between two or three different verification programmes.

Joint verification supporting entry into new markets

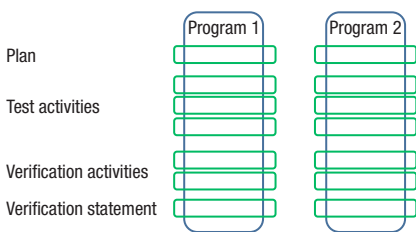
The producer of advanced environmental monitoring equipment, Hach-Lange, was asked for ETV documentation of performance when trying to enter a new regional market with a new set of instruments for monitoring toxicity of wastewater. Hach-Lange decided to go for performance documentation through environmental technology verification (ETV) in the form of a joint verification involving the Danish ETV program (DANETV), the Canadian ETV Program and the United States (US) Environmental Protection AgencyETV program. The joint verification statements are currently being signed by all involved ETV programs and can then be used by Hach-Lange in marketing in China, but also in Europe, Canada and the US. The statements will be published shortly on the web sites of the programs:

www.etv-denmark.com/water/water_monitoring.html; www.etvcanda.ca; and www.epa.gov/etv.

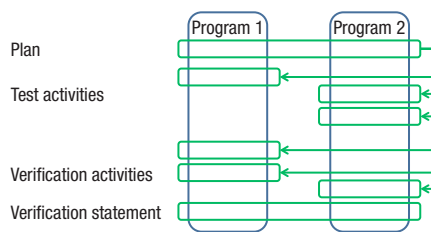
Mutual recognition of ETV paving the way for new environmental technologies

In the current environmental technology verification (ETV) programme of South Korea, only technologies produced by Korean companies or technologies applied and improved in Korea can be verified due to the legislative framework of the Korean ETV programme. Accordingly, Korean producers may support the claims for performance of new products with domestic and trusted ETV results, whereas foreign producers cannot. This may be an advantage for producers in Korea, but is detrimental to Korean technology users' selection of most suitable technologies, and limits the marketing of foreign technologies in Korea. If an international standard for ETV existed and was covered by a multilateral, mutual recognition arrangement (MLA) under, for example, the International Accreditation Forum (IAF), verifications done according to the standard would also be recognized in Korea, for the benefit of both Korean technology users and foreign technology producers. This would also be in accordance with the World Trade Organization (WTO) agreements on mutual recognition of conformity assessment.

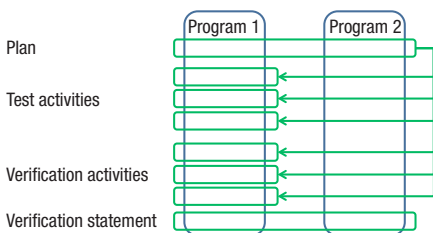
Simple verification cooperation



Joint verification



Co-verification



Mutual recognition of verification

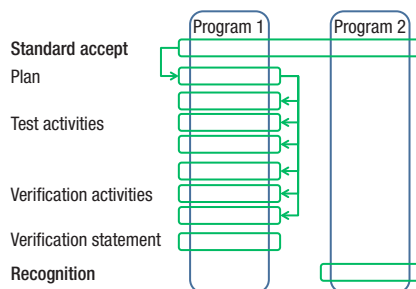


Figure 2: Repetition, joint verification, co-verification and mutual recognition of verification

Harmonisation – the final key to open the door to mutual recognition

Experience from the different programmes has shown that to avoid duplicated verifications – together with their derived costs, delays and associated trade barriers – it is necessary to move from requiring verification to be repeated under each ETV programme, to cooperative programmes such as joint and co-verifications, and finally to full mutual recognition of verification based on a common approach. This can be achieved by having a set of common frameworks and provisions for quality assurance. It is possible that such frameworks and provisions will make use of international standards, conformity assessment and accreditation. It is equally possible that members of AdvanceETV and the IWG ETV will work together to produce such frameworks and standards.

A possible framework for an organization within a global, harmonized ETV programme is shown in Figure 3, combining elements from ETV, standardization and conformity assessment. The suggested organization

combines the experiences and competences from current ETV programmes with the tools of conformity assessment (standardization and accreditation) under an umbrella of coordination by the IWG ETV and maintaining the close cooperation with the national and regional interests.

In conclusion, a globally harmonized ETV programme would accelerate the worldwide market introduction of innovative, environmentally sound technologies. This process would be supported through the credible verification and documentation of the performance of such technologies. Then technology buyers can choose innovative technologies while minimizing the associated risks caused by lack of proof of performance, regulators can accept new solutions with confidence in the claimed benefits, whilst investors can be confident that their investments have a stronger future.

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Rick Gould (UK Environment Agency, Bristol, UK)

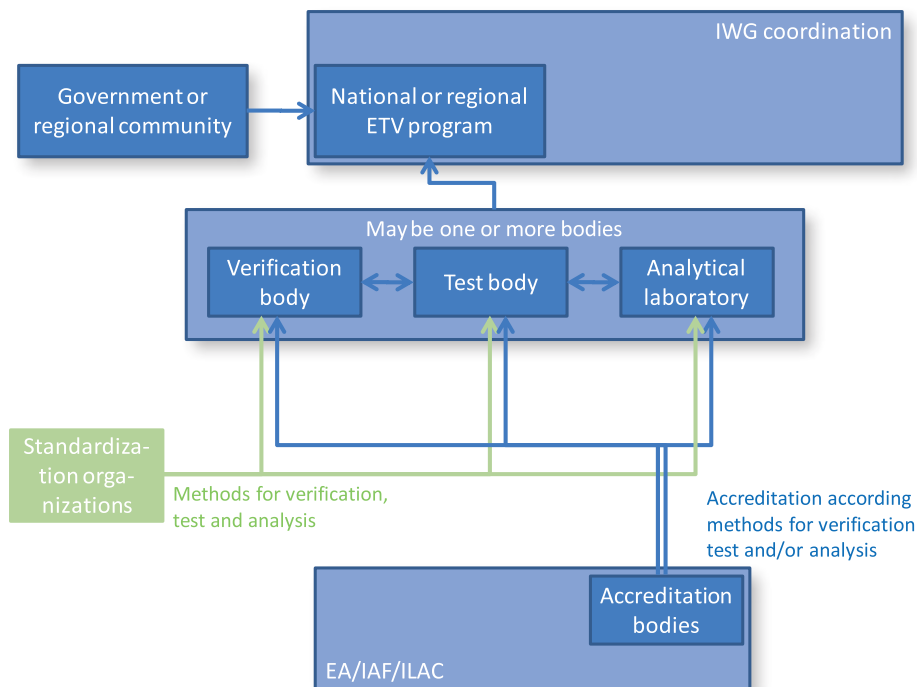


Figure 3: Suggestion for organization of a global, harmonized ETV scheme

BRIEF FACTS ABOUT ADVANCEETV

Objectives:

AdvanceETV is a coordination action on Environmental Technology Verification (ETV). The overall target of AdvanceETV is to bring together the already proposed schemes and protocols prepared within the previous EU ETV activities and to link them with outcomes of already existing ETV systems worldwide.

Furthermore AdvanceETV aims at building an international framework for cooperation and mutual recognition by supporting the cooperation of the European Commission and the international ETV activities, e.g. the International Working Group (IWG) on ETV.

Approach:

To achieve these aims AdvanceETV will consolidate stakeholder feedback of RTD and EC activities and integrate experiences out of the CEN workshop agreement (CWA) elaboration and use. To foster recognition by harmonisation, a standardisation framework will be identified for international recognition of the different verification procedures. Cross cutting issue workshops ensure feedback and exchange between these different areas. An expert board with ETV system representatives from Canada, U.S., South Korea, Japan, and other provide the direct link to international ETV activities and the IWG on ETV, which is crucial to bring forward mutual recognition, to support cooperation by co-/joint verification and to promote harmonisation.

Time frame:

01/2009 to 07/2012

Finances:

Total project volume: 1.325 million Euros; ~ 75,4 % EU funding within the 7th Framework Programme

Organisations

DECHEMA e.V. – Society for Chemical Engineering and Biotechnology
Frankfurt / Main, Germany (www.dechema.de)

IVL – Swedish Environmental Research Institute
Stockholm, Sweden (www.ivl.se)

DHI
Hørsholm, Denmark (www.dhigroup.com)

IPTS – Institute for Prospective Technology Studies
Seville, Spain (www.jrc.es)

Tecnalia
Derio, Spain (www.tecnalia.com)

UK EA – UK Environment Agency
Bristol, UK (www.environment-agency.gov.uk)

IETU – Institute for Ecology of Industrial Areas
Katowice, Poland (www.ietu.katowice.pl)

Deltares – Stichting Deltares
Delft, Netherlands (www.deltares.nl)

OCETA – Ontario Centre for Environmental Technology Advancement
Mississauga, Canada (www.oceta.on.ca)

CEN – European Committee for Standardization
Brussels, Belgium (www.cen.eu)

Battelle – Battelle Memorial Institute
Columbus, Ohio, United States (www.battelle.org)

et – environment and technology
Esslingen, Germany (www.et-ertel.de)

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