EU Environmental Technology Verification pilot programme

Helping cutting-edge technologies reach the market

Europe is facing a number of serious environmental challenges including resource depletion, biodiversity loss, (increasing) water scarcity, air pollution and climate change. Innovative environmental technologies could play a significant role in addressing them and, at the same time, could contribute positively to EU competitiveness and growth. The problem at the moment is that many clever new ideas are not taken up simply because they are new and untried.

Environmental Technology Verification (ETV) is a new tool to help innovative environmental technologies reach the market. It consists of the validation of the performance claims put forward by technology manufacturers, on a voluntary basis, by qualified third parties. This should help manufacturers prove the reliability of their claims, and help technology purchasers identify innovations that suit their needs. As a result, technological lock-in is overcome while more effective and cheaper environmental protection measures can emerge.

THE ETV PILOT PROGRAMME

The EU ETV pilot programme provides for third-party verification, on a voluntary basis, of the performance claims made by technology manufacturers in business-to-business relations. The end product is a **Statement of Verification**, summarising the actual performance of the verified technology as well as the results of the tests performed. With proof of performance credibly assured, innovations can expect an easier market access and/or a larger market share and the technological risk is reduced for technology purchasers.

The objective of the ETV pilot programme, implemented under the Eco-innovation Action Plan[1], is three-fold:

- To help technology manufacturers provide objective and reliable evidence on the performance of new eco-technologies they are bringing to the market, as to convince investors and customers about their merits. Innovative SMEs may be particularly interested by this approach to differentiate their technology from that of larger competitors;

- To support technology purchasers (public or private) who need to base their purchasing decisions on sound information, widely recognised as scientifically valid and acceptable as proof of evidence in tendering and purchasing procedures. The ETV pilot programme does not compare or benchmark technologies but the information provided enables technology users to make useful comparisons and to identify technologies best fitting their needs;

- To facilitate the implementation of public policies and regulations by providing citizens, regulators and decision-makers with reliable information on the level of performance achievable by a given new eco-technology ready for the market.

[1] Commission Communication on "Innovation for a sustainable future – The Eco-innovation Action Plan" COM(2011)899 final

All technologies ready for the market and showing a potential for innovation and environmental benefits can be proposed under ETV. The ETV pilot programme will initially cover the following technology areas:

1. Water treatment and monitoring (monitoring of water quality, treatment of drinking water and of waste water);

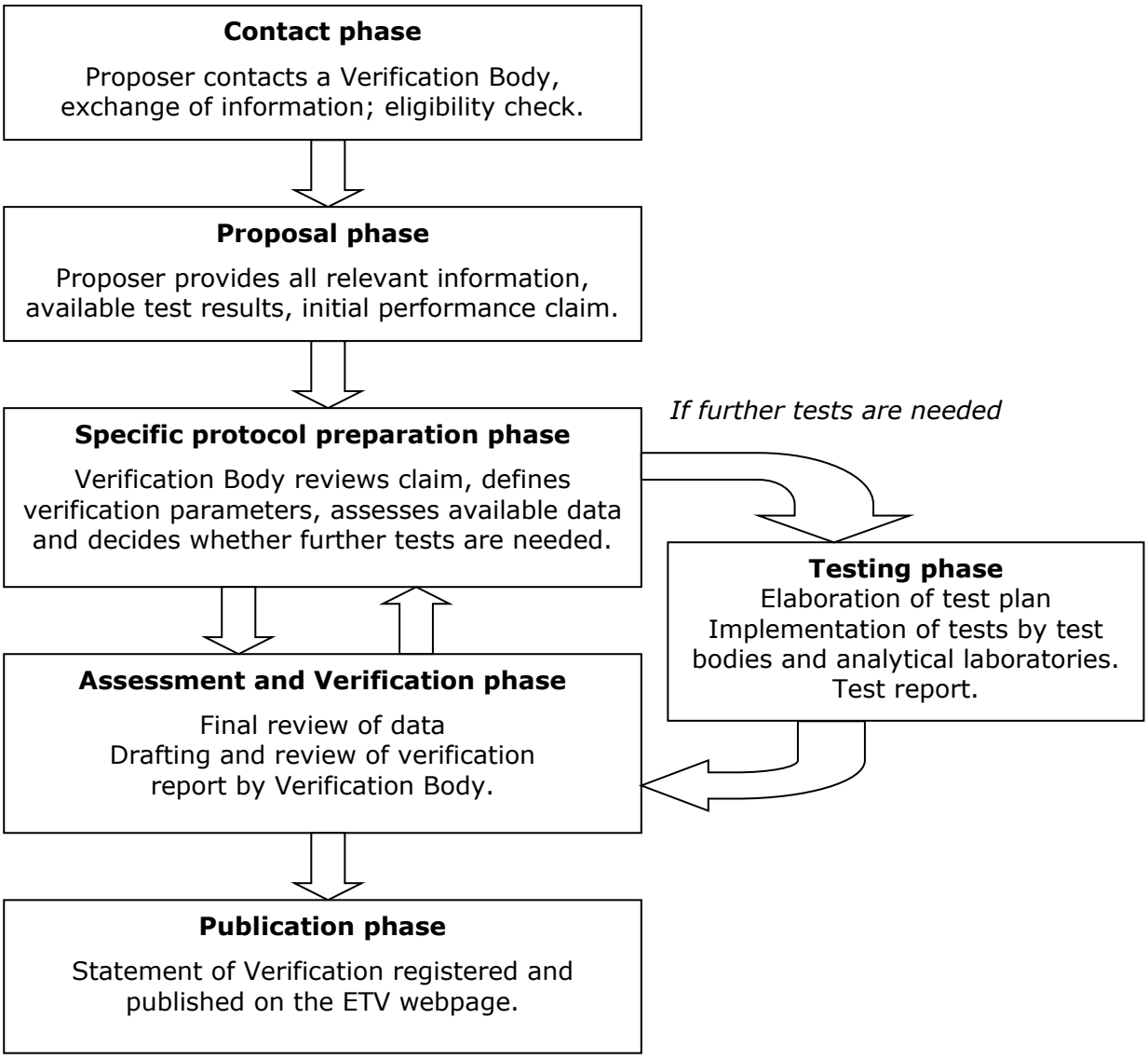
2. Materials, waste and resources (separation and sorting of solid waste, recycling of materials, end-of-life products and chemicals, biomass-based products);

3. Energy technologies (renewable sources of energy, energy from waste, energy efficiency technologies).

MAIN ELEMENTS OF THE ETV PILOT PROGRAMME

For the technology manufacturer (hereafter 'the proposer'), the main contact will be with one of the Verification Bodies competent for implementing ETV in the relevant technology area. During the verification process, a testing body or analytical laboratory may also be involved in case further tests are needed.

The procedure can be summarised by the following chart:



The ETV process itself does not include the actual testing of a new technology, but it includes a review of test results made to assess the credibility of a given performance claim. If available test data are not sufficient, testing bodies have to perform further tests.

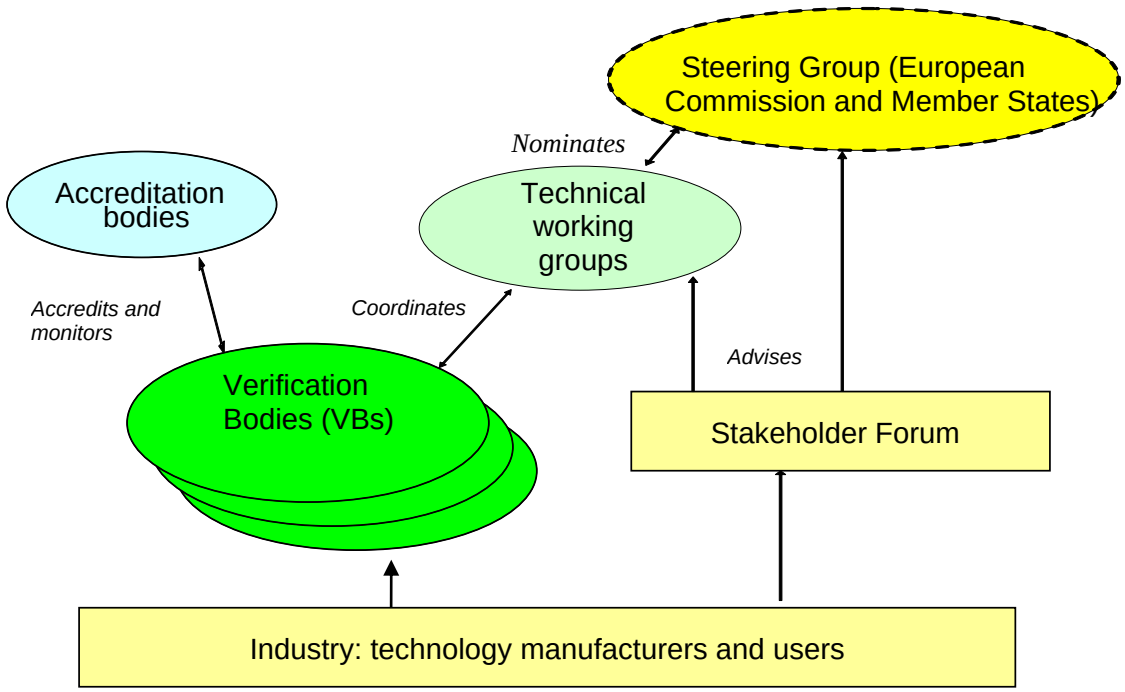
The value added by ETV is the assurance of the credibility of the claim on the technology's performance, thus facilitating subsequent recognition of the performance of the product by purchasers across the European Union.

Verification Bodies are specifically accredited by national Accreditation Bodies to perform verification activities for a given area of technology. This ensures that the Verification Bodies have the capacity and independence to provide high quality services under ETV. To harmonise specific procedures and requirements in given technology areas, Verification Bodies also participate in thematic technical groups at EU level.

At least 12 organisations are already accredited or engaged in accreditation procedures to become Verification Bodies under the ETV pilot programme. Organisations and relevant contact persons are listed in a table at the end of the document.

Verification Bodies are coordinated by Technical Working Groups on a thematic basis. The Stakeholder Forum, where all stakeholders interested in the ETV pilot programme may be represented, advises the Technical Working Groups and the Steering Group. The Steering Group, with representatives of Member States active in the pilot programme, advises the European Commission on the design and implementation of the ETV pilot programme.

The overall organisation of the ETV pilot programme can be summarised as follows:



SYNERGIES AND DIFFERENCES BETWEEN ETV AND OTHER SCHEMES AND LEGISLATIONS

The ETV verification process is similar to **certification processes** and Verification Bodies are accredited like product certification bodies are (even though the accreditation standards differ). However, important differences should be noted between the two approaches:

- Product certification compares the product (or technology) with pre-defined requirements in legislation, standards or technical specifications. In the case of ETV, specifications are defined on a case-by-case basis, in the 'specific verification protocols', and they are based on performance claims: it is therefore easier to take account of specific innovative features of technologies.

- Also, the specifications may evolve during the process: the 'Statement of Verification' reflects the actual performance of the technology, not necessarily initial performance claims. This is therefore not a 'pass/fail' system as in product certification schemes.

- Finally, ETV is concerned with the design and first applications of technologies, not with the conformity of a series of products. In this sense, ETV may be seen as a first step before the certification of industrial products following more classical procedures.

ETV does not aim at substituting existing regulatory or voluntary systems such as **type-approval or labels**. The aim is to fill a gap by assisting those technologies falling outside regulations or standards, and innovations which do not fit into existing legislative, labelling or standards frameworks. However, where legal obligations apply, ETV may facilitate proof of compliance by providing objective evidence on environmental performance.

An example of possible synergy between ETV and regulatory frameworks is the EU **Industrial Emissions Directive** (IED, former IPPC). Under the IED Directive, Member States define the obligations of important production plants in terms of emission limits. The *Best Available Techniques* defined in this context largely refer to technologies already in use, for which a track record on environmental performance already exists. By addressing innovative technologies arriving on the market, ETV is complementary to this process and could add value, as verified technologies could be more easily taken into account.

ETV is not about defining minimum requirements, but about ensuring the credibility of performance claims put forward by a producer, thus going beyond existing minimum requirements. In particular, the **Eco-Design Directive on Energy-using Products** and the **Energy Labelling Directive** define mandatory criteria on the design of products and often specifies the information to be provided by the producer. For technologies covered by these Directives, the performance claims submitted to ETV by technology manufacturers should of course comply with relevant mandatory criteria and they should go beyond the information collected under these Directives, otherwise ETV is of little added value.

ETV does not directly compare technologies but provides potential purchasers and users with the reliable and independent information needed to facilitate objective comparison and thus informed decisions. There may be synergies in particular with **purchasing policies** and with **Green Public Procurement** (GPP): information on the performance of verified technologies may help purchasers define technical

requirements, and reciprocally Statements of Verification may be accepted as proof of compliance with technical specifications in tendering procedures.

RESEARCH AND REFERENCE DOCUMENTS

Between 2004 and 2009, four EU research projects (in the fields of water treatment, soil and groundwater remediation, air emissions abatement, clean production and environmental monitoring) developed and tested the concept of ETV in specific technology fields, and a fifth project consolidated the lessons of previous projects and contributed to the preparation of the ETV pilot programme and to international harmonisation efforts with other ETV programmes. The results of all ETV related projects are accessible through the common website: http://www.eu-etv-strategy.eu/

A detailed assessment of the **market potential and demand for an EU ETV scheme** was published in June 2011. The final report includes recommendations on technology groups and market situations where ETV would provide an added value for technology developers. It is available on the ETV webpage on Europa: http://ec.europa.eu/environment/etv/index.htm

The technical reference for the ETV pilot programme is the **General Verification Protocol** (GVP). The GVP includes the general ETV procedure to be followed when verifying an individual environmental technology and the definition of the main actors of the system including their roles and responsibilities. This document is accompanied by a set of appendices which include templates of other ETV documents to be used in individual verifications.

A shorter version of the GVP is the **'Guide for Proposers'**, accompanied by comments and examples addressed to companies considering to undertake a technology verification under ETV. The GVP and the Guide for Proposers are available on the ETV webpage (see link above).

COSTS OF VERIFICATION AND FUNDING

Costs can vary considerably depending on the technology and the quality of existing data. The DANETV verification centre has been active in 5 technology areas since 2009 and uses procedures close to the EU pilot programme. Based on 21 verifications finalised in 2009-2010, the average cost for the testing and verification of technologies was €53,000, of which €28,000 was attributable to the verification procedures per se. The pilot programme is supported by the EU budget, to the aim being to limit the average final contribution of participating SMEs to be around €20,000.

Direct support to technology manufacturers – in particular SMEs – for verification under the ETV pilot programme could also be sought through larger funding programmes, at EU and Member State level:

- Verification under ETV may be presented as the last step in research and development projects supported by research funding aimed at developing environmental technologies to become ready for the market;

– Under EU programmes such as LIFE+, CIP[2] eco-innovation, FP7 and the forthcoming Horizon 2020[3], ETV procedures could be integrated into larger projects including, for example, industrial investments, industry-research partnerships or prototypes;

– A number of SME-support schemes in Member States include support to product certification, authorisation procedures or marketing of new products and services. A study[4] commissioned by the Commission in 2008 concluded that many of them could cover support to individual verifications under ETV with little or no modification to their policies.

Technology manufacturers typically undertake full-scale demonstration or prototype roll-out before starting marketing their new technologies. This can be an opportunity to organise scientifically-sound technology performance testing, with a view to gathering test data of good quality. To fulfil ETV quality requirements, a complete ETV verification procedure could be discussed at this stage with a competent verification body. Any additional cost due to data requirements and data quality would then be minimal when integrated into larger projects, and the cost of additional verification tests might then be avoided.

CONTACT POINTS IN MEMBER STATES AND VERIFICATION BODIES

The following countries are represented in the Steering Group of the ETV pilot programme: Belgium, the Czech Republic, Denmark, Finland, France, Poland and the United Kingdom. Contact points in these countries are listed below and should be contacted to have more information on the implementation of ETV and accompanying measures in Member States.

It should be noted that participation is not restricted to these countries: all organisations interested may participate as technology proposers, Verification Bodies or test bodies, following the rules provided in the ETV General Verification Protocol (GVP).

In the European Commission (Directorate-General for Environment) (Joint Research Centre – Institute for Energy and Transport)	ENV-ETV@ec.europa.eu etv.jrc@jrc.nl
In Belgium (Federal Public Service for Health and Environment)	Jean-roger.dreze@health.fgov.be
In the Czech Republic (Ministry of Environment)	Marie.Petrova@mzp.cz
In Denmark (Danish Environmental Protection Agency)	gesha@mst.dk

[2] Competitiveness and Innovation Programme – see http://ec.europa.eu/cip/
[3] Commission Communication on "Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020)" COM(2011) 808 final
[4] AEA study on funding for SMEs – report available at: http://ec.europa.eu/environment/etv/key_projects.htm

In Finland (Ministry of Environment)	Merja.Saarnilehto@ymparisto.fi
In France (Ministry of Economy, Industry and Employment) (Ministry of Ecology, Energy, Sustainable development and Sea)	Annie.larribet@finances.gouv.fr Michel-louis.pasquier@developpement-durable.gouv.fr
In Poland (Ministry of Environment)	Izabela.Ratman-Klosinska@mos.gov.pl
In the United Kingdom (Department for Environment, Food and Rural Affairs)	ETV@defra.gsi.gov.uk

Technology companies interested to have an environmental technology verified under ETV should contact a Verification Body. The following organisations are accredited or in the process of accreditation to become Verification Bodies. They can be contacted in order to plan or to begin the verification procedure for a new technology.

Organisation name	**Country**	**Technology areas covered**	**Contact person**
CEMC	Czech Republic	Materials, waste and resources	Ing. Jiří Student student@cemc.cz
Certiquality	Italy	Water Energy Materials, waste and resources	Mr Alessandro Ficarazzo a.ficarazzo@certiquality.it
DS Certificering A/S	Denmark	Water Energy Materials, waste and resources	Mr Thomas Bruun tb@dscert.dk
ITP Branch Poznan	Poland	Energy Materials, waste and resources	Mr Jerzy Karlowski j.karlowski@itep.edu.pl
LNE	France	Water Energy Materials, waste and resources	Mr Emmanuel Rébuffat emmanuel.rebuffat@lne.fr
NPL	United Kingdom	Energy	Ms Kathryn Vardy kathryn.vardy@npl.co.uk
PIMOT	Poland	Energy Materials, waste and resources	Mr Roman Nadratowski r.nadratowski@pimot.org.pl Mr Artur Malinowski a.malinowski@pimot.org.pl
RESCOLL	France	Materials, waste and resources	Ms Claire Michaud etv@rescoll.eu claire.michaud@rescoll.fr
Sira	United	Water	Ms Emily Jarvis

Certification Service	Kingdom	Energy	Emily.Jarvis@siracertification.com
VTT	Finland	Water Energy Materials, waste and resources	Mr Matti Lanu matti.lanu@vtt.fi
WRc	United Kingdom	Water Materials, waste and resources	Dr Leo Carswell leo.carswell@wrcplc.co.uk
Zetom	Poland	Water	Mr Jacek Przydryga j.przydryga@zetom.eu

INTERNATIONAL LINKS

ETV programmes are also implemented in the United States, China, Japan, Korea, Canada and the Philippines. An International Working Group on ETV is preparing the ground for the mutual recognition of ETV programmes. The objective is that verification organisations and results of verification in a given ETV programme are recognised as equally valid by other ETV programmes.

For more information on ETV programmes please visit the websites listed below.

ETV	US EPA Environmental Technology Verification (ETV) Program www.epa.gov/etv
CANADA VERIFIED VÉRIFIÉ	Canadian Environmental Technology Verification (ETV) Program www.etvcanada.ca
NET	Korea New Excellent Technology (NET) www.koetv.or.kr/engpage.do?mode=engguid
Japan Environmental Technology Verification ETV Ministry of the Environment	Japan Environmental Technology Verification www.env.go.jp/policy/etv
etv PHILIPPINES	Philippine Environmental Technology Verification http://etvphilippines.ph
ETV	EU Environmental Technology Verification (ETV) Pilot Programme http://ec.europa.eu/environment/etv
ETV	China Environmental Technology Verification Pilot Programme www.chinacses.org