



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

EU Environmental Technology Verification pre-programme

“ETV pre-programme management”

Manuela Musella

**European Commission
Joint Research Centre (JRC)
Institute for Energy**
Petten - The Netherlands



European Commission and JRC

EU Environmental Technology Verification pre-programme

European Commission is organised in Directorate Generals (DGs)

DG - JRC: Joint Research Centre

The mission of the JRC is to provide customer-driven scientific and technical support for the conception, development, implementation and monitoring of European Union policies

Supporting citizen's security, health and environmental protection, safety of food and chemicals, alternative energies, nuclear safety, econometrics, prospective technologies...



JRC Structure: 7 Institutes in 5 Member States

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IRMM - Geel, Belgium

Institute for Reference Materials and Measurements

ITU - Karlsruhe, Germany

Institute for Transuranium Elements

IE - Petten, The Netherlands

Institute for Energy

IPSC - Ispra, Italy

Institute for the Protection and Security of the Citizen

IES - Ispra, Italy

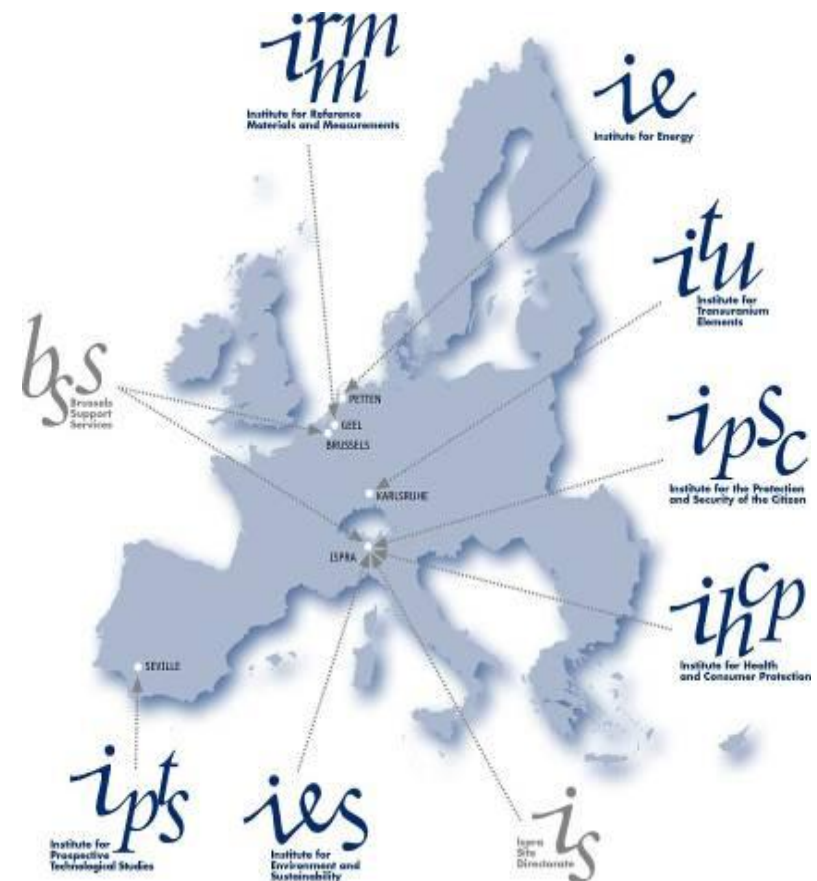
Institute for Environment and Sustainability

IHCP - Ispra, Italy

Institute for Health and Consumer Protection

IPTS - Seville, Spain

Institute for Prospective Technological Studies





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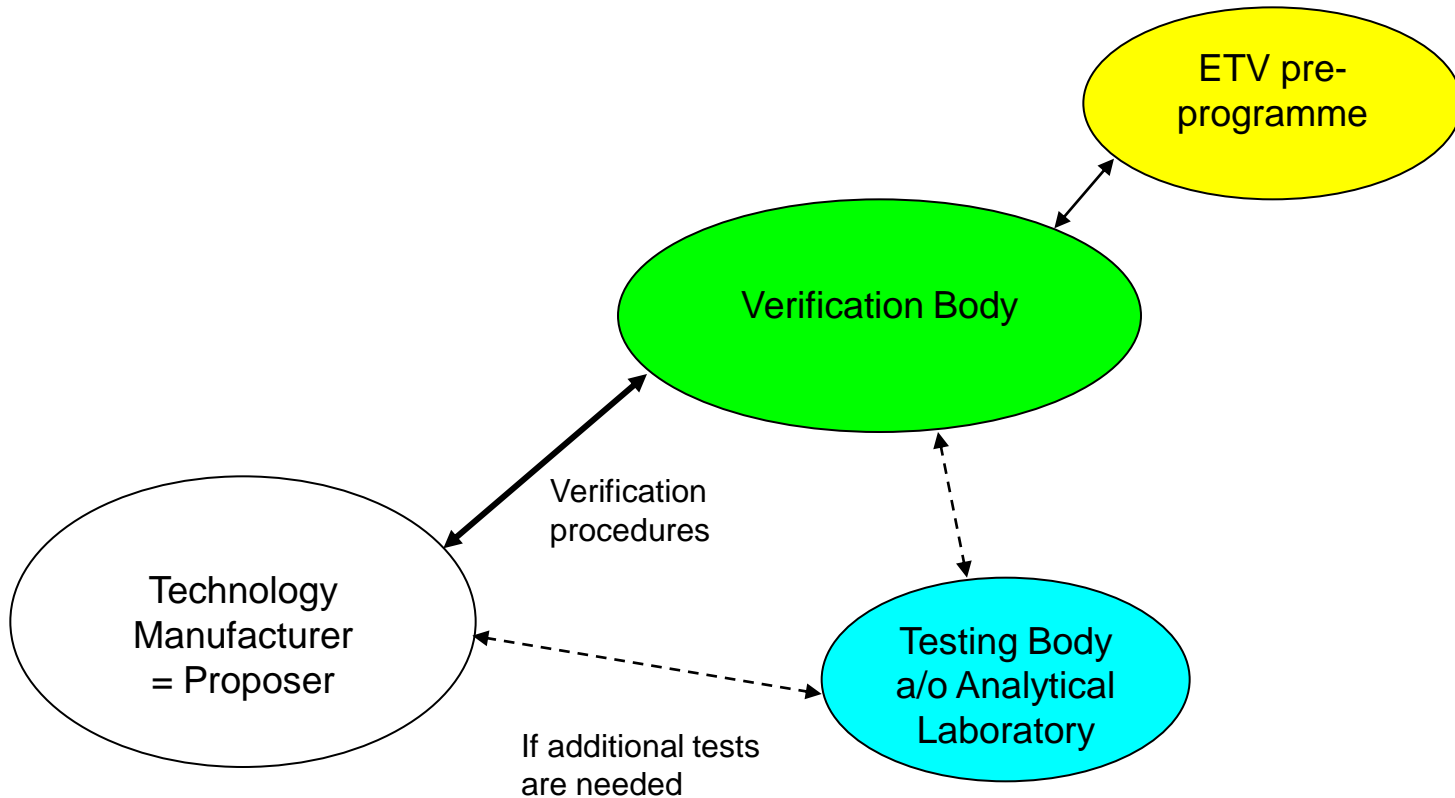
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Organisation of ETV process

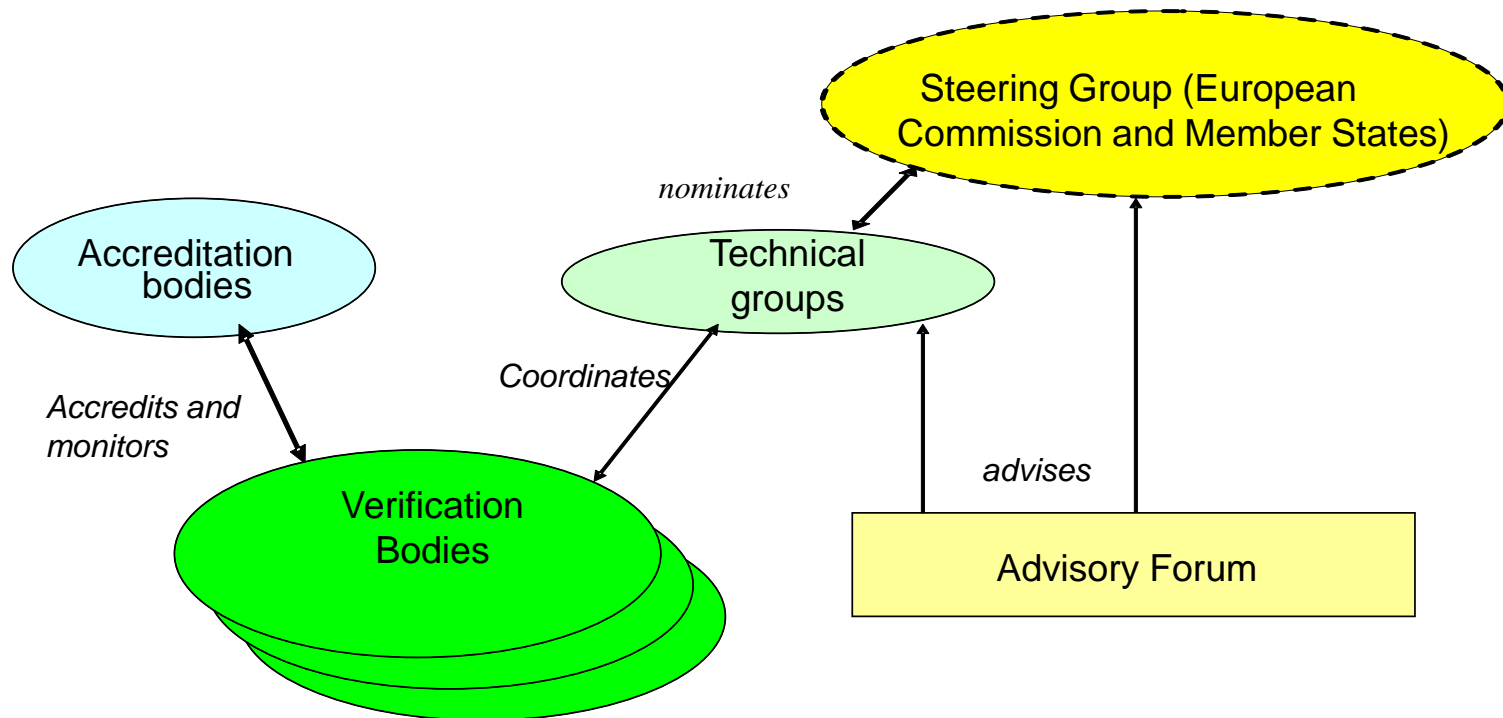
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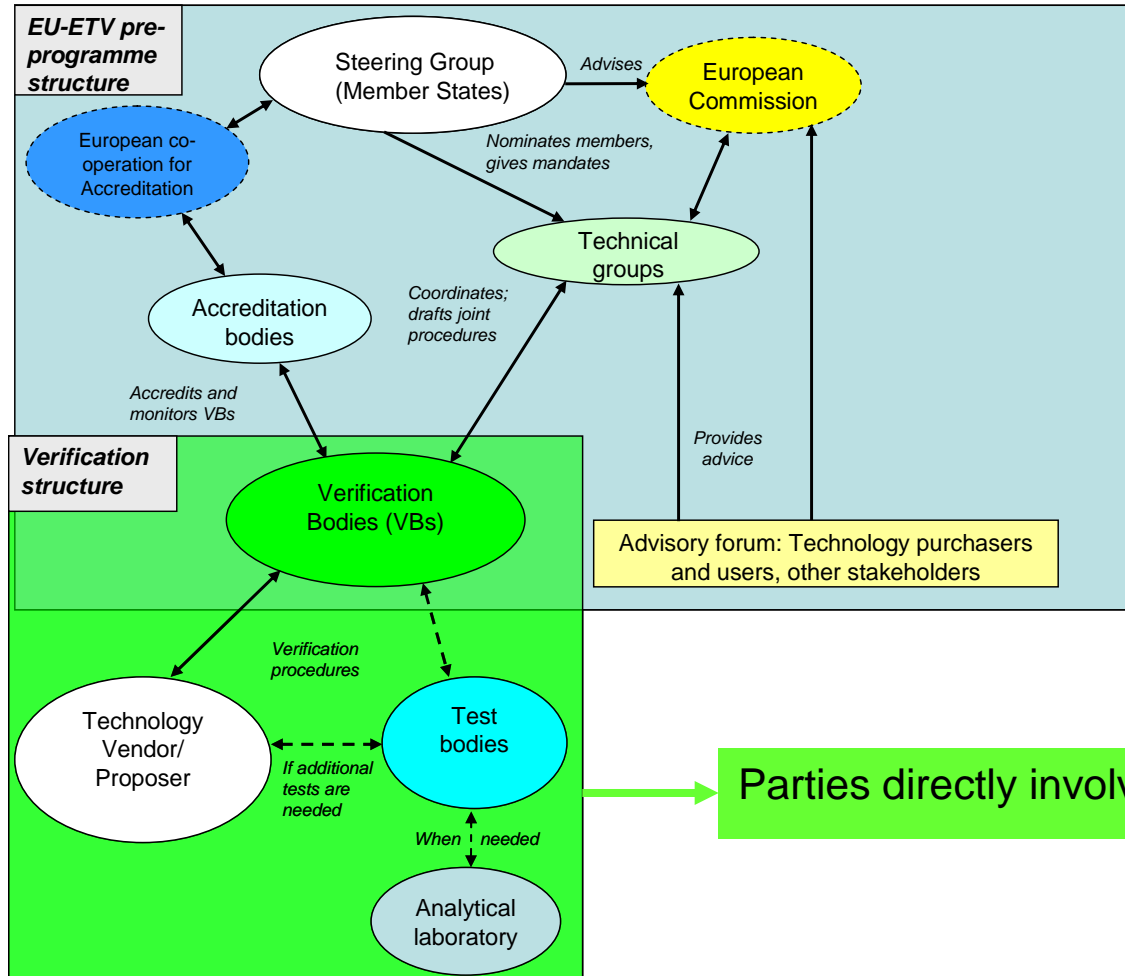




Organisation of ETV pre-programme

EU Environmental Technology Verification pre-programme





Relates to the organisation: ensuring qualification and technical harmonisation of ETV actors and procedures

Parties directly involved in the individual verifications



EU ETV Verification Structure (1)

EU Environmental Technology Verification pre-programme

Verification Bodies (VBs): established under national law and have legal personality accredited to comply with the requirements of ISO 17020

- Responsible for managing the EU ETV pre-programme for specified groups of technologies in the EU (= implementation of the ETV pre-programme)
- Receive and process the proposals for verification in their technology area
- Assess, approve and report test data performed by the proposer
- Ensure compliance with the quality management requirements of the GVP of any test bodies involved
- Participate in the technical groups relevant for their technology area
- Annual report to the EC and the national accreditation body on the activities implemented, including on post-verification
- Have quality management and quality assurance
- Assure confidentiality on sensible data



EU ETV Verification Structure (2)

EU Environmental Technology Verification pre-programme

Test Bodies: shall fulfil the relevant requirements of the GVP, might be the same as the verification body but the group performing the test cannot be the the same doing the evaluation

- Designated by the proposer in consultation with the verification body
- Plan and perform tests where needed (on VB demand)

Analytical Laboratories: : shall fulfil the relevant requirements of the GVP, might be the same as the verification body but the group performing the test cannot be the the same doing the evaluation

- Certified ISO 17025
- Plan and perform tests where needed (on VB demand)
- Plan analysis and selecting analytical methods, in accordance with the requirements of the test body
- Report the analytical data to the test body



EU ETV Pre-Programme Structure (1)

EU Environmental Technology Verification pre-programme

Commission Services: DG ENV, DG JRC (DG ENTR, DG R&I)

- Ensure overall coordination and supervision
- Publish the Statements of Verification
- Convene and chair the Steering Group and the Advisory Forum

in consultation with

Steering Group: representatives of Member States

- Defines the rules governing the ETV pre-programme
- Draw the General Verification Protocol
- Defines the technology areas to be covered



EU ETV Pre-Programme Structure (1)

EU Environmental Technology Verification pre-programme

Advisory Forum: interested stakeholders = technology purchasers and users

- Advises ETV processes, scope, results and on general issues relevant for the implementation
- Gives advice to Technology Groups on needs of users, investors and regulators in specific areas

Accreditation Bodies: National Accreditation Bodies [Regulation (EC) No765/2008]

- Appointed for this purpose
- Ensure technical competences and capacity of the VBs
- Guarantee adequate quality management system
- Ensure recognition of the VBs in the EU

European co-operation for accreditation:

Help in harmonisation of accreditation procedures, consistency of verification procedures and mutual recognition of Statements of Verification



EU ETV Pre-Programme Structure (2)

EU Environmental Technology Verification pre-programme

Technical Working Groups: Representatives of VBs and other experts, chaired by Commission (JRC-Petten)

One TWG per technology area. Their role:

- Harmonise the implementation of the ETV procedures by the VBs
- Ensure the same level of quality of verification results
- Guide on the application of the ETV procedures in specific technology areas
- Contribute to pre-standardisation standardisation activities
- Facilitate the exchange of good practices concerning implementation of ETV
- Facilitate the sharing of information on relevant market aspects for the technology area
- Dialogue with relevant stakeholders, including technology users
- May give an opinion in case of conflict VB-proposer



The ETV pre-programme shall cover three technology areas

- 1. Water treatment and monitoring**
- 2. Materials, waste and resources**
- 3. Energy technologies**



Water treatment and monitoring

- Monitoring of water quality for microbial and chemical contaminants (e.g. test kits, probes, analysers)
- Treatment of drinking water for microbial and chemical contaminants (e.g. filtration, chemical disinfection, advanced oxidation) and desalination of seawater
- Treatment of wastewater for microbial and chemical contaminants (e.g. separation techniques, biological treatment, electrochemical methods, small-scale treatment systems for sparsely populated areas)



Materials, waste and resources

- Recycling of industrial by-products and waste into secondary materials, recycling of construction waste into building materials (e.g. reworking of bricks)
- Separation or sorting techniques for solid waste (e.g. reworking of plastics, mixed waste and metals), materials recovery
- Recycling of batteries, accumulators and chemicals (e.g. metal reworking technologies)
- Reduction of mercury contamination from solid waste (e.g. separation, waste mercury removal and safe storage technologies)
- Products made of biomass (e.g. health products, fibre products, bio-plastics, bio-fuels, enzymes)



Energy technologies

- Production of heat and power from renewable sources of energy (e.g. wind, sea, geothermic and biomass)
- Reuse of energy from waste (e.g. 3rd generation bio-fuels and combustion technologies)
- Energy efficiency technologies (e.g. micro-turbines, hydrogen and fuel cells, heat pumps, combined heat and power production, logistics)



Environmental and sustainability assessment of the technologies

EU Environmental Technology Verification pre-programme

Critical role of the TWG is guiding the VBs in defining the parameters needed for **assessing environmental innovative technologies**. This guidance will be drafted per groups of technologies or applications

The Technology Groups will

- Screen the potential environmental impacts associated with the use of technologies, throughout the life cycle of related products;
- Identify relevant key environmental aspects and of the main technical factors influencing environmental impacts
- Draft reference documents summarising these indicators for use in the verification for the technology group



EC and ETV pre-programme

EU Environmental Technology Verification pre-programme

EU ETV pre-programme is launched in the frame of the Eco-Innovation Action Plan, and on a first instance MS will join on a voluntary scheme.

The results of the ETV pilot programme will be evaluated by the EC after two-three years of actual operations.

On the basis of this evaluation and the study on the market potential of ETV, the Commission will draw conclusions on the potential of ETV in Europe and on the best way to mobilise it.

In this view the **Advisory Forum** and the **Steering Group** will contribute in identifying relevant indicators for the assessment and evaluation of the ETV-pre programme, in terms of innovation and effectiveness.



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Many thanks for your attention