



# JRC SCIENCE FOR POLICY REPORT

*EU Environmental Technology Verification pilot programme Guidance documents*

## **Guidelines for addressing the interfaces between Technology Areas in the context of the EU-ETV Pilot Program**

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### Abstract

Environmental Technology Verification (ETV) is a new tool enabling the verification of the performance claims put forward by developers of innovative environmental technologies.

As specified in the ETV General Verification Protocol (GVP), the EU-ETV programme, launched in 2011 by DG-ENV is covering three Technology Areas (TAs): Water treatment and monitoring, Materials, waste and resources, Energy Technologies. The verification bodies in charge of performing the verifications have to be accredited for one or more of these 3 TAs or part thereof. Three dedicated Technical Working Groups (TWGs) have been set up in order to provide technical guidance for the technologies falling under these TAs.

Although the GVP is providing examples of technologies for each of the TA, the precise frontier between them is not always clear, in particular for technologies that relate to more than one distinct technology areas (e.g. energy efficiency in the domain of water treatment). This document provides guidance on this issue, in order to help decision making and ensure a harmonised approach through the ETV scheme.

This document, adopted on the on the 04/08/2015 by the TWGs, is a guidance document, with the meaning given in the General Verification Protocol of the EU ETV pilot programme (version 1.1), Section A.II.4.3. It has been produced by the EU ETV Technical Working Groups, chaired by the JRC, under the auspices of DG Environment.

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This document is a guidance document, with the meaning given in the General Verification Protocol of the EU ETV pilot programme (version 1.1), Section A.II.4.3. It has been produced by the EU ETV Technical Working Groups, chaired by the JRC, under the auspices of DG Environment.

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## **1 CONTEXT**

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 EU ETV pilot programme, run by the European Commission on an experimental basis, is implemented by Verification Bodies (VBs) specifically accredited for ETV. The technical reference defining ETV procedures and requirements is the General Verification Protocol (GVP). It ensures that all verifications made in Europe follow the same process and have the same value. VBs are coordinated by thematic Technical Working Groups, at European level, providing guidance on the implementation of ETV and ensuring the adequate harmonisation of practices.

## **2 INTRODUCTION**

Appendix II of the GVP defines the scope of the ETV pilot program: it specifies the 3 Technology Areas (TAs) that are within its scope:

- Water treatment and monitoring (TA1)
- Materials, waste and resources (TA2)
- Energy Technologies (TA3)

and it identifies 4 TAs that are currently out of the scope:

- Soil and groundwater monitoring and remediation (TA4)
- Cleaner production and processes (TA5)
- Environmental technologies in agriculture (TA6)
- Air pollution monitoring and abatement (TA7)

The Verification Bodies (VBs) in charge of performing the verifications have to be accredited for one or more of these 3 TAs or part thereof. Three dedicated Technical Working Groups (TWGs) have been set up in order to provide technical guidance for the technologies falling under these TAs.

Although the GVP is providing examples of technologies for each of the TA, the precise frontier between them is not always clear, in particular for technologies that relate to more than one distinct technology areas (e.g. energy efficiency in the domain of water treatment).

This issue is not without importance, since it may affect the capacity of a VB to deal with a particular technology, depending on its accreditation. Also, it seems reasonable to adopt a uniform approach: make sure that similar technologies are discussed in the same TWG, preferably in the TWG which holds most competences for that particular technology group.

The present document explores possible interfaces between the TAs and proposes a solution for each identified situation. These proposals are based on a reasoned interpretation of the categories and examples provided for in the GVP, considering the competences required to perform the verification, as well as on the discussions during the TWGs meetings.

These proposals are meant to facilitate decision-making and to harmonise approaches through the ETV scheme. However they are to be considered as recommendations. VBs may decide to opt for a different solution, as long as:

- the solution is not in obvious contradiction with the categories provided for in the GVP
- the solution respects the accreditation domain of the VB

When a VB considers opting for a different solution, it is recommended to use the following guiding principle: the choice of the technical area should reflect the key competence(s) required to perform the verification. This would ensure compatibility with VB accreditations and make sure that the issues related to the technology in question are discussed within the appropriate TWG. Technologies that require diverse competences may be discussed across several TWGs.

### **3 ANALYSIS OF THE POTENTIAL INTERFACES AND SOLUTIONS**

#### ***3.1 Water Treatment and Monitoring (TA1)***

##### Water and waste

- Treatment/monitoring of water as a waste (waste water) => water (TA1)
- Treatment /monitoring of (waste) water from waste industry => water (TA1)

##### Water as a resource

- Processes consuming less water => Cleaner production processes (TA5).  
(exception: agriculture, see next)

##### Water and agriculture

- Efficient use of water in agriculture => agriculture (TA6)
- Treatment/monitoring of agricultural waste water => water (TA1)

##### Water and energy

- Treatment /monitoring of waste water from energy industries => water (TA1)
- Energy efficiency techniques that are specific to the water treatment / monitoring industries => water (TA1), otherwise Energy (TA3).

## Groundwater

- Treatment/monitoring of groundwater that has been pumped at the surface => water (TA1)
- Groundwater Monitoring/Remediation => Ground water (TA4)

## **3.2 Materials, Waste and Resources (TA2)**

### Resource efficiency / clean production

- In general, Cleaner production and processing of resources, materials and products pertains to Cleaner production processes (TA5). However, improved resource efficiency through material substitution belongs to Materials, Waste and Resources (TA2). Savings of material resources by process optimisation, e.g. savings of chemicals or carbon also belongs to Cleaner production processes (TA5).

### Energy efficiency

- Energy efficient production and processing of materials and products: see below (Energy)

### Biofuels

- Manufacture of bioproducts for energy combustion (biofuels) => materials (TA2) unless the verification concentrates on performance parameters that are essential for the combustion process => energy (TA3)
- Combustion of bioproducts for the purpose of producing energy => energy (TA3)

### Materials/Products used for specific purposes

- additives/products for water treatment => water (TA1)
- additives/products for waste treatment => waste (TA2)
- additives/products for soil/groundwater remediation => Soil and Ground water (TA4)
- additives/products for energy (combustion etc) => energy (TA3)
- materials/products for agriculture (pesticides, ...) => agriculture (TA6)

### Water and waste : see Water, above

### Waste and energy

- Combustion of waste to produce energy => energy (TA3). Specific phases like preparation of waste that can go into Waste (TA2)
- Energy efficiency techniques that are specific to waste treatment => Waste (TA2)

### Waste and soils

- Treatment, management and de-pollution of sediments, sludge and excavated soils => soils (TA4)



### Waste and agriculture

- Recycling of agricultural waste and by-products for non-agricultural purposes => Waste (TA2)
- Recycling of nutrients and organic carbon from manure (e.g. separation, digestion), re-use of sewage sludge and re-use of waste water after treatment<sup>1</sup> for agricultural purposes => agriculture (TA6 )
- Treatment of waste water for re-use in agriculture<sup>2</sup> => water (TA1)

### Prevention of Waste

- Prevention and reduction of waste from industrial processes => Cleaner production processes (TA5)

### Treatment/Monitoring of Resources

- Treatment/Monitoring of resources like water, air, soil or groundwater => TA 1, TA7 and TA 4 respectively

## **3.3 Energy Technologies (TA3)**

Water and energy : see above

Waste and energy : see above

Energy efficiency:

- Energy efficiency in industrial processes and in buildings (e.g. thermal envelope, wall insulation, energy efficient windows, heating, ventilation and air conditioning systems) => Energy (TA3), unless the technology is very specific to the industrial process, or if the competence needed to assess the technology is specific to the industrial sector and practices, then the technology should be considered instead under 'cleaner production and processes' (TA5).
- Energy efficiency in processes that are specific to water treatment or waste treatment industries, are dealt under 'water treatment and monitoring' (TA1) or 'materials, waste and resources' (TA2) respectively

Biofuels: see above (Materials, Waste and Resources)

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<sup>1</sup> When the focus of the verification is on the benefits of the re-used water in terms of agricultural performance

<sup>2</sup> When the focus of the verification is on performance of the treatment process (e.g. composition of water).

## **4 CONCLUSION**

The purpose of this document is to clarify a certain number of situations which are not explicitly addressed in Annex II of the GVP. As explained in the introduction, these clarifications are to be understood as recommendations.

The examples provided in GVP Appendix II remain illustrative; technologies that are in line with the logics of the TAs covered by the pilot programme but are not listed as example may be accepted. The TWGs may update the list of examples, as foreseen in the GVP.

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