

# How to procure innovative green technologies in public tenders with the use of ETV?

Guidance on the use of Environmental Technology Verification (ETV) to support Green Public Procurement and Innovation Procurement



This project is co-financed from EU funds from the LIFE program, from the funds of the National Fund for Environmental Protection and Water Management (Poland) and from the funds of the Ministry of Agriculture (Hungary).



# ABOUT THE BROCHURE

The aim of this brochure is to promote and provide guidance to public procurers: contracting authorities and contracting entities<sup>1</sup> on the use of Environmental Technology Verification (ETV) scheme as an ISO 14034 standardised process for verifying the performance of new environmental technologies in a credible, independent way in Green Public Procurement and Public Procurement of Innovation.

This brochure has been developed in the framework of the LIFEproETV project<sup>2</sup>: Promotion and implementation of ETV as an EU voluntary scheme for verifying performance of environmental technologies. The project is implemented under the Governance and Information component of the EU LIFE Programme.

LIFEproETV aims at promotion and building market acceptance and recognition of ETV on the EU market as a voluntary scheme to support uptake of new environmental technologies for the benefit of reducing the environmental impact of EU SMEs, industries and public sector.

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<sup>1</sup> 'Contracting authority' means the State, regional or local authorities, bodies governed by public law, associations formed by one or several of such authorities or one or several of such bodies governed by public law (for the full definition, see Article 2(1)(1) of Directive 2014/24/EU). Bodies governed by public law also include entities financed mostly by the State, regional or local authorities, or other bodies governed by public law and entities controlled by those bodies (for the full definition, see Article 2(1)(4) of Directive 2014/24/EU). This includes for example ministries, regions, cities, road management authorities, public hospitals, central purchasing bodies, etc. 'Contracting entities' refers to entities operating in specific sectors (such as utilities for water, energy, transport, postal services covered by Directive 2014/25/EU and contracting entities in the field of security covered by Directive 2009/81/EC). They may be contracting authorities, public undertakings or entities operating on the basis of special or exclusive rights (for the full definition, see Article 4 of Directive 2014/25/EU).

<sup>2</sup> [www.lifeproetv.eu](http://www.lifeproetv.eu)

# TABLE OF CONTENTS

## SECTION 1: What is ETV? ..... 8

- Which technologies can be verified under ETV?
- Who can apply for verification?
- Who verifies?
- How does ETV work?
- What are the key outputs of the verification process?

## SECTION 2: The utility of ETV for GPP and IP ..... 13

- What makes ETV suitable to support GPP and IP?
- What can be purchased with the support of ETV?
- How ETV addresses the EU GPP criteria?
- What information ETV provides to contracting authorities?
- Key ETV terms and definitions and their compliance with the GPP and IP legal requirements
- Status of the verification body as third party compliance assessment body vs. requirements in GPP and IP
- Status of the ETV Verification Report
- Status of ETV Statements of Verification

## SECTION 3: How ETV may help in GPP and IP? ..... 25

## SECTION 4: Use of ETV along the procurement stages ..... 28



# INTRODUCTION

Current as well as emerging policy developments supporting the implementation of the EU Green Deal relevant for improving the sustainability of products, industrial processes as well as financing will increase the importance of green public procurement (GPP) and innovation procurement (IP) and mainstream them to these policies. The new Circular Economy Action Plan<sup>3</sup> already sets up an objective to define minimum mandatory GPP criteria and targets in sectoral legislation as well as GPP uptake monitoring and reporting.

For new environmental technologies available on the market, GPP may facilitate their diffusion, whereas innovation procurement is aimed to deliver novel, ambitious green solutions for market uptake and set the trends for their development.

The new public procurement directives focus on the need of environmental considerations in public tenders. At the same time the use of references to formal standards is encouraged due to their legitimacy to ensure credibility and transparency of procurement procedures. Moreover, formal standards supporting sustainability accelerate diffusion of environmentally friendly solutions necessary for achieving larger environmental impact from GPP by reflecting the users' needs<sup>4</sup>. They may also drive the innovation by opening competition to potential providers and new ideas.

For these reasons, integration of voluntary standards referring to sustainability, especially international standards, into public procurement provides a powerful means to upscale their adoption on the one hand while contributing to innovation level of public sector on the other.

Environmental Technology Verification or ETV in short is a voluntary environmental scheme based on international technical standard ISO 14034 Environmental Management: Environmental Technology Verification. Since 2019 this ISO ETV standard has the status of European Norm. At EU level, ETV has been implemented as a programme of the European Commission. Gaining recognition of the quality of ETV, the ETV process and ETV products is a crucial objective for ETV as a condition for the capacity of the scheme to actually support market uptake and diffusion of new environmental technologies through GPP and IP.

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<sup>3</sup> COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A new Circular Economy Action Plan For a cleaner and more competitive Europe COM/2020/98 final

<sup>4</sup> Europe Innova. (2008). Standards in European Public Procurement leading to Innovation (STEPPIN). Brussels: European Commission



# GREEN INNOVATIONS, PUBLIC PROCUREMENT AND PUBLIC PROCUREMENT OF INNOVATION

**Green Public Procurement (GPP)** is defined as “a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured.”<sup>5</sup> In that sense GPP integrates public domain with environmental policy objectives.

GPP also belongs to key levers that can create right market conditions to diffuse “out of the shelf” new environmental products, processes and services with proven technical performance due to two main reasons:

- ✓ public authorities and entities share supply chains with the private sector and in this sense share also the responsibility and role in achieving environmental policy goals,
- ✓ huge purchasing power of GPP, that already in 2016 represented 14% of the EU GDP, accounting for roughly EUR 1.8 trillion annually.<sup>6</sup>

<sup>5</sup> Communication (COM (2008) 400) “Public procurement for a better environment”, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52008DC0400>

<sup>6</sup> Buying Green! - A Handbook on green public procurement [https://ec.europa.eu/environment/gpp/buying\\_handbook\\_en.htm](https://ec.europa.eu/environment/gpp/buying_handbook_en.htm)

**Public procurement of innovation** or innovation procurement (**IP**) is defined as procurement where contracting authorities act as a launch customer of innovative goods or services which are not yet available on a large-scale commercial basis, and may include conformance testing<sup>7</sup>. IP has to be differentiated from pre-commercial procurement (PCP) in which only R&D services are purchased<sup>8</sup>.

The role of IP is to help public buyers in purchase of new or significantly improved products, services, or works compared to those already available on the market and thus integrate public domain with innovation ecosystem.

Being triggered by the current environmental policy objectives, innovation procurement involving sustainability aspects is gaining growing attention and importance in delivering and accelerating market uptake of novel green solutions that can generate important measurable positive changes and benefits for greening the public sector thanks to innovation.

## GPP and IP: Key differences

It should be highlighted, that GPP and IP differ in the scope of procurement. In GPP, beside proven technical performance requirements, the primary focus is on demonstrating the environmental performance of goods, services that already exist on the market with innovation aspects being additional attributes. Innovation procurement, by definition, focuses on the purchase of novel solutions with superior technical/functional performance, not existing on the market yet which may, however, include environmental performance aspects. Also, the key difference between GPP and IP consists in the risk factor, where risk is an inherent element of the innovation procurement process, whereas in GPP the tendency is to avoid the risk.

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<sup>7</sup> Art.2(18), Horizon 2020 Rules for Participation Regulation No 1290/2013.

<sup>8</sup> European Commission Communication COM(2007) 799 'Pre-commercial Procurement: driving innovation to ensure sustainable high quality public services in Europe'.



# THE POLICY AND LEGISLATIVE CONTEXT FOR GREEN INNOVATIONS IN PUBLIC PROCUREMENT

Currently, both GPP and IP remain voluntary instruments at EU level. To facilitate the inclusion of green requirements in public tender documents, the European Commission has developed common voluntary GPP criteria at EU level for more than 20 sectors. There are, however, areas where EU legislation imposes the use of green criteria for public authorities in tenders (e.g. environmentally friendly vehicles, purchase of energy-efficient buildings and equipment of the highest energy labelling class, etc.). It may be expected, that together with the implementation of the EU Green Deal and the supporting framework policies, especially Sustainable Products Initiative or policies relevant to sustainable financing, the role of GPP will become more prominent as a policy tool for promoting green, innovative and inclusive growth, with environmental criteria receiving a market value and becoming mandatory for sectoral legislation and reporting.

Also the new Circular Economy Action Plan adopted in March 2020<sup>9</sup>, foresees a proposal of minimum mandatory GPP criteria and targets in sectoral legislation. Some practices in this area at a national level already exist. For example, Italy implemented obligatory Minimum Environmental Criteria for eleven categories of products and services<sup>10</sup>.

The role of GPP criteria for purchase of technologies seems to be fostered soon also by the technical screening criteria set in Green Taxonomy<sup>11</sup> secondary legislation.

Current EU legislation on public procurement provides a special procedure for buying innovative solutions, i.e. an innovation partnership<sup>12</sup>. Innovation partnership is structured in successive phases following the sequence of steps in the research and innovation process, which may include the manufacturing of the products, the provision of the services or the completion of the works.

Innovation partnership sets intermediate targets to be attained by the partners and provides for payment of the remuneration in appropriate instalments. In innovation partnership, the contracting authority may decide after each phase to terminate the innovation partnership or, in the case of an innovation partnership with several partners, to reduce the number of partners by terminating individual contracts, provided that the contracting authority has indicated in the procurement documents those possibilities and the conditions for their use. Beside the special procedure of innovation partnerships, innovation procurement may use classical public procurement procedures offered by the public procurement directives (e.g. open/negotiated procedure, competitive dialogue etc.) to buy goods and services on commercial market.

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<sup>9</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions „A new Circular Economy Action Plan For a cleaner and more competitive Europe dated on 11.3.2020 (COM(2020) 98 final).

<sup>10</sup> Codice Appalti, Legislative Decree No 50 of 18 April 2016  
[https://www.codiceappalti.it/Home/Legge/?legge=Italian\\_Procurement\\_Code](https://www.codiceappalti.it/Home/Legge/?legge=Italian_Procurement_Code)

<sup>11</sup> Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088.

<sup>12</sup> Art. 31 of the Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC, art. 49 of the Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC.

# Section 1.

What is ETV?



**Environmental Technology Verification (ETV)** is an environmental scheme dedicated to accelerate the acceptance and diffusion of innovative environmental technologies by providing technology providers, buyers and investors access to third-party validation of the performance of innovative environmental technologies.<sup>13</sup>

ETV proves in an impartial and credible way that the claims about an environmental technology performance made by providers are true and based on sound scientific data.

In this way ETV helps:

- manufacturers prove the reliability of performance claims of their innovations and thus help them market the technologies,
- technology purchasers identify performing environmental technologies fitting best their needs,
- facilitate the implementation of the EU and MS policies and regulations for environment and innovation.

As mentioned in the introduction, the ETV process and its procedures are defined by a technical standard ISO 14034 Environmental Management: Environmental Technology Verification which since 2019 has been adopted as European Norm.

In Europe, ETV has been launched as a voluntary environmental scheme by European Commission and is operated as an EU ETV Programme.

The technology scope of the EU ETV Programme covers 7 technology areas out of which 3 are currently operational (marked green) with 4 other areas (marked blue) to become operational in 2022 as indicated in Figure 1.

## Which technologies can be verified under ETV?

ETV is open to new environmental technologies defined as products, processes or services, that are either already available on the market or at an early market stage, i.e. representing the technology readiness level of minimum TRL7. The candidate technologies must comply with the definition of environmental technology provided in EN-ISO 14034 adopted for the EU ETV Programme and fall under one of the technology areas specified in the EU ETV.

<sup>13</sup> More information on ETV: [https://ec.europa.eu/environment/ecoap/etv/about-etv\\_en](https://ec.europa.eu/environment/ecoap/etv/about-etv_en)

### ETV TECHNOLOGY SCOPE NOW

Water treatment and monitoring



Energy technologies



Materials, waste and resources



### ETV TECHNOLOGY SCOPE EXTENDED

Cleaner production and processes



Soil and groundwater monitoring and remediation



Air pollution monitoring and abatement



Environmental technologies in agriculture



Figure 1. Technology areas of the EU ETV Programme

## Who can apply for verification?

The proposer can be any legal entity or natural person, which can be the technology owner, manufacturer or an authorised representative of either. With consent of technology owners and/or manufacturers, the proposer can be another stakeholder undertaking a specific verification programme involving several technologies, for example as part of innovation procurement procedures.

## Who verifies?

Verifications are performed by Verification Bodies<sup>14</sup> – organisations accredited for compliance to standard EN-ISO/IEC 17020<sup>15</sup> for type A inspection bodies by National Accreditation Bodies (NABs) established under law in each of the Member States in application of Regulation (EC) No765/2008. They shall comply with the requirements of ISO/IEC 17011 and hold signatory status in the EA Multilateral Agreement for accreditation of inspection bodies to ISO/IEC 17020.

## How does ETV work?

Verification of technology performance under ETV follow a 6-step process as presented in Figure 2. Step 4: Generation of test data may be omitted on condition that the ETV proposer provides a set of data supporting the performance claim to be verified that is adequate, sufficient and relevant for the claim and meets the test data quality requirements defined for ETV.

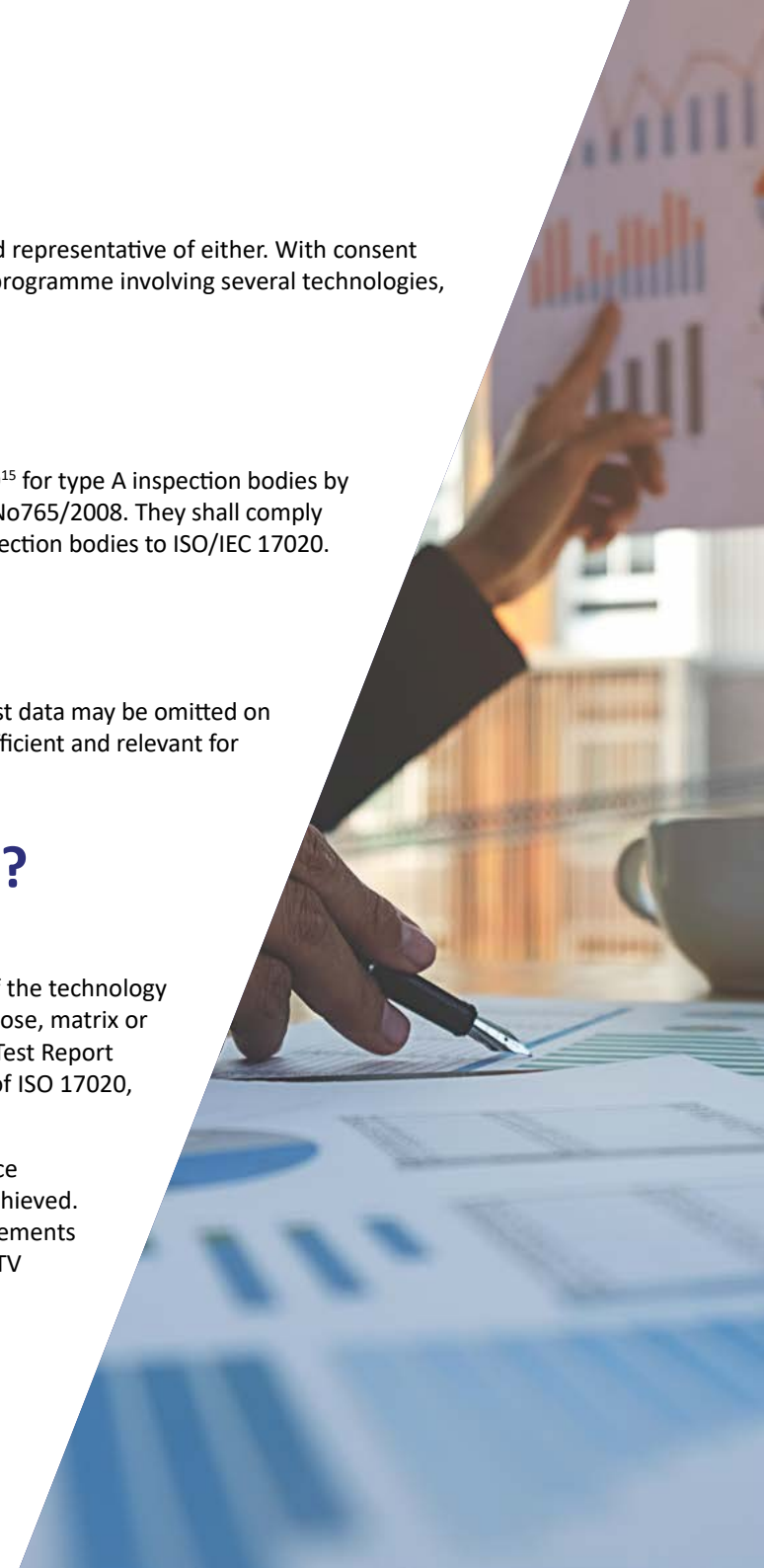
## What are the key outputs of the verification process?

The key end products of ETV are:

- **Verification Report** which presents the applied verification processes, tests performed and the verified performance of the technology expressed as performance parameters and their numerical values taking into account its intended application, i.e. purpose, matrix or matrices to which it applies as well as all conditions, limitations and assumptions valid for the verified performance. A Test Report presenting the testing activities and their results is typically an integral part of the Verification Report. In the meaning of ISO 17020, the Verification Report is equivalent to inspection report.
- **Statement of Verification.** This document is a summary of the Verification Report and presents the verified performance parameters and their numerical values together with the conditions under which the verified performance has been achieved. In the meaning of ISO 17020, this document is understood as inspection certificate. Under the EU ETV Programme Statements of Verification are registered by the European Commission or its designated services and published on the official EU ETV Programme website. For transparency reasons, publication of Verification Reports is also envisaged.

<sup>14</sup> The list of the accredited Verification Bodies is provided on the EU ETV Programme website

<sup>15</sup> Conformity assessment — Requirements for the operation of various types of bodies performing inspection



# How does ETV work?



## CONTACT

Proposer contacts a verification body to get information on the process, check if the technology is a good candidate for ETV together with an idea of the performance claim to be verified



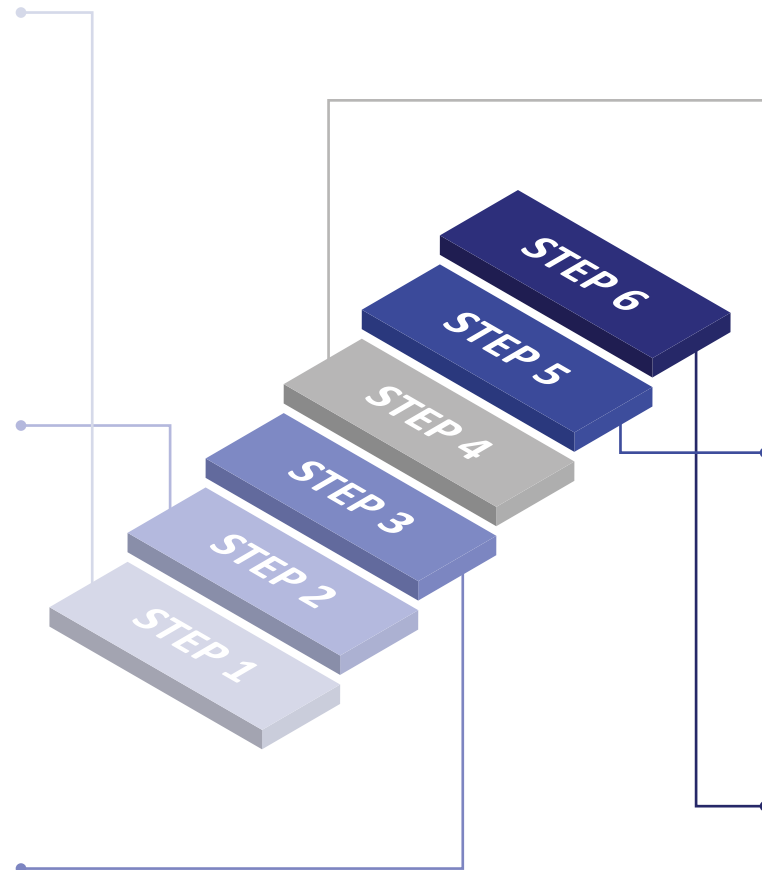
## APPLICATION

Proposer submits an application file detailing information about the technology together with the performance claim and existing test data. Verification body decides on the eligibility of the technology for ETV and revises the performance claim to be verified.



## SPECIFIC VERIFICATION PROTOCOL

Verification Body develops the specific verification protocol including a detailed plan of the verification together with specification of the parameters to be verified and test data requirements, assesses the existing data and decides whether further tests are needed



## GENERATION OF TEST DATA

If the existing test data does not meet the requirements defined in the specific verification protocol the proposer is requested to perform additional testing typically with an appropriate test body.



## VERIFICATION OF PERFORMANCE

Verification Body reviews the final set of data, concludes on the verified performance and develops the Verification Report and Statement of Verification.



## PUBLICATION

ETV Secretariat registers and publishes the Statement of Verification on the EU ETV website.

Figure 2. An overview of the ETV process

## ETV vs. certification: Key differences<sup>16</sup>

ETV is often confused with a certification scheme. Certification confirms whether products meet specified standards normally established by independent organisations, whereas verification is the process of independently validating performance claims put forward by the owner of the technology.

ETV includes independent confirmation of tested and quantified performance claims, whereas certification is generally issued according to compliance with pass/fail criteria included in a relevant standard. Verifications are not exhaustive and include those operational, environmental and additional parameters considered relevant and agreed by the technology developer and the Verification Body, but it cannot be guaranteed that all possible parameters related to technology performance have been considered. The parameters for certification, against which compliance is assessed, are fixed and defined by an independent organisation (e.g. a standardisation body such as CEN/CENELEC) according to the standard against which certification is assessed. The verified performance statement provided in the Statement of Verification is based on a 'snapshot' of the technology performance. There is no regular third-party surveillance in the ETV scheme to confirm that the technology continues to meet the performance claim(s) in the Statement of Verification. Certification requires that changes to the certificated technology be reported in advance to the certification body so that checks can be made to ensure the product continues to meet the requirements for certification. In ETV it is the owner of a technology that is responsible for ensuring that the verified technology conforms to the published Statement of Verification and for taking action in light of any changes to the technology with respect to meeting the verified performance claims. Unlike certification, in ETV, on-going consistency of the manufacturing process is not verified.

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<sup>16</sup> Adopted from: EU ETV TWG Reference document 00 1 /2016 Adopted on 07 /06/2016 Version 1.0 6 N Clarification on the meaning of 'verification' under ETV and differences from certification. February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC.



# Section 2.

The utility of ETV for GPP and IP

# What makes ETV suitable to support GPP and IP?

There are four key features related to credibility, transparency and quality that decide about a legitimate use of ETV for GPP and IP (Figure 3):

- robust, transparent and ISO standardised ETV process and procedures,
- quality and impartiality assurance framework of ETV,
- suitability of the scheme to address innovations,
- test data as the evidence to verify the performance.

## *ETV standardised process*

The principles, procedures and requirements for environmental technology verification are specified in technical standard EN ISO 14034: Environmental management: Environmental Technology Verification. They are integrated in full in the EU General Verification Protocol (GVP) which serves as the main technical reference for the implementation of the EU ETV Programme.

Therefore, beside support in the procurement, ETV may also facilitate the standardisation aspects of innovation developed and purchased under IP benefiting from the pre-normative ETV procedures and quality assurance framework, for example in the case of technologies with industrial applications that fall under the Industrial Emissions Directive to become recognised as Best Available Techniques or Emerging Techniques in BREFs or for upgrading or setting up new standards based on the performance of technologies.

## *Quality and impartiality assurance framework*

The EU ETV scheme embeds adequate standards of quality into the procedures. These standards are well recognised on EU Single Market and by World Trade Organisation. Verification Bodies undertaking the verifications under the EU ETV Programme, must be accredited by national accreditation bodies for compliance to standard *EN ISO/IEC 17020 Conformity assessment – Requirements for the operation of various types of bodies performing inspection* for type A inspection bodies. The GVP must be integrated in the accreditation scope of inspection activities of the Verification Bodies. By complying with the requirements of the GVP, the verification procedures of accredited Verification Bodies are presumed to comply also with ISO 14034. In other terms, the GVP defines an inspection scheme with the meaning of ISO/IEC 17020 and implementing ISO 14034.



# ETV features making it a useful tool for GPP and IP

## *ISO standardised process*

- Robust and transparent verification procedures based on ISO 14034 standard: Environmental Management: Environmental Technology verification,
- EU and global recognition.



## *Quality and impartiality assured*

- Performance test data must be generated compliant to ISO 17025 requirements,
- Bodies performing ETV are accredited for compliance to ISO 17020 for type A inspection bodies.



## *Fit for early market innovations*

- Provides flexibility in the choice of parameters to be verified,
- Enables proving performance claims of innovations which fall outside regulations or standards or which do not fit into existing legislative, labelling or standardised performance frameworks.



## *Factual approach*

- Statements of Verification are based on factual and relevant evidence confirming objectively the performance of environmental technologies.



Figure 3. ETV features making it a useful tool for GPP and IP

## ***Fit for early market stage innovation***

ETV is fit for early market stage products with innovative features.

Unlike compliance/certification schemes, ETV offers flexibility in the choice of performance parameters to be verified so as to reflect the above average performance and environmental added value of green innovations. Therefore, it enables proving performance claims of technologies which performance falls outside regulations or standards or which do not fit into existing legislative, labelling or standardised performance frameworks with the same quality and impartiality level as compliance certification schemes used for mature technologies.

## ***Quality assured test data***

ETV uses as a basis for verification a “defendable and complete data set” produced through testing. It must be adequate, relevant and sufficient to support the claimed performance. The testing is carried out by independent Test Bodies compliant to the requirements of the standard EN ISO/IEC 17025 *General requirements for the competence of testing and calibration laboratories*. Testing is done based on a Test Plan agreed with the Verification Body. It details the testing conditions, methods, limitations and assumptions relevant to the claim. For testing, whenever possible, standardised test methods, preferably International Standards are used. Test results are summarised in a Test Report approved by the Verification Body that is integrated to the Verification Report.





# What can be purchased with the support of ETV?

ETV is primarily intended for use in B2B rather than B2C relations so the nature of the purchase which ETV may support is less focused on typical consumption goods and services. From that perspective, ETV may be helpful in particular to the purchases made, for example by cities or utilities offering public services concerning processes, products and services relevant for e.g. water and wastewater treatment and monitoring, solutions helping adaptation of cities to climate change (e.g. stormwater management systems), solutions improving waste management as well as resource and energy recovery, energy production and energy efficiency, air pollution mitigation and monitoring, use of biobased products for green areas maintenance, secondary raw

material based process for urban construction works, etc. ETV may also support other entities, e.g. state owned enterprises following public procurement rules in purchase of innovations with industrial applications, e.g. for clean production and processes.

Also from the applicability of ETV and the nature of purchases under GPP and IP the following 2 aspects are relevant:

- technology maturity for which ETV applies,
- demonstration of a reduced environmental impact of a technology.

## *Technology maturity*

As already indicated in the section on ETV, the scheme is dedicated to new technologies (processes, products or services) falling into the 7 technology areas of the EU ETV already available on the market or market entrances demonstrating the Technology Readiness Level (TRL) of minimum 7, i.e. at least at the stage of an industrial scale prototype demonstrated in operational environment. In practical terms that means that the product, process or service must be at such development stage where no further changes with an impact on its performance shall be made. In simple terms, the verified unit should be identical to the one offered or to be offered on the market.

That means:

- technology and all its components (apparatus, processes, products) are full-scale and commercially available, or
- technology prototype is the final design and represents a pre-commercial unit prior to manufacture or supply of commercial units where no changes will be made that could impact its claimed performance, or
- technology is a pilot scale unit used to provide data which, when used with demonstrated scale up factors that do not influence its performance, prove that the commercial unit will satisfy the performance claim.

Therefore, the options for using ETV in GPP and IP are determined by the requirements concerning technology readiness level applicable for each procurement modality. For example, for GPP that is usually targeting for “off-the-shelf” solutions with proven performance, the portfolio of the already verified technologies with EU ETV Verification Reports including Test Reports and Statements of Verification may be useful at different procurement stages.

IP includes the process of proving targeted performance of the innovation. Here, ETV may offer a framework for testing and verifying the performance of green innovations based on its ISO standardised process and requirements.

Section “ETV along the procurement stages” presents in details the options on using ETV both in GPP and IP procurement process.

## Demonstration of reduced environmental impact

The purpose of GPP is to purchase goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured.

ETV proves the reduced environmental impact in two ways:

- by assessing the environmental added value of a technology as an eligibility criterion leading to determination if the technology complies with the definition of an environmental technology,
- by verification of the performance that includes parameters reflecting the positive or less adverse impact of the technology on the environment resulting from the assessment of the environmental added value. They may be expressed as environmental parameters or through technical/functional performance parameters when they are directly linked to the environmental parameters.

**Environmental added value** is defined as a more beneficial or less adverse environmental impact of a technology considered from the perspective of its life cycle compared to solutions with similar function currently used applied in a similar situation to address a given problem<sup>17</sup>. The life cycle perspective involves consideration of the main environmental benefits and pressures or impacts generated by a technology along the stages of its life cycle: from the extraction of raw materials, manufacturing process, use and maintenance, until the end of life of related equipment or products. It should be highlighted that ETV does not have the same objective or provide the same information as specialised environmental tools based on life-cycle information such as Life-Cycle Analysis (LCA), Environmental Product Declaration (EPD) or Product Environmental Footprint (PEF). These schemes are intended to provide complete information on the different environmental aspects of a process, product or service. In ETV the focus is on these life stages of a technology that are relevant for demonstrating the environmental impacts (both positive and negative) of the technology to be verified in comparison to the relevant alternatives.

The environmental aspects considered for the technology life stages concerned in the environmental added value assessment include the following:

- emission of greenhouse gases,
- emission of pollutants to the air, water and soil,
- use of resources,
- use of energy (incl. from renewable sources),
- water consumption and associated processes,
- generation of waste, incl. hazardous waste.

The environmental added value assessment may also include additional parameters on the overall productivity of the technology relevant for circular procurement, for example:

- production efficiency – productivity, i.e. the differences in productivity of the technology vs. the relevant alternative, i.e. technology commercially available (e.g. for recycling: ratio of substance recycled vs. quantity of substance contained in the waste),
- production efficiency – final quality i.e. the differences in the quality of the final product vs. the relevant alternative (e.g. for recycling: the level of purity of the recovered substance).

The assessment is done based to a maximum possible extend on quantitative data for these stages relevant to demonstrate the reduced environmental impact. The assessment may also supplement the specification of the performance to be verified by identifying additional environmental parameters that are relevant for the technology so as to ensure credibility, transparency and complexity of the information provided by ETV.

<sup>17</sup> Adopted from EN ISO 14034.

*Examples of how an environmental process, product or service may create an environmental added value:*



Because of the way a technology is designed to cause lower environmental impact during operation compared to conventional solution or create an opportunity;



Because it involves secondary raw materials as substitutes of raw materials;



The production process is less energy/ resource consuming and/or generates less waste or lower emission;



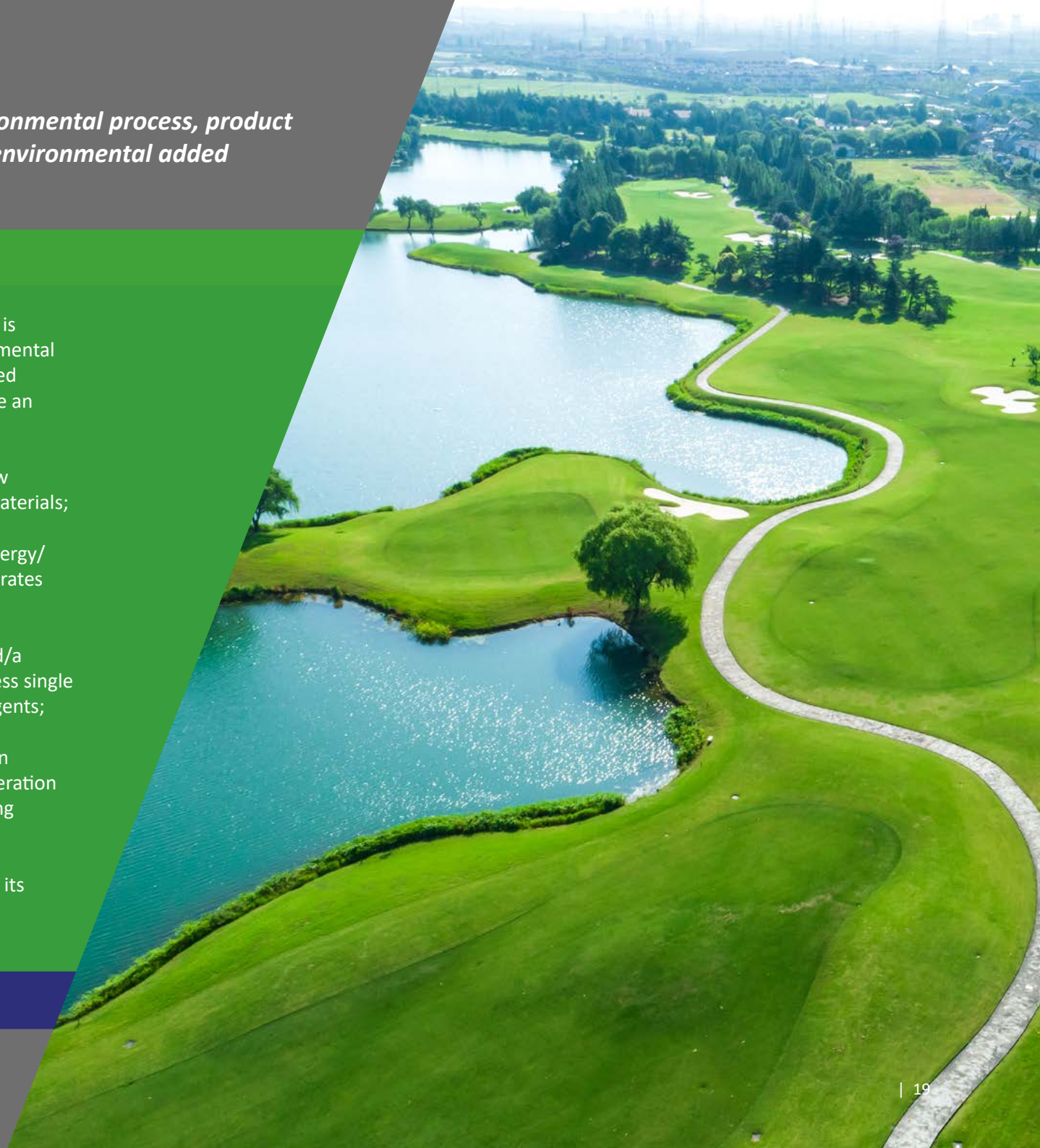
The way a technology is operated/a product is used, e.g. it requires less single use plastic parts or chemical reagents;



The product has a modular design which allows for recycling/regeneration of some parts instead of landfilling of the total piece;



A product is biodegradable while its competitors are not.



# How ETV addresses the EU GPP criteria?

Since 2008, the Commission has developed common GPP criteria for more than 20 categories of purchases and sectors to facilitate the inclusion of green requirements in public tender documents. They adopt available scientific information and data and a life-cycle approach and allow to identify key environmental hotspots relevant for a given sector. Procuring authorities may choose, according to their needs and ambition level, to include all or only certain requirements in their tender documents. At the same time one of the issues related to these criteria is the ease of verification.

Also the GPP guidance proposes two types of criteria for each sector covered:

- **core criteria** - suitable for use by any contracting authority across the Member States and addressing the key environmental impacts, designed to be used with minimum additional verification effort or cost increases,

- **comprehensive criteria** are for those who wish to purchase the best environmental products available on the market, may require additional verification effort or a slight increase in cost compared to other products with the same functionality.

The performance parameters verified under ETV may address both core and comprehensive criteria related to technical specification as well as award criteria including data necessary for life cycle-costing (both core and comprehensive) in many cases.

# What information ETV provides to contracting authorities?

ETV should be considered in GPP and IP in a way to provide a level playing field for green innovations, however, ensuring at the same time that other independent third party conformity assessment schemes are also recognised as equivalent means of proof.

ETV provides two types of information concerning the environmental technology concerning:

- **Technical viability** of the technology to address a given environmental problem or create an opportunity: ETV delivers proofs that the technical design of the technology allows to achieve its declared performance (this information is generated by adopting elements of Module B, paragraph 3 of Decision No 768/2008/EC of the European Parliament and of the Council on a common framework for the marketing of products<sup>18</sup>. This information is presented as numerical value of the technical/functional performance parameters verified under ETV.

- **Environmental impacts of the technology whether beneficial or less adverse.** ETV delivers proofs that the problem will be solved or an opportunity created without causing more negative environmental impacts than these caused by incumbents or by delivering specific environmental benefits.

The scope of information provided in ETV Statements of Verification, compared to Type I Ecolabel and in relation to subject matter of the contract demonstrates potential to apply them as proofs for compliance with the technical and environmental specifications of the tenders as well as award criteria.

In addition, when labels do not exist for the category of products services and process covered by the procurement, ETV can be a natural scheme to give a methodological framework for the assessment of the technical criteria and the environmental criteria defined in the specifications and award conditions (independent third party verification, life-cycle approach, high quality data requirement, multicriteria analysis of the environmental added value, etc.).

<sup>18</sup> DECISION No 768/2008/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 July 2008 on a common framework for the marketing of products, and repealing Council Decision 93/465/EEC (Text with EEA relevance).



# Key ETV terms and definitions and their compliance with the GPP and IP legal requirements

## *Definition of technology (process, product or service) vs. definition of products, works and services in public procurement*

The ETV technical standard EN ISO 14034 defines technology as a process, product or service.

Article 2 of the Directive 2014/24, defines public procurement as acquisition of works, supplies or services by means of a public contract. The term 'work' means the outcome of building or civil engineering works taken as a whole which is sufficient in itself to fulfil an economic or technical function.

'Public works contracts' means public contracts having as their object one of the following:

- a) the execution, or both the design and execution, of works related to one of the activities within the meaning of Annex II,
- b) the execution, or both the design and execution, of a work,
- c) the realisation, by whatever means, of a work corresponding to the requirements specified by the contracting authority exercising a decisive influence on the type or design of the work.

The term 'public supply contracts' means public contracts having as their object the purchase, lease, rental or hire-purchase of products, with or without an option to buy. A public supply contract may include, as an incidental matter, siting and installation operations.

'Public service contracts' means public contracts having as their object the provision of services other than those referred to above as public works contracts. Similar definitions are used in Article 2 of the Directive 2014/25.

**In the light of the above definitions, the purchase of environmental technology can be conducted under the public procurement procedure as a procurement of works, supplies or services. In practice, the public procurement of environmental technology can comprise at least two or three of the above-mentioned procurement types (works, services or supplies) in one procedure. The reason is that contracts for purchase of environmental technology are complex and therefore may implement a mix of provisions for acquiring of works, services or supplies.**

## Definition of environmental technology in ISO 14034:2016 vs. definition of environmental technology under GPP

Under ETV product, process, or service is considered as environmental technology when:

- it demonstrates environmental added value, i.e. more beneficial or less adverse environmental impact with respect to the technologies applied currently in a similar situation (e.g. water treatment technologies, biobased products, energy production technologies based on RES, energy efficient solutions, cleaner production processes, etc.), or
- measures parameters that indicate environmental impacts (e.g. air quality monitoring equipment, probes and samplers, etc.).

The European Commission's documents related to GPP define the term 'environmental technology' as any technology designed to prevent or reduce the environmental impacts, at any stage of the life cycle of products or activities (Communication COM (2008) "Public procurement for a better environment", p. 2).

**The ETV definition of an environmental technology is fully compatible with the definition provided for GPP as both focus on reduced environmental impact.**

## Definition of innovative environmental technology vs. innovation definition in IP

Under the Directive 2014/24 and the Directive 2014/25, 'innovation' means the implementation of a new or significantly improved product, service or process, including but not limited to production, building or construction processes, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations, inter alia, with the purpose of helping to solve societal challenges or to support the Europe 2020 strategy for smart, sustainable and inclusive growth.

EU GVP defines the term innovative environmental technology as a technology that represents a novelty in terms of design, raw materials and energy involved, production process, use/operation, recyclability or final disposal compared to technologies currently applied in similar situation.

**In ETV the term innovation is interconnected with the technical / functional performance of the technology and its environmental added value which corresponds to the societal challenges mentioned in the definition provided for the innovation procurement. Therefore the purchase of innovative environmental technology can be regarded under the Directive 2014/24 and the Directive 2014/25 as a purchase of innovation.**



## ***Status of the verification body as third party compliance assessment body vs. requirements in GPP and IP***

Under the current EU legislation on public procurement (art. 44 of the Directive 2014/24/EU, art. 62 of the Directive 2014/25/EU), concerning GPP and IP, contracting authorities have an option to require that economic operators provide a Test Report from a conformity assessment body or a certificate issued by such a body as means of proof of conformity with requirements or criteria set out in the technical specifications, the award criteria or the contract performance conditions (however, contracting authorities shall accept other appropriate means of proof, such as a technical dossier of the manufacturer where the economic operator concerned had no access to the certificates or Test Reports, or no possibility of obtaining them within the relevant time limits, provided that the lack of access is not attributable to the economic operator concerned and provided that the economic operator concerned thereby proves that the works, supplies or services provided by it meet

the requirements or criteria set out in the technical specifications, the award criteria or the contract performance conditions). According to art. 2 p. 21 of Regulation (EC) No 765/2008 'conformity assessment' shall mean the process demonstrating whether specified requirements relating to a product, process, service, system, person or body have been fulfilled. Under this legislation conformity assessment body shall be a body that performs conformity assessment activities including calibration, testing, certification and inspection accredited in accordance with Regulation (EC) No 765/2008.

**Verification Bodies as entities of the ETV scheme fulfil this definition and therefore can be regarded as conformity assessment bodies within the meaning of art. 44 of the Directive 2014/24/EU and art. 62 of the Directive 2014/25/EU.**

## ***Status of the ETV Verification Report***

ETV Verification Reports include as an integral part a description of all testing activities performed, including a Test Report with the produced performance data used to verify the technology. Therefore, ETV Verification Report that holds at the same time a status of an inspection report may be considered in GPP and IP as equivalent to Test Reports from a conformity assessment body.

## ***Status of ETV Statements of Verification***

GPP criteria recommend in some cases requirement of verification based on products holding the EU Ecolabel or another relevant Type I ecolabel (according to ISO 14024) fulfilling the same specified requirements. In exceptional cases GPP criteria recommend explicitly the requirement of verification by an independent third party. At contract performance stage, GPP criteria in general recommend requirement of verification based on labels or certificates.

ETV Statement of Verification is not a label within the meaning of public procurement directives, but can be in such cases used as an equivalent to ecolabels as means of proof, in particular to Ecolabels Type I based on ISO 14024, awarded by independent third parties. ETV Statements of Verification can be also used as equivalents of third-party certification.



# Section 3.

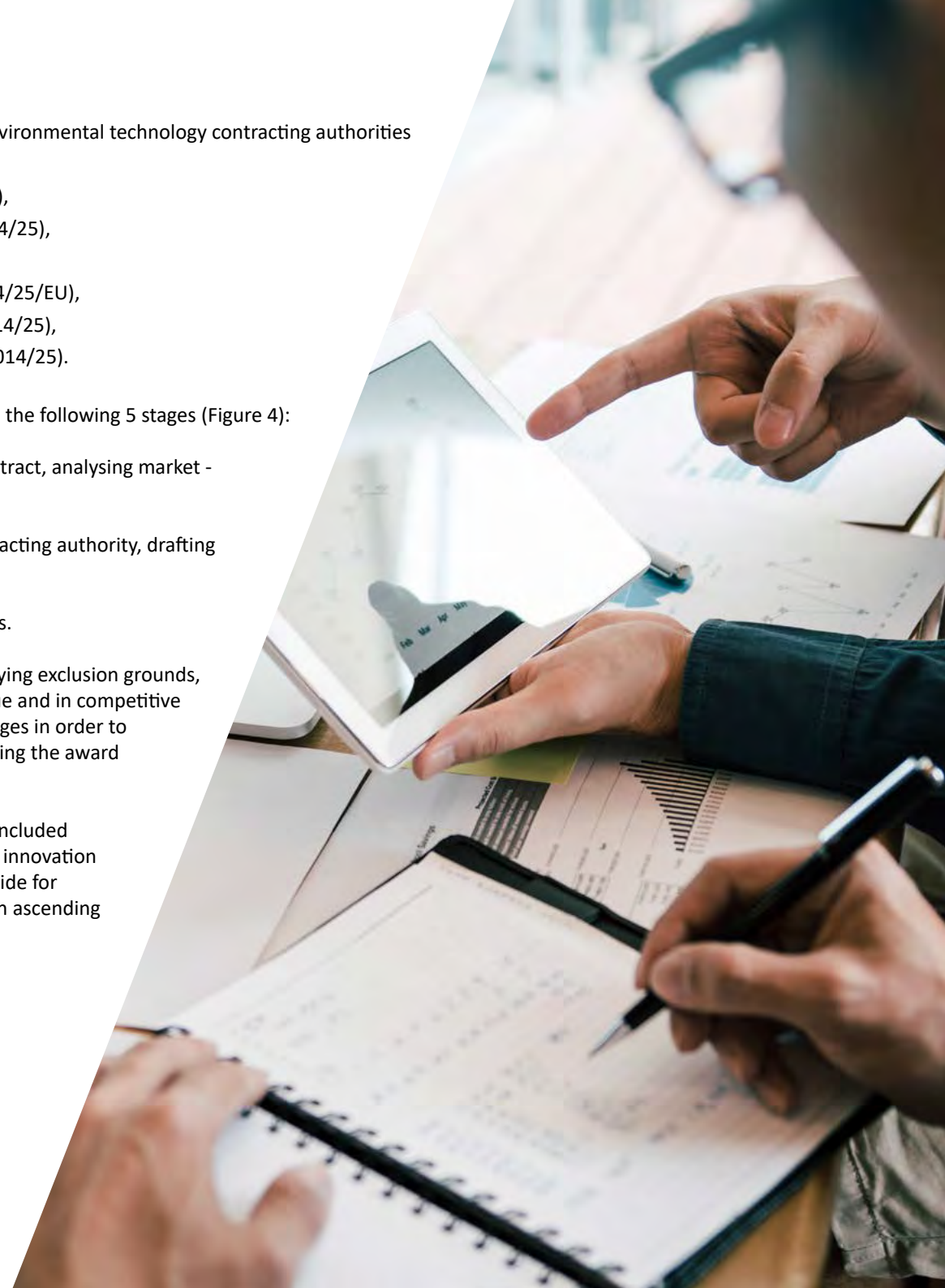
How ETV may help in GPP and IP?

Under the EU Procurement Directives (2014/24/EU and 2014/25/EU), for acquiring environmental technology contracting authorities may choose between five types of procurement procedures:

- **Open procedure** (art. 27 of the Directive 2014/24, art. 45 of the Directive 2014/25),
- **Restricted procedure** (art. 28 of the Directive 2014/24, art. 46 of the Directive 2014/25),
- **Competitive Procedure with Negotiation** (art. 29 of the Directive 2014/24),
- **Negotiated Procedure with prior call for competition** (art. 47 of the Directive 2014/25/EU),
- **Competitive Dialogue** (art. 30 of the Directive 2014/24, art. 48 of the Directive 2014/25),
- **Innovation Partnership** (art. 31 of the Directive 2014/24, art. 49 of the Directive 2014/25).

In general, conducting of any of these types of public procurement can be divided into the following 5 stages (Figure 4):

1. **Identification of contracting authority's needs** - defining the subject matter of contract, analysing market - benchmarking of existing solutions, choosing of the procedure's type.
2. **Planning and preparation** - preparing of procurement documentation by the contracting authority, drafting technical specifications and award criteria, preparing procurement documents.
3. **Announcement of tender** - advertising, providing clarification, collection of tenders.
4. **Evaluation of tenders (choice of participants) and awarding of the contract** - applying exclusion grounds, selecting suitable tenders, awarding and signing of contract; in competitive dialogue and in competitive procedures with negotiation evaluation of tenders may take place in successive stages in order to reduce the number of solutions to be discussed during the dialogue stage by applying the award criteria laid down in the contract notice or in the descriptive document.
5. **Performance of an awarded contract** – performing obligations according to the concluded contract, verifying conformity of received benefits with the contract; in the case of innovation partnership a contract can be concluded with several competing partners and provide for different phases effecting in development of initially chosen ideas into outputs with ascending technology readiness level.



# Stages of public procurement procedure

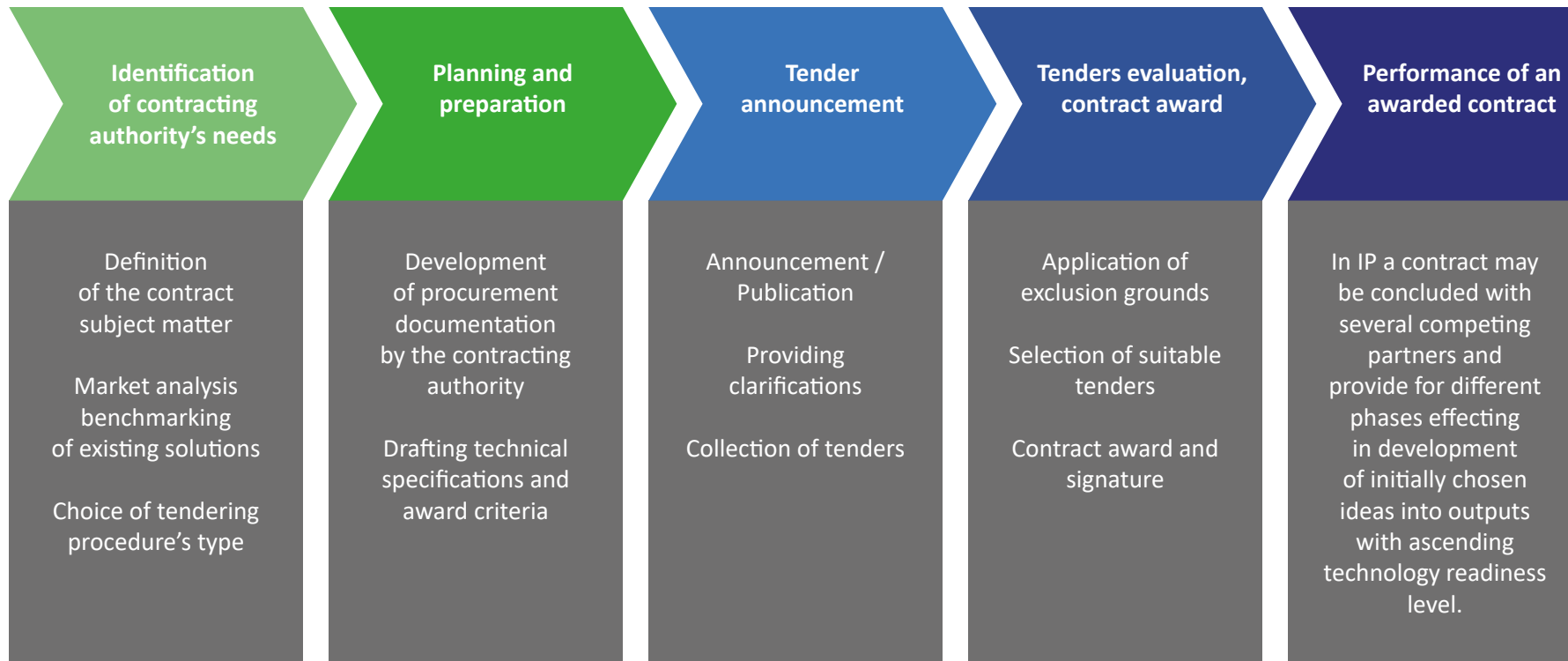


Figure 4. Stages of public procurement procedure

ETV can be used to support the contracting authority either on planning and preparation stage, tenders evaluation stage or performance of an awarded contract stage. Details are presented in the following subsections and summarised in section: Use of ETV along the procurement stages.

# Section 4.

Use of ETV along  
the procurement stages

## IDENTIFICATION OF CONTRACTING AUTHORITY'S NEEDS

Green Public Procurement and Innovation Procurement	Green Public Procurement	Innovation Procurement
ETV Statements of Verifications may serve as a reference for the sourcing purpose.	ETV Statements of Verification may serve to: <ul style="list-style-type: none"><li>• identify the current state of performance and environmental parameters of existing products and services,</li><li>• to determine whether the performance of available technologies meets the needs of the contracting authority.</li></ul>	ETV Statements of Verification may help determine: <ul style="list-style-type: none"><li>• availability of products or services satisfying the needs of the contracting authority,</li><li>• facilitate decision making on the need for concluding an Innovation Partnership if such offer does not exist on the market.</li></ul>

## LEGAL BASIS

According to art. 40 of the Directive 2014/24, art. 58 of the Directive 2014/25, before launching a procurement procedure, contracting authorities may conduct market consultations with a view to preparing the procurement and informing economic operators of their procurement plans and requirements. For this purpose, contracting authorities may, for example seek or accept advice from independent experts or authorities or from market participants. That advice may be used in the planning and conduct of the procurement procedure.

At this stage of a procurement procedure the existing ETV Statements of Verification can be used by contracting authorities or by market participants as a source of information about the current state of performance and environmental parameters of the existing products and services.

## PLANNING AND PREPARATION

### Green Public Procurement and Innovation Procurement

ETV Statements of Verification may serve as a reference for :

- definition of methods of proof and other requirements to be specified in tender documentation (incl. draft contract) relevant for:
  - demonstrating compliance with the technical specifications and award criteria at the evaluation stage,
  - demonstrating a proper fulfilment of the contract (achieved performance) at the end of contract performance,
- development of technical specifications to define the required minimum environmental and technical performance parameters,
- definition of award criteria, including environmental criteria and their relative weighting.

### Green Public Procurement

- ETV Statements of Verification may support the definition of the numerical values of the parameters in technical specifications (minimum requirements) as well as identification of other parameters relevant for technical specifications not referred to in the existing EU GPP guidance documents or procurement categories but relevant for specific needs of the contracting authority.
- In the draft contract ETV Statements of Verification may be indicated as an optional method of proof of the achieved performance together with a requirement that the performance data used as a proof must be generated by an accredited third-party body.

### Innovation Procurement

- EU ETV Statements of Verification may be helpful to define technical and environmental performance criteria for the successive phases of the Innovation Partnership to set up intermediate targets and their ambition level to be attained by the partners/ developed innovations,
- ETV procedure including the requirements of performance test data generation compliant with the requirements of ETV may provide an overall framework to be adopted in tender documentation (including a draft contract) for specifying a method to be applied for tender evaluation as well as verifying contract fulfilment at individual stages of the procurement.

## LEGAL BASIS

According to art. 42 of the Directive 2014/24, art. 60 of the Directive 2014/25, the technical specification (set out in the procurement documents) shall lay down the characteristics required of works, service or supply. Those characteristics may also refer to the specific process or method of production or provision of the requested works, supplies or services or to a specific process for another stage of its life cycle even where such factors do not form part of their material substance provided that they are linked to the subject-matter of the contract and proportionate to its value

and its objectives. Technical specification can refer to minimum quantity or quality parameters referring to the subject-matter of the contract.

Parameters and characteristics confirmed by ETV Verification Reports and related to existing technologies which acquired ETV Statement of Verification can help contracting authorities to define its own requirements related to the subject-matter of the contract.

**According to art. 67 of the Directive 2014/24, art. 82 of the Directive 2014/25,** contracting authorities shall base the award of public contracts on the most economically advantageous tender. The most economically advantageous tender shall be identified on the basis of the price or cost, using a cost-effectiveness approach, such as life-cycle costing, and may include the best price-quality ratio, which shall be assessed on the basis of criteria, including qualitative, environmental and/or social aspects, linked to the subject-matter of the public contract in question.

Award criteria shall be considered to be linked to the subject-matter of the public contract where they relate to the works, supplies or services to be provided under that contract in any respect and at any stage of their life cycle, including factors involved in:

- a) the specific process of production, provision or trading of those works, supplies or services; or
- b) a specific process for another stage of their life cycle even where such factors do not form part of their material substance.

The contracting authority shall specify, in the procurement documents, the relative weighting which it gives to each of the criteria chosen to determine the most economically advantageous tender, except where this is identified on the basis of price alone.

Environmental friendliness of the purchased technology can be therefore the relevant factor for determining whether the particular tender is most economically advantageous.

**According to art. 44 of the Directive 2014/24, art. 62 of the Directive 2014/25,** contracting authorities may require that economic operators provide a Test Report from a conformity assessment body or a certificate issued by such a body as means of proof of conformity with requirements or criteria set out in the technical specifications, the award criteria or the contract performance conditions. A conformity assessment body shall be a body that performs conformity assessment activities including calibration, testing, certification and inspection accredited in accordance with Regulation (EC) No 765/2008 of the European Parliament and of the Council. Where the economic operator concerned had no access to the certificates or Test

Reports, or no possibility of obtaining them within the relevant time limits, contracting authorities shall accept other appropriate means of proof such as a technical dossier of the manufacturer, provided that the lack of access is not attributable to the economic operator concerned and provided that the economic operator concerned.

A Test Report which is included in ETV Verification Report, as well as a certificate – ETV Statement of Verification – are issued under ETV procedure by conformity assessment body accredited in accordance with Regulation (EC) No 765/2008. Test Reports from ETV Verification Report can be also included in a technical dossier of the manufacturer.

**According to art. 70 of the Directive 2014/24, art. 87 of the Directive 2014/25,** contracting authorities may lay down special conditions relating to the performance of a contract, provided that they are linked to the subject-matter of the contract and indicated in the call for competition or in the procurement documents. Those conditions may include economic, innovation-related, environmental, social or employment-related considerations. In the draft contract conditions included in the procurement documents the method of verification whether the performance of contract fulfills the contractual requirements can be indicated. ETV procedure can be an option for such a verification method.

**According to art. 49 sec. 2 of the Directive 2014/24, art. 31 sec. 2 of the Directive 2014/25,** the innovation partnership shall be structured in successive phases following the sequence of steps in the research and innovation process, which may include the manufacturing of the products, the provision of the services or the completion of the works. The innovation partnership shall set intermediate targets to be attained by the partners and provide for payment of the remuneration in appropriate instalments. In the draft contract conditions included in the innovation partnership procurement documents the method of verification whether the result of each phase fulfills the expected characteristics can be indicated. ETV procedure can be an option for such a verification method for phases with results on TRL7 and above.

## TENDER EVALUATION AND CONTRACT AWARD

Green Public Procurement and Innovation Procurement	Green Public Procurement	Innovation Procurement
<ul style="list-style-type: none"> <li>ETV Statements of Verification may facilitate offer selection processes when considered as a method of proof with the tender requirements (requires consideration at the planning and documentation development stage).</li> </ul>	<ul style="list-style-type: none"> <li>ETV procedure concerning the analysis of the existing performance test data may be applied to check reliability, completeness, relevance and sufficiency of the data to confirm the veracity of the tenderer's claims for non-ETV verified technologies; for verified ones – ETV Statements may be applied as a method of proof,</li> <li>ETV Statement of Verification may serve as a method of proof with tender requirements similarly as Ecolabel type I.</li> </ul>	<ul style="list-style-type: none"> <li>For innovations with TRL7 and above, ETV Statements of Verification may be applied as a means of proof to these requirements and confirm the trueness of the declared performance of the offer.</li> <li>The overall framework based on ETV scheme (described in the procurement documentation) allows a fair comparison between the offers.</li> <li>Performances based on experimental data obtained by test plans compliant with the ETV requirements on test data can be used for the evaluation and the comparison between the candidates.</li> </ul>

## LEGAL BASIS

When a contracting authority provides in the call for competition or in the procurement documents the requirements for improvement, that tender fulfills characteristics laid down in the technical specification, the results of the ETV procedure can be used by tenderers to prove conformity of their tenders with requirements relating to the subject-matter of the contract. A Verification Report including a Test Report, as well as the ETV Statements of Verification are issued under ETV procedure by conformity

assessment body accredited in accordance with Regulation (EC) No 765/2008. Thus, Verification Reports including Test Reports may be included in a technical dossier of the manufacturer as they fall under the scope of art. 44 of the Directive 2014/24 and art. 62 of the Directive 2014/25.



## PERFORMANCE OF AN AWARDED CONTRACT

Green Public Procurement and Innovation Procurement	Green Public Procurement	Innovation Procurement
<ul style="list-style-type: none"> <li>ETV Statement of Verification can serve the contracting authority as means of proof to confirm the proper fulfilment of a contract, i.e. achievement of declared performance by the purchased technology (subject to consideration in the planning and documentation development stage).</li> </ul>	<ul style="list-style-type: none"> <li>ETV procedure may be implemented among other independent third party verification schemes as a requirement for the purchased environmental technology to prove a proper fulfilment of the contract, subject to inclusion of appropriate provisions in the tender documentation and draft contract at the tender planning and preparation phase.</li> </ul>	<ul style="list-style-type: none"> <li>For Innovation Partnership stages resulting in TRL7 or higher, testing requirements based on ETV procedure may be applied to demonstrate fulfilment of the contract performance, e.g. to reduce the number of partners by terminating individual contracts that are not resulting in the delivery of innovation performance as defined in the targets,</li> <li>Full ETV verification can be implemented as means of proof to demonstrate fulfilment of the contract requirements performance at the final stage of an IP.</li> </ul>

## LEGAL BASIS

According to art. 70 of the Directive 2014/24, art. 87 of the Directive 2014/25, contracting authorities may lay down special conditions relating to the performance of a contract, provided that they are linked to the subject-matter of the contract and indicated in the call for competition or in the procurement documents. Those conditions may include economic, innovation-related, environmental, social or employment-related considerations.

According to art. 49 sec. 2 of the Directive 2014/24, art. 31 sec. 2 of the Directive 2014/25, in the innovation partnership procurement documents the method of verification whether the result of each phase fulfills the expected characteristics can be indicated. ETV procedure can be an option for such a verification method for phases with results on TRL7 and above.



[www.lifeproetv.eu](http://www.lifeproetv.eu)

This brochure has been developed in the framework the LIFEproETV project: Promotion and implementation of ETV as an EU voluntary scheme for verifying performance of environmental technologies. The project is implemented under the Governance and Information component of the EU LIFE Programme.

LIFEproETV aims at the promotion and building market acceptance and recognition of ETV on the EU market as a voluntary scheme to support the uptake of new environmental technologies for the benefit of reducing the environmental impact of EU SMEs, industries and the public sector.

The project is implemented by a consortium of 7 beneficiaries from 6 countries: Poland, France, Hungary, Italy, Spain and Slovenia and EIT Raw Materials as an organisation of European dimension and thus allows to address ETV promotion, market acceptance and recognition from a variety of perspectives.



LIFEproETV-project



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**Associated Beneficiaries**



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