LIFE PRO ETV

# Roadmap for building ETV market acceptance and recognition: POLAND

## From cost to value perception, market acceptance and recognition of ETV as a voluntary environmental scheme supporting ESG and the EU Green Taxonomy

Responsible Partner: IETU

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# EXECUTIVE SUMMARY

This document presents a roadmap for building market acceptance and recognition for a specific ETV use case and related business case in the context of: the Corporate Sustainability Reporting Directive (CSRD), European Sustainability Reporting Standards (ESRS) and the EU taxonomy for sustainable activities capitalising on the potential and role of the ETV identified in a LIFEproETV Policy Brief: How the ETV scheme may foster the EU green transition?[1]

Both: the ETV use case and the business case presented in this roadmap will be promoted in Poland based on the potential of the verification body at the Institute for Ecology of Industrial Areas under the LIFEproETV project. The Institute for Ecology of Industrial Areas (IETU) is currently the only accredited active ETV body in Poland (and one of 5 in the EU). The scope of accreditation covers among others the technology area: water treatment and monitoring, which justifies the focus of this roadmap and of the ETV use case on the aspect of sustainable water management in the context of CSRD, ESRS and the EU taxonomy.

Section 2. *Current ETV status and related challenges* presents the general idea behind ETV and the experiences between 2012 and 2022. An important turning point was the decision of the European Commission to terminate its support to the ETV programme as of November 2022. Despite that decision, and considering the increasing need, role and interest of stakeholders in obtaining objective information about environmental technologies defined as products, processes and services resulting in reduced environmental impacts as green alternatives to similar solutions currently used, ETV as provider of such information demonstrates a strong market and policy support potential.

Section 3. *ETV use case definition* includes an overview of the European context, the specific challenge – sustainable water management, and the target groups related to the ETV use case. The European Sustainable Finance Package, more specific the Sustainable Finance Disclosure Regulation (SFDR), the Corporate Sustainability Reporting Directive (CSRD), the European Sustainability Reporting Standards (ESRS) and the EU taxonomy, shall not only impact the activities of over 50 000 large companies and listed SMEs, but also over time their suppliers in the supply chain. Although the EU taxonomy is among the list of voluntary tools which companies may apply to finance their transition process towards improved sustainability, one can observe that more and more financial institutions direct their financial support towards sustainable investments and launch dedicated green financial products. Among the main environmental objectives in the above-mentioned documents is the sustainable use and protection of water and marine resources. The performance criteria foreseen in the EU taxonomy as well as the reporting requirements included in ESRS will ultimately lead to the transformation of companies' policies and business models. The subsection on the specific challenge related to the topic of sustainable water management underlines the need for solutions in the field of water supply, securing quality drinking water and optimising wastewater treatment in terms of material/nutrient recuperation and wastewater use for agricultural purposes. At the background of growing water scarcity in European regions, especially in Poland, challenges such as: clean water delivery, automation and digitalisation of water supply, phosphorous recovery, microplastics and micropollutants in wastewater, local rainwater retention and application, and industrial water reuse, demand for new cutting-edge technological solutions. Several of these new technology solutions exceed current norms and standards. They have not yet been applied on a wider scale. Their functionalities in specific conditions have not yet been proven and

[1] https://lifeproetv.eu/wp-content/uploads/2022/09/d.B.2.1-Policy-Brief_ETV-Final-1.pdf

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confirmed. Also, industrial companies, water supply organisations, wastewater treatment organisations and/or their solution integrators elaborate own integrated solutions based on a combination of existing and new technologies. These projects often need external finance from investors or banks. During the due diligence process of such projects, assessors shall have to consider the sustainability aspects of the investment, referring among others to the European taxonomy. For what concerns ESG reporting, industrial companies, water supply organisations, wastewater treatment organisations shall have to report on their policies, set indicators, define plans and show transparent relations between targets, indicators and applied or planned technological solutions. The ETV scheme may play a role in the above-mentioned situations through providing credible, reliable and independent verification of the performance of environmental technologies already implemented or considered in investment projects, in green procurement policies and programmes by way of standard confirmation and in creating new branch standards (values for performance indictors and parameters) enhancing market uptake of innovative environmental technologies. The list of target groups shows the potential for business relations between the ETV body and over 40 000 entities in Poland, including 1 847 water collection, treatment and supply entities and 2 680 wastewater treatment entities. While preparing the roadmap, several representatives of the stakeholder groups were identified and a set of direct and online meetings have been provided in July 2023 to verify the use case and business case.

Section 4. *Business case definition* describes the specific challenge, the proposed solution and approach, as well as a value analysis on the basis of which a business model was prepared. This business model includes an overview of the customer segments, the value proposition, resources and partners needed to deliver the key activities, the approach for building customer relationships and the channels for service delivery as well as the main cost components and the expected revenue streams. Section 5. *Goal definition related to the business case* presents four goals founding the strategic backbone for the ETV activities. These goals were confronted with regulatory, cultural, technological and market related problems in section 6. *Identification of specific problems*. The analysis of the cause and the current situation for each specific problem allowed to formulate concrete objectives, expected solutions and opportunities, key stakeholders to be involved in defined actions.

In section 7. *Development of the implementation strategy* the set of actions were aligned with the goals and prioritised. The action plan refers to the assumed period of about 8 months. The proposed actions have to allow the ETV body to position itself as a valuable partner for third party environmental technology verification of water-related technologies. The plan foresees: eco-system building, training of target groups, information dissemination as well as service optimisation.

Section 8. *Conclusion for the Polish business case and roadmap* pinpoints the importance of addressing the existing network of the ETV body in Poland while developing the Polish CSRD, ESRS, EU taxonomy eco-system, within which it can become a reliable partner for financial institutions, insurance companies and legal firms in supporting investment project compliance assessments and the green transition of Polish companies.

# 1. INTRODUCTION

This document presents a roadmap for building market acceptance and recognition for a specific ETV use case and related business case in the context of: the Corporate Sustainability Reporting Directive (CSRD), European Sustainability Reporting Standards (ESRS) and the EU taxonomy for sustainable

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activities capitalising on the potential and role of the ETV identified in a LIFEproETV Policy Brief: How the ETV scheme may foster the EU green transition?[2]

Although discussions on the final stipulations of the delegated and implementing acts are ongoing, we considered the content of the draft documents as a starting point for defining the potential role of the ETV scheme in verifying functionalities and characteristics of environmental technologies in terms of their impact on sustainability development in companies. We focussed on the topic of "sustainable water management" because of its importance for industry and society, and the challenges related to it in terms of: access to quality drinking water, water scarcity, material recuperation from wastewater, wastewater reuse. One has to take notice of the fact that the EU taxonomy and ESRS relate to sustainability of business activities notwithstanding the kind of technologies applied to achieve the indicator values and goals. In several discussions during online debates experts showed their concern about the current stipulations not necessarily being in favour of new technology development, as companies probably would tend to proof compliance with minimum requirements applying well-proofed technologies in line with BAT/BREF, branch norms and standards.

The ETV use case serves also as a basis for developing a business case for a verification body in the context of new challenges for over 50 000 companies in Europe and their supply chains: the Corporate Sustainability Reporting Directive (CSRD), European Sustainability Reporting Standards (ESRS) and EU taxonomy for sustainable activities. Both: the ETV use case and the business case presented in this roadmap will be promoted in Poland based on the potential of the verification body at the Institute for Ecology of Industrial Areas under the LIFEproETV project. The Institute for Ecology of Industrial Areas (IETU) is currently the only accredited active ETV body in Poland (and one of 5 in the EU). The scope of accreditation covers among others the technology area: water treatment and monitoring, which justifies the focus of this roadmap and of the ETV use case on the aspect of sustainable water management in the context of CSRD, ESRS and the EU taxonomy.

Considering the dimension of the CSRD, the ESRS and the EU taxonomy as an overarching EU policy as well as global interest in ensuring sustainable performance of companies, the experiences from demonstrating the utility of the ETV use case and the accompanying business case have strong potential for transfer and replication towards other countries and verification bodies and towards other environmental objectives covered in the EU taxonomy delegated acts.

This roadmap has been developed following an analysis of legal documents and a series of interviews and online meetings with relevant stakeholders. It includes goals, a problem definition, a map of stakeholders and a set of actions to: position the ETV system in the national sustainability financing and reporting ecosystem, to build strategic partnerships and to ensure awareness among environmental technology providers and users about the role of the ETV system in sustainability transition processes.

## 2. CURRENT ETV STATUS AND RELATED CHALLENGES

The Environmental Technology Verification (ETV) system has been developed to help new environmental technologies confirm their green performance credentials and gain market traction much faster. Based on internationally recognised verification procedures incorporated in EN ISO 14034 (Environmental management — Environmental technology verification (ETV) and competences confirmed by national

[2] https://lifeproetv.eu/wp-content/uploads/2022/09/d.B.2.1-Policy-Brief_ETV-Final-1.pdf

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accreditation bodies by accreditation for compliance to ISO 17020 (Conformity assessment — Requirements for the operation of various types of bodies performing inspection) for inspection bodies type A, verification bodies provide objective evidence that the declared performance of environmental technologies is true and based on quality assured test data.

ETV can operate as a stand-alone scheme on a market basis or as a programme aimed e.g. to support environmental policies. In that sense, the European Commission provided and promoted a dedicated EU ETV Programme for several years. It started with a pilot in 2012 for 3 technology areas: water treatment and monitoring, energy technologies, materials, waste, and resources. Four more technology areas were also defined: cleaner production and processes, air pollution abatement and monitoring, soil and groundwater remediation technologies and environmental technologies for agriculture in view of the EU ETV Programme extension from pilot to full scale. However, following an internal assessment, the European Commission decided to terminate its support to the ETV programme as of November 2022.

Despite that decision, and considering the increasing need, role and interest of stakeholders in obtaining objective information about environmental technologies defined as products, processes and services resulting in reduced environmental impacts as green alternatives to similar solutions currently used, ETV as provider of such information demonstrates a strong market and policy support potential. Therefore, the LIFEproETV project (https://lifeproetv.eu/) aims at promoting and building strong market acceptance and recognition of the scheme as a voluntary environmental scheme to verify the performance of new environmental technologies declared by providers when they are ready to enter the market.

In the framework of this project several ETV use cases and related business cases were identified by the consortium partners with the aim to demonstrate the added value of the scheme in different national or sectoral contexts. These contexts are pertaining to the EU policies related to environment, climate and innovation such as circular economy, water related polices, sustainable financing. As defined in the LIFEproETV Policy Brief: *How the ETV scheme may foster the EU green transition?*[3], the ETV scheme complements the efforts of the sustainable financial policy framework to direct investment into sustainable activities by delivering transparency and comparability of green claims of innovative technologies, as well as avoiding greenwashing, one of the main purposes of the framework. As such the considered use case and related business case take into account the role of ETV in, among others: providing a mechanism for investors/capital providers enabling the uptake and financing of activities involving innovative, emerging technologies with an environmental added value; demonstrating compliance of a verified technology with Technical Screening Criteria for the purpose of environmental sustainability assessment of the verified technology by financial market actors offering 'green' financial products; identifying potential green investments/undertakings by investors and capital providers investing in green/clean technologies; documenting taxonomy eligibility and alignment.

# 3. ETV USE CASE DEFINITION

The below presented ETV use case is built around the challenges related to the Corporate Sustainability Reporting Directive (CSRD), European Sustainability Reporting Standards (ESRS) and EU taxonomy. Section 3.1. *European context* presents an overview of the main stipulations in the directives and proposals of delegated acts that shall impact daily business of at least 50 000 companies and their

[3] https://lifeproetv.eu/wp-content/uploads/2022/09/d.B.2.1-Policy-Brief_ETV-Final-1.pdf

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supply chains as well as the financial sector in Europe. Section 3.2. *Specific challenge* addresses the topic of sustainable water management. Since the technology area of ETV concerning water technologies has been one of the best developed under the former EU ETV Programme concerning verifications performed so far, developing an ETV use case with focus on the water supply and wastewater treatment sector may potentially create opportunities for ETV bodies. Therefore, based on the use case, a dedicated business case has been prepared.

## 3.1. The European context

Aiming at reorienting capital flows towards a more sustainable economy, the European Commission introduced in 2021 the **European Sustainable Finance Package**, including among others: the EU taxonomy Climate Delegated Act and the Corporate Sustainability Reporting Directive.

In 2021 new regulations on disclosing information related to sustainable development in the financial services sector came into force in the European Union[4]. The Sustainable Finance Disclosure Regulation (SFDR) provides greater transparency regarding the method of sustainability risk assessment of projects by financial market participants and financial advisers. For instance, article 8 of the regulation foresees that: *where a financial product promotes, among other characteristics, environmental or social characteristics, or a combination of those characteristics, provided that the companies in which the investments are made follow good governance practices, the information to be disclosed in pre-contractual disclosures […] should include: information on how those characteristics are met and – if an index has been designated as a reference benchmark – information on whether and how this index is consistent with those characteristics. Article 9 refers to financial products having sustainable investment as their objective and a set of indicators and methodologies to attain the objective (for instance a designated index serving as a reference benchmark).* Financial market participants and financial advisers, including among others: banks, insurers, investment firms, and other financial institutions, have to report their sustainable investment practices to investors in a standardised format so that they can make informed decisions about their investments.

In January 2023, the Corporate Sustainability Reporting Directive[5] (CSRD) entered into force. Starting from the financial year 2024 (ESG report in 2025) new rules will apply to public-interest companies employing over 500 people, from the financial year 2025 to large companies in general and from the financial year 2026 also to listed SMEs.[6] Companies subject to the CSRD will have to report according to European Sustainability Reporting Standards (ESRS) and the information in the reports will have to be audited and digitalised.[7] Stakeholders, among which: investors and financial organisations, clients, business partners, and the society as a whole, will have access to information they need to assess: investment risks arising from climate change and other sustainability issues, compliance with sustainable product value chains (low environmental footprint, working conditions), life-style conformity (values and believes) and impact on quality of life (working conditions, local engagement, water and air quality,

[4] Regulation (EU) 2019/2088 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 November 2019 on sustainability-related disclosures in the financial services sector (Official Journal of the European Union: 9.12.2019, L317/1)

[5] Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting

[6] In 2023, the Non-Financial Reporting Directive (NFRD) is still in force in the European Union.

[7] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13765-European-sustainability-reporting-standards-first-set_en

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biodiversity). As data gathering and reporting methodologies will become more standardised, it will be easier for stakeholders to compare data, provide sector benchmarking analyses and take decisions based on comparable data over time. Additionally, standardised methodologies and required audits will make greenwashing more difficult. On top of this, the European Commission is proceeding the directive on substantiation and communication of explicit environmental claims (Green Claims Directive[8]) as well as the regulation concerning establishing a Union certification framework for carbon removals[9].

In June 2023 the European Commission released a new package, including: EU taxonomy and amendments, regulation on ESG rating providers and Transition Finance Recommendation. Following the European Green Deal, the European Commission focusses with its Sustainable Finance Packages on ensuring more transparency related to financing what is already environment-friendly today (green finance) and to financing the transition process towards environment-friendly performance levels over time (transition finance).

The EU taxonomy is among the list of voluntary tools which companies may apply to finance their transition process towards improved sustainability (examples of other tool include: EU climate benchmarks, European Green Bond standard, Science-based targets, credible transition plans meeting the CSRD criteria). The EU taxonomy allows financial and non-financial companies to share a common definition of economic activities that can be considered environmentally sustainable. It creates security for investors, protects private investors from greenwashing, helps companies become more climate-friendly and mitigates market fragmentation. It also serves as a point of reference for grading environmentally sustainable activities mentioned in the ESG reports. Regulation (EU) 2020/852[10] establishes the general framework for determining whether an economic activity qualifies as environmentally sustainable for the purposes of establishing the degree to which an investment is environmentally sustainable. It creates a classification system of environmentally sustainable economic activities with the aim of scaling up sustainable investments and combatting greenwashing of financial products that unduly claim to be sustainable.

For the purposes of establishing the degree to which an investment is environmentally sustainable, an economic activity shall qualify as environmentally sustainable where that economic activity[11]:

- contributes substantially to one or more of the environmental objectives (Article 9 in accordance with Articles 10 to 16):
    - climate change mitigation;
    - climate change adaptation;
    - the sustainable use and protection of water and marine resources;
    - the transition to a circular economy;
    - pollution prevention and control;
    - the protection and restoration of biodiversity and ecosystems;

[8] https://environment.ec.europa.eu/topics/circular-economy/green-claims_en

[9] https://climate.ec.europa.eu/eu-action/sustainable-carbon-cycles/carbon-removal-certification_en

[10] 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 (Official Journal of the European Union 22.6.2020, L198/13)

[11] 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 (Official Journal of the European Union 22.6.2020, L198/13)

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- does not significantly harm any of the environmental objectives set out in Article 9 in accordance with Article 17 as proved through evidence from life-cycle assessments;
- is carried out in compliance with the minimum safeguards laid down in Article 18 (alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the principles and rights set out in the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Rights);
- and complies with technical screening criteria that have been established by the Commission in accordance with Article 10 (3), 11(3), 12(2), 13(2), 14(2) or 15(2).

To ensure that an economic activity substantially contributes to one of the objectives mentioned in Article 9, while not doing significant harm to any of the other objectives, a set of performance criteria (technical screening criteria) has been introduced in delegated acts. The Commission's delegated regulation (EU) 2021/2139 of 4 June 2021[12] sets the technical screening criteria for determining whether an economic activity contributes substantially to climate change mitigation or climate change adaptation and the technical screening criteria for 'do no significant harm' to any of the environmental objectives. The technical screening criteria elaborated in 2021 cover economic activities from nine economic sectors[13] because of their significant share in overall greenhouse gas emissions, and their proven potential for avoiding the production of greenhouse gas emissions, reducing such emissions, or removing such emissions. Between 2021 and 2022, observations, consultations and discussions resulted in recommendations – including technical screening criteria for a wider range of sectors which were then provided in several amendments to the Taxonomy Climate Delegated Act and the Taxonomy Disclosures Delegated Act in 2022 and 2023.

The technical screening criteria are supposed to build on existing Union law, best practices, standards and methodologies, and well-established standards, practices and methodologies developed by internationally reputed public entities. Where those standards, practices and methodologies are not available for a specific policy area, the technical screening criteria should build on well-established standards developed by internationally reputed private bodies. Additionally, regulation EU) 2020/852 (18.06.2020) mentions that: *To avoid overly burdensome compliance costs on economic operators, the Commission should establish technical screening criteria that provide for sufficient legal clarity, that are practicable and easy to apply, and for which compliance can be verified within reasonable cost-of-compliance boundaries, thereby avoiding unnecessary administrative burden*. In other words, the criteria describe the minimum requirements an economic activity should meet to qualify as environmentally sustainable (performance-based indicators) without referring to specific technologies (in some cases the documents refer to Best Available Techniques and the Best Available Techniques Reference Documents) applied to reach the

[12] Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives (Official Journal of the European Union 9.12.2021, L442/1)

[13] Nine economic sectors: forestry; environmental protection and restoration activities; manufacturing; energy; water supply, sewerage, waste management and remediation; transport; construction and real estate activities; information and communication; and professional, scientific and technical activities.

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targets (in the consultation process of the EU taxonomy related documents, expert groups called for safeguarding technology neutrality as a means to spur innovation).

Companies that fall under the scope of the Corporate Sustainability Reporting Directive (CSRD) must report in their annual reports to what extent their activities are covered by the EU taxonomy (taxonomy-eligibility) and comply with the criteria set in the taxonomy delegated acts (taxonomy-alignment).[14] The Commission Delegated Regulation (EU) 2021/2178[15] covers the disclosure of information concerning among others: investments made in Taxonomy-aligned economic activities, the green asset ratio (GAR) showing the proportion of exposures related to taxonomy-aligned activities compared to the total assets of credit institutions, the proportion of credit institutions' fees and commission income derived from commercial services and activities associated with taxonomy-aligned economic activities of their clients.

By 2026 more than 50 000 companies in Europe will have to report yearly about their sustainability transition and development in line with the rules of the Corporate Sustainability Reporting Directive. Annex 1 (general requirements) to the European Commission's draft proposal for the European Sustainability Reporting Standards[16] foresees that companies should provide in their sustainability statement information on the material impacts, risks and opportunities connected with the company through its direct and indirect business relationships in the upstream and/or downstream their value chain. It means that also non-listed small and medium sized enterprises delivering materials to their clients/being actors in the value chains will probably start gathering data and reporting to their clients on their sustainability related business activities and degree of sustainability development. The EU taxonomy will be an important reference for describing environmentally sustainable measures taken and planned by companies.

For many companies it will be a challenge to identify, not only the company's impact on environment, but the whole product life-cycle environmental impact. This to avoid that investments at one stage of the product value chain qualify as environmentally sustainable, while economic activities at other stages of the value chain cause harm to the environment to an extent that outweighs the initial contribution of the investments to one of the environmental objectives. To define the whole product life-cycle environmental impact, information on the performance of technologies involved may be required.

## 1.1. Specific challenge – sustainable water management

### 1.1.1. European water policy and related legal framework

Most European Union Member States' water resources range between 1 000 and 20 000 m³ per inhabitant. However, countries like Poland, Czechia, Cyprus and Malta experience water stress, with average annual water resources below 1 700 m³ per inhabitant. Countries, such as Hungary, the Netherlands Croatia and Bulgaria, are mainly dependent on transboundary water resources. While

[14] https://ec.europa.eu/sustainable-finance-taxonomy/

[15] Commission Delegated Regulation (EU) 2021/2178 of 6 July 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by specifying the content and presentation of information to be disclosed by undertakings subject to Articles 19a or 29a of Directive 2013/34/EU concerning environmentally sustainable economic activities, and specifying the methodology to comply with that disclosure obligation (Official Journal of the European Union 10.12.2021, L443/9)

[16] Draft version Commission Delegated Regulation (EU) supplementing Directive 2013/34/EU of the European Parliament and of the Council as regards sustainability reporting standards (Ref. Ares(2023)4009405 - 09/06/2023)

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between 2000 and 2020 several countries noticed and increase in fresh surface water and fresh groundwater abstraction, other countries in Europe managed to decrease the amount of water abstracted. In the Netherlands and Belgium, the use of water by industry is 3 to 4 times higher than the use of water by households. On the other hand, in countries characterised by a service-oriented economy, the water use by households is 6 to 8 times the amount of water used by industry. In six Member States (Denmark, Germany, Luxembourg, the Netherlands, Austria and Sweden) over 95% of the population is connected to at least a secondary wastewater treatment plant. Sewage sludge is treated in different ways according to national policies: application of sewage sludge as fertiliser for agricultural use, composting of sewage sludge, disposal of sewage sludge as a way to reduce or eliminate the spread of pollutants on agricultural or gardening land, incineration.[17]

According to estimates of the Organisation for Economic Co-operation and Development (OECD), annual capital investment in water supply in the European Union will need to increase from €60 billion to about €90 billion per year to 2030 in order to achieve complete service coverage, comply with European Union directives, and reduce leakage rates to 10%. Annual capital investment in wastewater in the European Union will need to increase from €40 billion to about €60 billion per year to achieve complete service coverage in urban areas with a population of at least 2 000 by 2030 and to comply with the European Union directives related to effluent quality.[18]

At the end of 2022 the European Commission prepared a proposal for a directive amending Directive 2000/60/EC establishing a framework for Community action in the field of **water policy**, Directive 2006/118/EC on the **protection of groundwater against pollution and deterioration** and Directive 2008/105/EC on **environmental quality standards in the field of water policy** – including an updated list of pollutants and quality standards. Special attention goes out the chemicals and so-called micro-pollutants. The need to remove them at waste water treatment facilities drives up the cost of treatment. Therefore, actions are proposed at the source (prevention, reduction of waste emissions at the source, reuse of water). In this respect also the Industrial Emissions Directive is being reviewed. This directive is the main EU instrument regulating over 90 air, water and soil pollutant emissions from over 30 000 industrial installations and 20 000 intensive livestock farms[19]. Proposed changes should lead to more installations being incorporated in the scheme, more transparency and less administrative burden, as well as more support for breakthrough technologies[20].

Directive 2020/2184 on the **quality of water intended for human consumption**[21] sets the minimum requirements for ensuring wholesome and clean water intended for human consumption. Member States are expected to follow the precautionary principle and to avoid any deterioration of the quality of water intended for human consumption or any increase in the pollution of waters used for the production of water intended for human consumption. According to Article 6, the parametric values for characterising clean water supplied from a distribution network should be guaranteed at the point, within premises or an establishment, at which the water emerges from the taps that are normally used for water intended

[17] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Water_statistics#Water_uses

[18] EIB water sector orientation. Building climate-resilient water systems. European Investment Bank. March 2023.

[19] https://www.consilium.europa.eu/en/infographics/industrial-emissions-directive-key-figures/

[20] https://www.consilium.europa.eu/en/press/press-releases/2023/03/16/council-reaches-agreement-on-amendments-to-industrial-emissions-directive/

[21] Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption (Official Journal of the European Union, 23.12.2020, L 435/1)

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for human consumption. Member States should ensure that a risk assessment of domestic distribution systems is carried out in order to identify potential risks affecting the quality of water at the point where it emerges from the taps. Additionally, monitoring of quality parameters should be provided in premises where specific risks to water quality and human health have been identified. Member States should encourage owners of public and private premises to carry out a risk assessment of the domestic distribution system and inform consumers and owners of public and private premises about measures to eliminate or reduce the risk of non- compliance with the quality standards for water intended for human consumption due to the domestic distribution system. The Directive foresees specific requirements for materials intended to be used in new installations or, in the case of repair works or reconstruction, in existing installations for the abstraction, treatment, storage or distribution of water intended for human consumption. Starting from 2024 new procedures and methods will enter into force to assess the impact of such materials on water quality. A new European positive list shall contain the only starting substances, compositions or constituents that are authorized for use in such materials (see also the initiative: https://drinkingwaterapprovals.com/). The Directive also specifies the minimum requirements for treatment chemicals and filter media that come into contact with water intended for human consumption. It is expected that starting from 2024 additional monitoring programmes shall be provided. Member States should ensure assessment of water leakage levels and take appropriate measures for water leakage reduction.

The Urban Wastewater Treatment Directive is currently being updated and adapted to better meet new challenges. In the European Union, the wastewaters from around 22 000 cities representing the pollution of around 520 million population equivalents[22] are treated in centralised systems. Wastewater operators in Europe are mainly (60%) public companies. Among new challenges are:

- dealing with micro-plastics or micro-pollutants in waste water streams;
- reducing GDG emissions and energy consumption of waste treatment processes;
- improving material circularity through new sludge management techniques (including nitrogen and phosphorus recovery).

In combination with stipulations in the Renewable Energy Directive, wastewater treatment plants are expected to become energy neutral by 2040. Also, by 2040 the Directive shall cover smaller agglomerations (+ 1 000 pollution equivalent), promote better local rain water capture, provide more stringent limit values to treat nitrogen and phosphorus and provide a system of produce responsibility targeting pharmaceutical and personal care products. Wastewater treatment plants shall have to provide the necessary investments to meet the objectives by 2040. Interval targets have been set for each 5-year period between 2025 and 2040.[23] Against the background of limited financial resources, wastewater treatment plants shall have to consider highly effective technologies (in terms of material recuperation and energy efficiency) available at an acceptable price. This could open the way to the development and application of new solutions.

[22] Polution equivalent: average pollution released by one person/day.

[23] Proposal for a Directive of the European Parliament and of the Council concerning urban wastewater treatment (26.10.2022 COM(2022) 541 final)

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The Regulation (EU) 2020/741 on **minimum requirements for water reuse** [24] became in force in June 2023 and lays down minimum requirements for water quality and monitoring and provisions on risk management, for the safe use of reclaimed water in the context of integrated water management – that is, whenever treated urban waste water is reused for agricultural irrigation.

The authors of the evaluation report on the implementation of the Sewage Sludge Directive 86/278/EEC[25] (2022) pointed out the fact that Member States apply different technologies for the treatment of sewage sludge, but also that there is still space for new technologies in areas such as:

- treatment for thickening and dewatering of sludge (dewatering, mechanical drainage, solar drying, drying, conditioning, polymer drainage and lime drainage);
- treatment for pathogen removal (aerobic stabilisation, mesophilic aerobic sludge stabilisation, thermophile aerobic sludge stabilisation, lime drainage, composting, recalcination, fermentation, polyelectrolyte, ammonia, biological treatment, chemical treatment and heat treatment);
- treatment with potential for energy recovery (sludge regeneration, anaerobic stabilisation, thermal hydrolysis, mesophilic anaerobic sludge stabilisation and thermophile anaerobic sludge stabilisation).

### 1.1.2. Polish water policy and challenges

The Act on collective water supply and collective sewage disposal[26] defines the rules and conditions for the collective supply of water intended for human consumption and collective sewage disposal in Poland. It regulates the activities of water supply and sewage companies and sets the rules for ensuring continuity of supply and adequate water quality and reliable discharge and sewage treatment. Among others it provides the procedure for approving tariffs. According to Article 20, water and sewage companies determine the tariffs for a period of 3 years, based on cost analysis, planned investments and trends (social, legal and economic aspects). In line with Article 21 water and sewage companies should prepare long-term investment plans compatible with the municipal spatial development plans. Tariff proposals should be approved by the regulatory authority, that is the Director of the Regional Water Management Board of the State Water Holding Polish Waters. Article 12 of this act foresees that each material and component applied in the treatment of water intended for human consumption should have a positive hygienic assessment by the State District Sanitary Inspectorate. The use of new technologies for the treatment of water intended for human consumption requires approval from the State Regional Sanitary Inspector.

The Ordinance of the Minister of Health on the quality of water intended for human consumption[27] sets the parameters for water quality and defines the point at which the water must meet the quality requirements (the "compliance point") – that is in case of water supplied from water supply devices - the draw-off point located closest to the main water meter or water supply connection, and if water intake is

[24] Regulation (eu) 2020/741 of the European Parliament and of the Council of 25 May 2020 on minimum requirements for water reuse (Official Journal of the European Union, 5.6.2020, L 177/32)

[25] European Commission, Directorate-General for Environment, Support to the evaluation of the Sewage Sludge Directive : final implementation report, Publications Office of the European Union, 2022, https://data.europa.eu/doi/10.2779/758730

[26] Ustawa z dnia 7 czerwca 2001 r. o zbiorowym zaopatrzeniu w wodę i zbiorowym odprowadzaniu ścieków (Dz. U. poz. 537, 2023)

[27] Rozporządzenie Ministra Zdrowia z dnia 7 grudnia 2017 r. w sprawie jakości wody przeznaczonej do spożycia przez ludzi (Dz. U. poz. 2294, 2017)

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not possible in this place, from the valve usually used to draw water, in relation to which the water and sewage company declared that it meets the quality requirements. In terms of the specific compliance point, this regulation differs from the European framework foreseeing guaranteed water quality at the tap, the latter being more difficult to guarantee be water supply companies.

The Ordinance of the Minister of Maritime Economy and Inland Navigation on substances particularly harmful to the aquatic environment and the conditions to be met when introducing sewage into waters or into the ground, as well as draining rainwater or snowmelt into waters or water facilities[28] among others includes a list of water polluting substances that should be minimised and substances that should be avoided in waste water, as well as conditions for processing industrial waste water and the use of waste water and residues for agricultural purposes.

According to the National Official Register of National Economy Entities in the first quarter of 2023 there were 1 847 entities involved in water collection, treatment and supply in Poland. Over 2 680 entities were dealing with wastewater management. In 2021 (latest available statistical data) water consumption in Poland amounted 9.267 MM dam$^3$ of which 6.334 MM dam$^3$ for industrial use (72% of total water consumption). Industrial water demand was met by 0.207 MM dam$^3$ water from underground water resources and 6.082 MM dam$^3$ surface waters. Water collection, treatment and supply companies were responsible for the exploitation of about 2.091 MM dam$^3$ water. About 1.367 MM dam$^3$ wastewater from households was provided to the system in 2021, of which 1.355 MM dam$^3$ wastewater was cleaned. At the end of 2021 there were 1 968 entities other than public sewage companies providing sewage, of which 765 entities had their own wastewater treatment installation. The amount of industrial wastewater provided in 2021 reached 6.507 MM dam$^3$ of which 0.105 MM dam$^3$ provided to the wastewater system and 6.402 MM dam$^3$ directly into waters or into the ground, of which 5.515 MM dam$^3$ concerned cooling water not requiring any cleaning processes and 0,211 MM dam$^3$ sewage containing substances particularly harmful to the aquatic environment. The amount of reused industrial wastewater was rather low, 0.062 MM dam$^3$.[29]

There are nine river basin districts in Poland, all of which are international. The longest Polish rivers are the Vistula and the Oder, the Vistula River basin covers nearly 54% of the country's area, and the Odra River basin covers 33.9% of the country's area. In the Vistula River basin, sources of pollution are mainly related to discharges of domestic wastewater from municipal wastewater treatment plants (over 4 000 municipal sewage discharge points). Industrial activities (crude oil processing, organic and inorganic chemical plants, paper production, textile industry, iron and steel industry, food production, shipyards) are also responsible for water pollution in the Vistula River basin. Other sources of water pollution include the agricultural sector (especially pollution by nitrogen and phosphorus of agricultural origin) and the mining sector (dewatering of excavations and deep drainage, discharge of salt mine water in the Vistula River basin and Odra River basin). Climate change (higher than normal temperatures and less rain) is having a negative impact on the climatic water balance in the Odra River basin. A low water flow and the presence of higher concentrations of nitrogen and phosphorus in water, being nutrients contributing to the growth of algae in water, might ultimately lead to ecosystem degradation. Based on the Water Law Act, national programmes are prepared and implemented with the aim to reduce pollution of waters with

[28] Rozporządzenie Ministra Gospodarki Morskiej i Żeglugi Śródlądowej z dnia 12 lipca 2019 r. w sprawie substancji szczególnie szkodliwych dla środowiska wodnego oraz warunków, jakie należy spełnić przy wprowadzaniu do wód lub do ziemi ścieków, a także przy odprowadzaniu wód opadowych lub roztopowych do wód lub do urządzeń wodnych (Dz. U. Poz. 1311, 2019)

[29] Local Data Bank of the Main Statistical Office in Poland

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nitrogen from agricultural sources and prevent from further pollution. Groundwater is considered to be of higher quality than surface water and is therefore used as a source of drinking water. In many cases, groundwater is the main source of water supply for inland water ecosystems. Risks concerning groundwater quality are mostly concentrated in areas where the depth of the water table is less than 5 m, in urban areas, industrial agglomerations, mining areas and intensively exploited agricultural areas.[30] The Ordinance of the Minister of Environment on the use of municipal sewage sludge contains a detailed description of the conditions for the use of municipal sewage sludge for agricultural and land reclamation purposes. In the VI. update of the National Municipal Wastewater Treatment Programme (2022), 1 524 agglomerations were identified, together with investments that should lead to the reduction of discharges of insufficiently treated sewage and their adverse impact on the condition of the water environment. In the period 2021-2027 the programme foresees investment projects resulting in: 8 022 km of new sewage networks, modernisation of 3 173 km of existing networks, 60 new sewage treatment plants and new installations in 978 existing sewage treatment plants.[31]

### 1.1.3. Sustainability reporting disclosure requirements related to the topic of water

The abovementioned legal framework should be taken into account by stakeholders in the water supply and waste water sector, as well as by industries applying water in their processes, while reporting their sustainability status in ESG reports. Annex 1 to the Commission Delegated Regulation (EU) supplementing Directive 2013/34/EU of the European Parliament and of the Council as regards sustainability reporting standards - ESRS (draft version)[32] covers disclosure requirements for pollution related issues (chapter ESRS E2 -disclosure requirement concerning pollution). Disclosed information in the ESG report should, among others, enable stakeholders to understand how a company affects pollution of air, water and soil in terms of material positive and negative, actual or potential, impacts). A company should report any actions taken, and the result of such actions, to prevent or mitigate actual or potential negative impacts, and to address risks and opportunities. For concrete material risks and opportunities related to pollution-related impacts and dependencies, a company should present their nature, type and extent, as well as proposed measures for prevention, control, elimination or reduction of pollution and the financial effects related to these risks and opportunities. It should present a plan to adapt its business strategy and business model to become more sustainable. A company should indicate, with regard to its own operations and its value chain, whether and how its policies address: mitigation of negative impacts related to pollution of air, water and soil (including prevention and control), substitution and minimisation of the use of substances of concern and phasing out substances of high concern, avoiding intendents and emergency situations. A company should disclose information on how it **avoids** pollution, how it **reduces** pollution (according to: Best Available Techniques and "Do No Significant Harm" criteria for pollution prevention and control according to the EU Taxonomy Regulation and its Delegated Acts), as well as **restoration**, **regeneration** and **transformation** of ecosystems where pollution has occurred. When providing contextual information on the emissions, a company may consider its

[30] Prognoza oddziaływania na środowisko projektu Programu Fundusze Europejskie na Infrastrukturę, Klimat, Środowisko 2021-2027, ATMOTERM S.A., 2021

[31] https://www.gov.pl/web/infrastruktura/vi-aktualizacja-krajowego-programu-oczyszczania-sciekow-komunalnych

[32] Draft version Commission Delegated Regulation (EU) supplementing Directive 2013/34/EU of the European Parliament and of the Council as regards sustainability reporting standards (Ref. Ares(2023)4009405 - 09/06/2023)

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percentage of the total emissions of pollutants to water and soil occurring in areas at water risk, including areas of high-water stress.

Chapter ESRS E3 (water and marine resources) covers information disclosure issues that should help to understand how a specific company: **affects** water (surface water, ground water, produced water) and marine resources, in terms of material positive and negative actual or potential impacts, how it takes action, identifies risks and opportunities, transforms its business model and complies with the European policies on water. A company should indicate whether and how its policies address **water management** including the use and **sourcing of water**, **water treatment** (including the use of reclaimed water), **prevention and abatement of water pollution** resulting from its activities, **product and service design in view of addressing water-related issues**, as well as commitment to **reduce water consumption** its own operations and along the upstream and downstream value chain. In order to achieve specific objectives and targets, a company should specify its actions in terms of: **avoiding** the use of water, **reducing** the use of water, **reclaiming** and **reusing** water, **restoring** and **regenerating** aquatic ecosystems and water bodies.

Chapter ESRS E5 (resource use and circular economy) includes the disclosure requirements concerning resource use, including resource efficiency, avoiding the depletion of resources and the sustainable sourcing and use of renewable resources in terms of material positive and negative actual or potential impacts. A company should describe the process to identify material impacts, risks and opportunities related to resource use and circular economy, in particular regarding resource inflows, resource outflows and waste. It should disclose information on its policy objectives in line with circular economy principles, targets and key actions related to among others: higher levels of resource efficiency in use of technical and biological materials and water, higher rates of use of secondary raw materials, application of circular design and application of circular business practices. For specific waste streams, a company should disclose information on its total amount of waste, the waste composition, information about provided and planned recovery operations, and methods of non-recycled waste disposal.

Regulation (EU) 2020/852[33] establishes the criteria for determining whether an economic activity qualifies as environmentally sustainable for the purposes of establishing the degree to which an investment is environmentally sustainable. Delegated Regulation 2021/2139[34] includes a list of **technical screening criteria** for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives mentioned in Article 9 of Regulation (EU) 2020/852, as well as for determining the conditions under which an economic activity qualifies as contributing substantially to climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives mentioned in

[33] 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 (Official Journal of the European Union, 22.6.2020, L 198/13)

[34] Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives (Official Journal of the European Union, 9.12.2021, L 442/1)

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Article 9 of Regulation (EU) 2020/852. The proposal of Delegated Regulation dated 27.06.2023[35] sets **technical screening criteria for additional economic activities**, that may contribute substantially to climate change mitigation or climate change adaptation, previously not covered by the Delegated Regulation in 2021. As part of the generic criteria for the "Do Not Specifically Harm" principle, environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential as defined in Article 2, points (22) and (23), of Regulation (EU) 2020/852, in accordance with Directive 2000/60/EC and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders. Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed. The business activity should not hamper the achievement of good environmental status of marine waters and not deteriorate marine waters that are already in good environmental status as defined in point 5 of Article 3 of Directive 2008/56/EC, taking into account the Commission Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for those descriptors.

### 1.1.4. Specific challenge definition

A substantial group of public and private organisations in the European Union is dealing with water supply, efficient water use and reuse, wastewater treatment and material recuperation from wastewater. Sooner than later these organisations shall have to take into account the EU taxonomy while planning their investment projects and looking for external financing as well as to inform about their current situation and sustainable development plans in their ESG reports.

In line with European Directives on water and wastewater, main challenges include:

- clean water delivery;
- automation and digitalisation of water supply;
- phosphorous recovery;
- microplastics and micropollutants in wastewater;
- local rainwater retention and application;
- industrial water reuse.

On the one hand water-related technologies have been developed and successfully commercialised in Europe. Best Available Techniques (BAT) Reference Documents for specific sectors and water-intensive industrial processes have been adopted and regularly updated. Also, more than 1 200 ISO standards cover almost every water issue: water quality, water footprint, hydrometry, drinking water, wastewater, irrigation, technical infrastructure, piping and valves, measurement of fluid flow, water reuse[36]. For instance, at the background of water scarcity, the standard ISO 14046 Water footprint specifies the

[35] Commission Delegated Regulation (EU) .../... of 27.6.2023 amending Delegated Regulation (EU) 2021/2139 establishing additional technical screening criteria for determining the conditions under which certain economic activities qualify as contributing substantially to climate change mitigation or climate change adaptation and for determining whether those activities cause no significant harm to any of the other environmental objectives (27.6.2023, C(2023) 3850 final)

[36] ISO and water. Great things happen when the world agrees. International Organization for Standardization, 2017 (ISBN 978-92-67-10729-5)

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principles, requirements and guidelines of assessing and reporting water footprints for products, processes and organisations based on life cycle assessments (environmental impacts related to water).

On the other hand, new technologies emerge in areas such as:

- digital water treatment;
- industrial waste water processing and reuse;
- advanced filtration and material recuperation;
- decentralised infrastructure, local water retention and flood prevention;
- water efficiency and water saving processes;
- water desalination;
- new materials applied in technical infrastructure;
- energy recovery;
- nutrients recovery.

Several of these new technology solutions exceed current norms and standards. They have not yet been applied on a wider scale. Their functionalities in specific conditions have not yet been proven and confirmed. Also, industrial companies, water supply organisations, wastewater treatment organisations and/or their solution integrators elaborate own integrated solutions based on a combination of existing and new technologies. These projects often need external finance from investors or banks. During the due diligence process of such projects, assessors shall have to consider the sustainability aspects of the investment, referring among others to the European taxonomy. For what concerns ESG reporting, industrial companies, water supply organisations, wastewater treatment organisations shall have to report on their policies, set indicators, define plans and show transparent relations between targets, indicators and applied or planned technological solutions.

The ETV scheme may play a role in investment due diligence processes through providing credible, reliable and independent verification of the performance of environmental technologies considered in investment projects, in green procurement policies and programmes by way of standard confirmation and in creating new branch standards enhancing market uptake of innovative environmental technologies. Whereas according to ISO 14034:2016 Environmental Management — Environmental technology verification (ETV), the owners of environmental technologies are the applicants, the wider group of interested parties include among others: clients and users, investors and financial institutions, regulators, non-governmental organisations, the wider community.

In 2020 the Polish Government recognised the verification of environmental technologies as one of the instruments to support sustainable development and stimulate the development of eco-innovations. The necessary measures were taken to launch a full-scale ETV programme, including: a financial instrument to popularise ETV by the National Fund for Environmental Protection and Water Management, the adoption and publishing of the ISO 14034 standard as a Polish standard and the establishment of a network of verification bodies.[37] Currently the Institute for Ecology of Industrial Areas is the only active ETV verification body in Poland. Its accreditation in the field of water treatment and monitoring covers solutions for:

- water quality monitoring for microbiological and chemical contamination (measuring sets, probes, analysers),

[37] https://www.gov.pl/web/klimat/etv-w-krajowych-strategiach

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- drinking water treatment - removal of microbiological and chemical impurities (filtration, chemical disinfection, advanced oxidation)
- desalination,
- treatment of wastewater from microbiological and chemical contamination (separation techniques, biological treatment, electrochemical methods, small wastewater treatment systems)
- industrial water treatment (e.g. disinfection, filtration, purification).

In other words, we should come to a point where:

- financial institutions acknowledge the ETV verification statement as a trustable document in the investment project due diligence processes;
- public sector organisations are open and ready to require from potential bidders third party environmental technology verification statements of technologies proposed in green procurement procedures;
- organisations from water intensive industries are open and ready to consider promoting new technologies through setting new indicators exceeding existing standards and BAT, as a means to cope with overall water scarcity and reaching strategic targets in their ESG sustainability development plans;
- all the above goals are strong drivers for ETV market acceptance and recognition.

## 1.2. Target groups related to the ETV use case

The target groups in Poland related to the ETV use case include the following organisations:

- Industrial entities with own wastewater treatment plant, about 765 entities, that have to provide ESG reporting and operate in line with the EU taxonomy;
- Industrial entities in the food processing and chemical industry, as well as in the traditional energy production industry – water intensive industries – about 36 000 entities that have to provide water efficiency methods, rain water capture and water reuse projects at the background of water scarcity;
- Water collection, treatment and supply entities, about 1 847 entities, that have to provide long-term planning of investment projects, ESG reporting and operate in line with the EU taxonomy;
- Wastewater treatment entities, about 2 680 entities (some entities are also providing water supply), that have to provide long-term planning of investment projects, ESG reporting and operate in line with the EU taxonomy;
- National branch associations and business support organisations involved in promoting sustainable development, among which efficient water management, technology development, business strategy and business model development among their members and clients;
- Financial organisations (among which 26 commercial banks, 1 public bank and about 535 cooperative banks, 850 investment funds managed by 55 investment fund companies), that are involved in assessing and financing investment projects and have to take into account EU taxonomy when classifying their planned financial engagement;
- Insurance companies, over 50 entities, involved in asset and inventory assurance. Insurance companies must improve their ESG ratings to retain full access to capital. Without strong ESG scores, these entities are likely to be excluded from ESG funds;

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- Water-related technology providers and engineering companies and start-ups involved in integrated investment projects, over 300 entities, that have to show their solutions shall support their clients in reaching EU taxonomy parameters and fulfilling targets set in their ESG policies;
- Research & Development Organisations, including 25 universities with specialties in environmental protection and ecology and 95 research institutes, and their associations, involved in technology development and commercialisation, including water-related technologies.

Representatives of the stakeholder groups were identified and a set of direct and online meetings were provided in July 2023 to verify the use case and business case. The target group representatives from the financial sector, the research and development sector and from branch associations associated the ETV system with the challenges related to the Corporate Sustainability Reporting Directive and the EU taxonomy. However, discussions with representatives from water supply and wastewater treatment companies showed that there was little awareness about the impact of the new directives and EU taxonomy on their business. Representatives of law firms and banks also confirmed the rather low awareness level among companies about the impact of EU taxonomy and ESG reporting requirements from 2025 on. They underlined the need for a joint approach. Although rather considering soft validation of environmental technologies to confirm compliance of a company's actions and investment projects with EU taxonomy and ESG, they showed to be open for hard environmental technology verification through the ETV system.

Below presented is an example of potential interactions in the context of CSRD, ESRS and EU taxonomy. Starting from a company's business strategy, its reporting requirements in line with CSRD, ESRS and its green transition strategy, investment projects are defined in the field of water collection, capture, treatment, use, reuse and disposal, taking into account EU taxonomy, BAT/BREF and or branch norms and standards. Investment projects are then being discussed with financial institutions and/or investors. They provide due diligence of these projects in terms of their qualification as sustainable or regular investment. ETV statements could be delivered for companies own installations for which until now no neutral performance assessment was provided, for technology providers wanting to take part in public or private water-related tenders, or as a point of reference for financial institutions in the due diligence process of investment projects.

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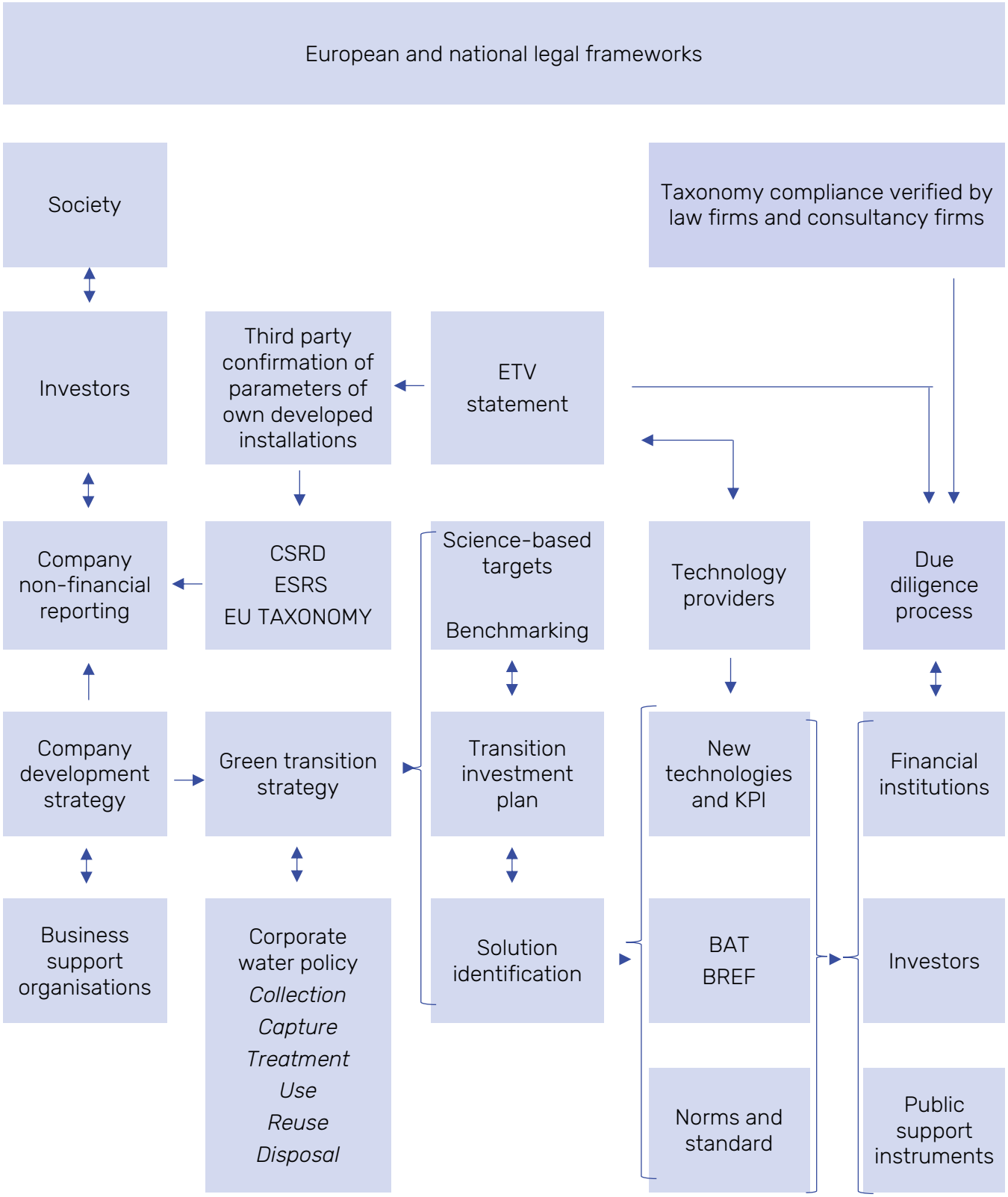
Figure 1 : ETV in the context of CSRD, ESRS and EU taxonomy

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# 4. BUSINESS CASE DEFINITION

As a result of the analysis of the legal framework concerning the Corporate Sustainability Reporting Directive (CSRD), European Sustainability Reporting Standards (ESRS), EU taxonomy for sustainable activities, the European water framework policy and related directives, as well as the Polish context for what concerns the water supply and wastewater treatment sector, the following business case (Figure 2) and business model for ETV was elaborated (Table 1).

Figure 2: Business case description


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## Table 1: ETV Business Model

<table>
<tr>
<td>Key partners<br>Test bodies/accredited laboratories incl. laboratories performing compliance testing for water technologies (delivery of test data)<br>Branch organisations (awareness raising and training of clients)<br>Policy makers (policy frameworks, financial support programmes)<br>Financial institutions/capital providers (due diligence)<br>Organisations involved in providing LCA, EMAS, ISO 14000 certification, other relevant labelling schemes and scientific based indicator monitoring and other environmentally related services (complementarity of services)</td>
<td>Key activities<br>Contact phase, Quick scan preparation by client (14 days)<br>Quick scan review by verification body, feedback to client (14 days)<br>Negotiation and signing of the verification contract (referring to application review (14-30 days)<br>Application file preparation by the client with support of verification body (14-60 days)<br>Application formal and technical review, technology eligibility check (14 days),<br>Signing of the verification contract (14-30 days)<br>Development of the specific verification protocol in dialogue with client including available test data analysis (60 days)<br>If testing required:<br>Assessment of the qualifications of the test body selected by the client based on a self-declaration form for the test bodies (14 days)<br>Contractual arrangements with the test body made by the client (14-30 days)<br>Test plan development by the test body and the client based on provided template and guidance (30 days)<br>Detailed review and approval of the test plan (30 days)<br>Testing (45-180 days)<br>Review and approval of the test report and test system assessment (30-60 days)<br>Performance verification, verification report and statement development (60 days)<br>Statement publication (14 days)</td>
<td>Value proposition<br>Third party proof of performance demonstrating technology innovation and environmental added value (reduced impacts on environment) in its intended application tailored to the specific characteristics of the technology based on a robust, ISO standardised process and quality assurance framework allowing to:<br>• avoid of being accused of green washing/prove environmental benefits resulting from the use of technology towards peers<br>• prove technology market readiness<br>• increase the competitiveness of technology offer by complementing it with a third-party confirmed performance information which is not covered or expressed by the current standards and certifications pertaining to the technology and its application but is relevant to the users/byers<br>• set up new performance standards for technologies<br>Repeatable, reliable and globally recognised verification process for technologies to be considered in investment projects (improve due diligence process) and innovation procurement (benchmarking of performance of parallelly developed solutions, selection of the best performing option for procurement)</td>
</tr>
<tr>
<td colspan="2">Key resources<br>ETV Manager<br>Quality Manager<br>Technical area managers (min.1 per technology area)<br>External technical area specific experts (min.3 per technology area)<br>Network of test bodies/accredited laboratories that can cooperate with clients<br>Database of branch requirements (BAT, BREF, ESG, EU taxonomy), EU regulations pertaining to water sector, ISO standards pertaining to water technology testing and related technologies</td>
<td>Customer relationships<br>Indirect contacts with potential clients through branch associations<br>Direct contacts with potential clients<br>Self-assessment tool on the ETV website<br>Joint communication with branch associations<br>Channels for service delivery<br>Online information and training sessions<br>Information sessions at conferences<br>Main service delivery at ETV office and through online meetings</td>
<td>Customer segments<br>Large companies in the water supply and wastewater treatment sector<br>Large companies in water-consuming sectors (food production, chemistry, energy)<br>Water-related technology providers including scientific-industrial consortia developing innovations for water sector applications</td>
</tr>
<tr>
<td colspan="2">Cost structure<br>Staff costs, administrative costs, travel costs<br>Auditing and accreditation related costs<br>Office space, insurance, marketing, access to databases</td>
<td colspan="2">Revenue streams<br>Basic: Two-step cooperation: pre-evaluation (application review) and verification (at least 10 services per year to reach break-even)<br>Auxiliary: feasibility study for ETV application with guidance on ETV application for technologies below TRL7</td>
</tr>
</table>

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# 5. GOAL DEFINITION RELATED TO THE BUSINESS CASE

Since the European Commission took the decision in 2022 to discontinue its work on the EU ETV Programme, the organisations previously working within this programme now have to elaborate a market-oriented business model to continue their activities following the ETV system in accordance with ISO 14034 Environmental management — Environmental Technology Verification (ETV). First of all, they have to overcome the misinterpretation by stakeholders concerning the difference between the European ETV Programme and the ETV scheme. Many organisations are in the opinion that, as a result of the decision of the European Commission to end the EU ETV Programme, the ETV system is no longer supported and has lost its credibility. This means that the ETV bodies in Europe will have to build new partnerships with market players and to explain their role in value chains, while positioning their competencies to:

- provide impartial and credible confirmation of the performance, innovation and environmental benefits of new environmental technologies, so to create a framework for innovative pre-commercial procurement, technology benchmarking by individual companies or a group of companies, as well as conditions for elaborating new standards by branch organisations;
- support innovative companies and research and development institutes in demonstrating and confirming the added value of their new environmental technologies in concrete application settings compliant with potential clients' sustainability transition targets and the EU taxonomy;
- support public sector organisations in defining new standards for green procurement as a result of which the public sector can contribute to environmental technology development in the country and spur the implementation of new technologies;
- provide stakeholders, including technology users, branch organisations and financial institutions with reliable and useful information on verified environmental technologies, as a means to support their investment project preparation process, investment project due diligence process (recognition of the ETV statement by the financial sector), as well as to give insight in the way new technologies can contribute to companies' green transition targets (CSRD, ESRS and EU taxonomy).

One has to take into account the principle of least effort, according to which an entity will choose a course of action that appears to require the smallest amount of effort or engagement of resources. In other words:

- when technology providers can reach their commercial goals in the short term without the need to go through the ETV process, they will do so;
- when a financial institution in the investment project due diligence process depends on expert opinions of scientists and legal firms to assess compliance of a proposed solution with EU taxonomy (so-called soft technology verification), companies preparing an investment project will probably not require from technology providers to deliver technology performance proofs by way of ETV;
- when public support instruments do not require third-party environmental technology verification and ETV statements as an eligibility criterion for considered technologies, beneficiaries shall probably apply basic competitive tender procedures and selection criteria based on known standards;
- when public sector organisations are not widely supported and urged within a transparent legal framework to apply green public procurement – also without specific training of civil servants about project life-cycle assessments and the added value of ETV statements in promoting dissemination

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of new environmental technologies – ETV criteria will probably not be considered in tender procedures and the lowest-price criterion will remain to prevail in most tender procedures.

As a result of the above, one can state that the ETV bodies are in an unfavourable starting position to proclaim a seat at the ESG/EU taxonomy table. However, discussions with stakeholders in Poland have shown that there is an openness and willingness to discuss the new role of ETV as a value in supporting green transition.

Considering the above the main goals to be achieved, are:

G1 – Ensure acknowledgement of ETV statements in investment projects' due diligence processes by way of engaging ETV bodies in the CSRD, ESRS, EU taxonomy (green transition) national eco-system and developing strategic partnerships with stakeholders in the financial and legal sector, while safeguarding market neutrality;

G2 – Increase awareness among water-related technology users (public and private sector) on how to consider ETV statements as a means to assess technology applications in line with green transition strategies and the EU taxonomy;

G3 – Increase awareness among water-related technology providers (companies, research and development institutes) about the added value of the ETV statements for new water technologies when promoting their performance as supporting to demonstrate compliance with the requirements for sustainable activities provided in the EU taxonomy;

G4 – Ensure the client-friendliness of the ETV scheme by way of providing support to the ETV process steps, including the preparation for ETV application and establishment of a network of competent test bodies to generate technology performance test data for the needs of ETV, so that the overall procedure can be provided in a consistent and an acceptable timeframe for all parties involved.

## 6. IDENTIFICATION OF SPECIFIC PROBLEMS

The following specific problems/barriers have been defined for the ETV use case in the context of the EU taxonomy relevant for Poland

- Regulatory problem/barrier: lack of acknowledgement of ETV statements in investment projects' due diligence processes and in green procurement procedures;
- Cultural problem/barrier: lack of awareness among water-related technology users about CSRD and ESRS requirements, the role of EU taxonomy in green transition and investment projects;
- Technological problem/barrier: limited market uptake of cutting-edge water-related technologies that perform beyond BAT/BREF, norms and standards;
- Market problem/barrier: inconsistencies between the current ETV service delivery process and the potential role of third-party water-related technology validation in diminishing the investment risk in green transition processes.

For each problem/barrier, a dedicated table was prepared (Tables 1, 2, 3, 4) containing the following information:

- Cause
- Current situation
- Objective(s)
- Solution(s)

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- Key stakeholders

Table 2: Regulatory problem for Poland

| | |
|---|---|
| REGULATORY | **LACK OF ACKNOWLEDGEMENT OF ETV STATEMENTS IN INVESTMENT PROJECTS' DUE DILIGENCE PROCESSES AND IN GREEN PROCUREMENT PROCEDURES** |
| Cause | Lack of awareness about the ETV scheme among financial institutions and law firms as a result of which ESG and EU taxonomy compliance assessment procedures for investment projects do not consider ETV statements (so-called hard technology verification).<br><br>Limited application of green public procurement as it is not obligatory in most of the European membership countries. Often specialised knowledge and skills are missing among public sector personnel responsible for providing public procurement. There is only a limited number of verified technologies. Public sector organisations face significant legal framework uncertainty when trying to maintain technology neutrality in green public procurement. There is also a lack of awareness among public sector organisations about the use of third-party statements as a means to demonstrate compliance with technical specifications to support the participation of innovative companies in green public tenders. |
| Current situation | Financial institutions and law firms involved in ESG/EU taxonomy compliance assessment of investment projects do not always understand the difference between the European ETV programme and the ETV scheme based on the ISO standard. As such the due diligence process often include soft technology validation in terms of it meeting ESG/EU taxonomy criteria. Discussions with representatives of financial institutions have shown that it will be probably difficult to obligatory include ETV statements at the due diligence stage through changing regulatory procedures in the financial sector. However, they are open to consider the acknowledgement of ETV statements as an added value to shorten the environmental due diligence activities.<br><br>Public procurement amounts to around 14% of European Union GDP. Theoretically it could represent an important tool to foster green transition. The European Commission started promoting public green procurement in 2008. Between 2008 and 2022 voluntary green procurement criteria for specific product groups have been developed (for example: EU Green Public Procurement criteria for waste water infrastructure) and some mandatory criteria and targets have been included in sectoral legislation. Specifically, for what concerns green procurement criteria for waste water infrastructure, an analysis in 2021 showed that only a few European member states were planning to implement or considering the introduction of specific green procurement criteria. There was no legal framework for standardised testing methodologies for waste water treatment technologies in green public procurement at that time. Verification procedures were mainly based on tenderer self-declarations without the requirement for third-party verification. Currently the voluntary EU Green Public Procurement criteria for waste water infrastructure are among the outdated criteria on the Commission's website.[38] On the other hand, the technical screening criteria in the EU taxonomy include references to specific water supply and wastewater treatment systems. As such these requirements could trigger green public procurement in the years to come. In the framework of the |

[38] https://green-business.ec.europa.eu/green-public-procurement/gpp-criteria-and-requirements_en

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LIFEproETV project a brochure was prepared to promote and provide guidance to public procurers: contracting authorities and contracting entities on the use of Environmental Technology Verification 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 document shall be applied by the ETV body in the action plan.

The Polish public procurement law foresees a specific framework for green procurement, including the conditions to include characteristics and functionalities of materials, products or services in technical descriptions confirmed, among others, by labels. In this context a label should be understood as any document, including a certificate or attestation, which confirms that a building, product, service, process or procedure meets the requirements necessary to obtain the label. According to Art. 104 of the public procurement law, in the case of contracts with specific environmental, social or other characteristics, the contracting authority may, in order to confirm the compliance of the offered works, supplies or services with the required characteristics, in the description of the tender subject, the description of tender evaluation criteria or in the requirements related to the performance of the contract, request for a specific label, if the following conditions are cumulatively met :

- the requirements of the label relate only to criteria that are related to the subject of the tender and are appropriate to define the characteristics of the works, supplies or services that are the subject of the tender;
- the label requirements are based on objectively verifiable and non-discriminatory criteria;
- label requirements are developed and adopted through an open and transparent procedure in which all interested parties can participate, including entities belonging to public administrations, consumers, social partners, producers, distributors and non-governmental organisations;
- labels and label requirements are available to all interested parties;
- the requirements of the label are determined by a third party over which the economic entity applying for the label cannot exercise decisive influence.

Although these stipulations create the regulatory framework for applying ETV in green procurement additionally strengthened by the fact that ETV is recognised in Poland's new State Procurement Policy issued 2022, none of the public sector organisations providing green procurement considered ETV. One of the reasons could be the fact that public sector organisations have technical specifications for tenders elaborated by specialised engineering companies, that avoid risk and choose for proven indicators and functionalities.

| | OBJECTIVE |
|---|---|
| OBJ1 | Reach acknowledgement of ETV statements by financial institutions and law firms in investment projects due diligence processes. |
| OBJ2 | Reach understanding among civil servants on how to apply ETV statement requirements in green public tenders in line with the law on public procurement. |

**SOLUTIONS**

Engaging the ETV body in a cooperation with the Polish Bank Association to promote ETV statements as a means to provide information relevant to CSRD, ESRS and EU taxonomy compliance assessment of investment projects in due diligence processes at financial institutions.

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| Engaging the ETV body in bilateral cooperation with financial institutions and law firms to analyse internal procedures, verify the possibility to include ETV statements in due diligence processes and to organise joint information campaigns. | |
| Engaging the ETV body in a cooperation with the Polish Procurement Office to jointly provide trainings for public sector civil servants involved in public procurement processes. | |
| Engaging the ETV body in a cooperation with associations in the water supply and wastewater treatment sector to jointly provide trainings for personnel involved in public procurement processes for water-related technology projects. | |
| **Opportunities** | ETV can provide independent assessment of technology solutions considered in public and private investment projects based upon already established legal and procedural frameworks in the financial and the public sector. |
| | **KEY STAKEHOLDERS** |
| **Who and Why** | Financial institutions and law firms involved in investment projects' due diligence and CSRD, ESRS/EU taxonomy compliance assessments of these investment projects. ETV statements deliver objective third-party information about functionalities and characteristics of technological solutions, including, when required, with reference to indicators, parameters and values included in the EU taxonomy. |
| **Who and Why** | Public sector organisations in the water supply and wastewater treatment sector that have to comply with CSRD, ESRS and the EU taxonomy. Although public procurement procedures have to guarantee technology neutrality, requirements for objective third-party verification of technological solutions considered in bids in public procurement procedures could lead to the promotion of cutting-edge technologies that exceed minimum branch requirements and meet future challenges in a better way than proofed technologies meeting current standards. |
| | **ACTIONS** |
| R.A1: Identify leading financial institutions and law firms that are already active in the field of sustainability reporting and EU taxonomy compliance assessments of investment projects and are ready to consider ETV statements in investment projects' due diligence processes. | |
| R.A2: Provide bilateral meetings with representatives of financial institutions and law firms to explain the ETV scheme and to present the added value of the ETV service in the verification process of CSRD, ESRS and EU taxonomy compliance of their clients' investment projects, in particular in the field of water-related technologies. | |
| R.A3: Enter into contact with the Polish Bank Association and verify the possibility to jointly promote third-party technology verification in CSRD, ESRS and EU taxonomy compliance assessments of investment projects. | |
| R.A4: Prepare training materials and test a training programme for financial institutions and law firms about the ETV scheme. | |

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R.A5: Enter into cooperation with associations in the water supply and wastewater treatment sector and introduce ETV issues in their training programmes on CSRD and EU taxonomy for water supply and wastewater treatment companies.

R.A6: Provide information and training sessions for water supply and wastewater treatment companies and engineering companies on the use of ETV in the context of green public procurement.

Table 3: Cultural problem for Poland

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| CULTURAL | **LACK OF AWARENESS AMONG WATER-RELATED TECHNOLOGY USERS ABOUT CSRD AND ESRS REQUIREMENTS, THE ROLE OF THE EU TAXONOMY IN GREEN TRANSITION AND INVESTMENT PROJECTS** |
| Cause | The CSRD, ESRS and EU taxonomy are fairly young and not well known among organisations in the water supply and wastewater treatment sector. Although most of them prepare non-financial reports each year, there is little awareness about the EU taxonomy impact on their investment activities. In order to convince target groups about the added value of ETV in green transition processes at the background of CSRD, ESRS and EU taxonomy, these target groups first must be informed about the overall European framework and forthcoming obligations. |
| Current situation | Since 1990 the water supply and wastewater treatment sector in Poland went through several modernisation processes. Today this sector is characterised by proven technologies guaranteeing water quality and efficient wastewater treatment. However, climate change and water scarcity urge for new solutions. The Polish Waterworks Chamber of Commerce, with over 500 members, regularly organises workshops, training sessions and conferences, during which the latest technological solutions are being presented. On regional level branch associations involve water supply and wastewater treatment companies in best practices exchange and competencies development |
| | **OBJECTIVE** |
| OBJ1 | Include ETV in the awareness raising campaigns and training sessions concerning CSRD, ESRS and EU taxonomy organised by branch organisations in the water supply and wastewater treatment sector. |
| OBJ2 | Include ETV in awareness raising campaigns concerning CSRD, ESRS and EU taxonomy during conferences and branch meetings directed to water-related technology providers and users. |
| | **SOLUTIONS** |
| The ETV body shall have to enter into cooperation with experts CSRD and EU taxonomy to prepare joint training sessions in order to show the clear role between the new requirements and the role of ETV statements in investment processes when new technologies are being considered. In cases where an integrator or a company developed its own tailor-made solution based on a set of technologies combined together, it could occur that an independent assessment will be necessary to confirm the proclaimed functionalities and indicators in ESG reports. Also, should an organisation on the basis of its own-developed solutions want to provide licenses to other organisations, it shall have to demonstrate that the installation | |

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| | fulfils the expected requirements. In other words, the ETV body shall have to strengthen awareness about the added value of ETV statements in the green transition processes. |
| Opportunities | ETV as an active player in green transition awareness raising and competence building processes directed to potential clients in cooperation with branch organisations and experts. |
| | **KEY STAKEHOLDERS** |
| Who and Why | Branch organisations in the water supply and wastewater treatment sector, business support organisations, experts and event/media organisations responsible for environmental technology related events (training, conferences, fairs) to plan and provide joint awareness raising and training activities. |
| Who and Why | Water-related technology providers and users to inform and train them about the requirements related to CSRD, ESRS, EU taxonomy and the added value of ETV in technology verification for green transition. |
| | **ACTIONS** |
| | C.A1: Verify the time schedule for planned events directed to organisations in the water supply and wastewater treatment sector and connect with organisation responsible for programming. Propose to include the issues of CSRD, ESRS and EU taxonomy in the programme and agree on a presentation about ETV by the ETV body. |
| | C.A2: Engage into cooperation with experts on CSRD, ESRS and EU taxonomy that can deliver complementary information and prepare a joint training offer for target groups. Inform target groups directly or indirectly through branch associations about the training offer. |
| | C.A3: Prepare presentation content for small presentations and training content for training sessions about the ETV scheme in the context of CSRD, ESRS and EU taxonomy. Agree with branch organisations about the possibility to provide training sessions about the ETV scheme and the possibility to set new performance standards by technology users. |
| | C.A4: Verify the readiness among organisations in the water supply and wastewater treatment sector to define new (more stringent) values for indicators and parameters for a selected group of water-related challenges (for instance starting from the minimum requirements defined in ESRS and EU taxonomy or starting from BAT/BREF and then setting new values that could trigger cutting-edge technology development and implementation in the framework of green procurement). In case of a positive contribution from the side of these organisations and their readiness to provide green procurement based on a commonly agreed approach (including the requirement for third-party verification of technological solutions proposed in the bids), promote the new approach and solution requirements (values for specific indicators and parameters) among technology providers. |

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Table 4: Technological problem for Poland

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| TECHNOLOGICAL | **LIMITED MARKET UPTAKE OF CUTTING-EDGE WATER-RELATED TECHNOLOGIES PERFORMING BEYOND BAT/BREF, NORMS AND STANDARDS** |
| Cause | Water-related technologies are often applied in critical infrastructures that have to meet high safety and quality standards. As such technology users prefer mature solutions compliant with BAT/BREF requirements or concrete branch norms and standards, confirmed by a track record of previous applications. Additionally in public procurement processes the low-price criterion provides to price competitive widely applied technologies meeting technology neutral technical criteria being preferred above new technologies with higher research and development cost load. To meet the new challenges in water scarcity and climate change, as well as to support green transition in industrial processes, new technologies should be allowed in the playing field. It should be mentioned that the current SCRD and EU taxonomy framework creates favourable conditions for such new technology promotion – a framework that was not in place when the EU ETV programme was implemented – and could mean a new chance for the ETV system in Europe. |
| Current situation | As mentioned above, due to the fact that water-related technologies are often applied in critical infrastructures that have to meet high safety and quality standards, there is little space for testing and demonstrating new technologies. On the other hand, the promotion of water-related technologies is covered under the circular economy priority in the list of national smart specialisation priorities, including: processing and production, wastewater treatment and material recovery. The domains mentioned in the smart specialisation list create opportunities for new technology development in R&D programmes. Research and development institutes as well as universities are providing projects on water-related technology development and report new solutions. Also, start-ups supported by investment funds developed water-related technologies in the past decade. However, the market of water-related technologies is mainly dominated by international large companies. Also test data and performance of innovations resulting from R&D projects is based on in-house testing which may not be sufficiently credible, relevant and adequate to meet the requirements of the users and encourage them to experiment and choose a new, demo-tested technology instead of an established proven solution. Bank Gospodarstwa Krajowego (BGK) has initiated the “water-hydrogen-carbon” platform as a way to promote cooperation on new technologies between the scientific and business communities. The 3W Interdisciplinary Innovations Centre brings together researchers from different organisations to analyse challenges and define new opportunities for technology development. |
| | **OBJECTIVE** |
| OBJ1 | Include ETV in the “water-hydrogen-carbon” platform and promote the ETV statements for new technology as a natural step in at the technology demonstration stage, the before the technology commercialisation stage. |
| OBJ2 | Establish cooperation between ETV body and high-risk investment funds financing start-ups dealing with environmental technologies. |
| | **SOLUTIONS** |

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| | BGK provides dedicated activities to promote water-related technological solutions and cooperation between research teams and companies. Research teams will be engaged in soft technology validation concerning technologies that are to be promoted on the 3W platform. The ETV body will agree upon joint actions with the 3W platform and show the added value of hard technology validation and the role of ETV statements in positioning and promoting new technologies. |
| | The ETV body shall initiate cooperation with high-risk capital funds supporting innovative water-related technology projects and show them the added value of ETV in the commercialisation process. |
| | The ETV body shall initiate and strengthen cooperation with national public bodies managing public support instruments for environmental investment projects, such as: the National Fund for Environmental Protection and Water Management, the National Centre for Research and Development, the Polish Agency for Enterprise Development. Together with these organisations the ETV body shall examine possibilities to promote third-party environmental technology verification in technology development projects. |
| **Opportunities** | Spur water-related technology development beyond current BAT/BREF, norms and standards in start-up ecosystems and CSRD, ESRS, EU taxonomy eco-systems in order to support green transition and increase competitiveness of the Polish economy on a wider scale. |
| | **KEY STAKEHOLDERS** |
| **Who and Why** | Bank Gospodarstwa Krajowego (BGK) providing the 3W platform and participants on the platform, including: research and development teams, technology companies, technology users in order to make use of the technology networking activities in the ecosystem for CSRD, ESRS and EU taxonomy in Poland. |
| **Who and Why** | High-risk investment funds that invest in environmental technology start-ups and start-ups dealing with water-related technologies in their portfolio so to support them in technology commercialisation processes and diminish the risk of market failure of new technologies when placing on the market. |
| **Who and Why** | National public bodies managing public support instruments for environmental investment projects, such as: the National Fund for Environmental Protection and Water Management, the National Centre for Research and Development, the Polish Agency for Enterprise Development, to promote third-party environmental technology verification in technology development projects as a means to strengthen cutting-edge environmental technology commercialisation in Poland at the background of strategic challenges related to water scarcity in Poland. |
| | **ACTIONS** |
| | T.A1: Define the terms of cooperation with the representatives of the Polish Development Bank on the 3W platform and prepare a time schedule of joint promotional activities and training sessions about the role of ETV in water-related technology commercialisation. |
| | T.A2: Provide joint promotional activities and training sessions for the stakeholders on the 3W platform. |
| | T.A3: Identify high-risk capital funds supporting innovative water-related technology projects and negotiate cooperation terms. |

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T.A4: Provide information and training sessions for green start-ups on the ETV system.

## Table 5: Market problem for Poland

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| MARKET | **INCONSISTENCIES BETWEEN THE CURRENT ETV SERVICE DELIVERY PROCESS AND THE POTENTIAL ROLE OF THIRD-PARTY WATER-RELATED TECHNOLOGY VALIDATION IN DIMINISHING THE INVESTMENT RISK IN GREEN TRANSITION PROCESSES** |
| **Cause** | The amount of ETV services provided in the period 2015-2022 was fairly small in comparison to the potential of the involved ETV bodies in Europe. While providing activities in the framework of granted projects, there was little room for flexible verification of the ETV service process itself and for lean improvements. As a result, ETV is recognised as a highly cost- and time-consuming process. Without compromising the ETV procedures, there are still some time-consuming activities that could be optimised to increase the duration and cost tolerance of technology providers. In order to become more competitive and reliable in the context of CSRD, ESRS and EU taxonomy green transition processes, ETV bodies have to seek measures to further standardise the service, e.g. by providing assistance at the application stage, building networks and skills of qualified test bodies, developing commonly agreed test protocols for specific types of technologies with key stakeholders reflecting key technology performance aspects and their test methods |
| **Current situation** | The ETV system is based on the ISO standard 14034 Environmental management — Environmental technology verification (ETV). Inspection bodies operate as accredited bodies according to ISO 17020. Test results are obtained by the client from competent test bodies (preferably laboratories accredited under ISO 17025: General requirements for the competence of testing and calibration laboratories) and delivered to the inspection body. The current customer journey includes:<br><br>In order to present a technology for verification, the client contacts a verification body that requests an initial set of information about the technology and client's expectations concerning the performance claim to be verified. Collection of information at the contact phase may be supported by a Quick Scan (an additional step, not part of the ISO 14034 process) requested by the verification body to provide structured information on the candidate technology and get a recognition of client's expectations. Based on the analysis of the Quick Scan, the client receives feedback and instructions whether to proceed with ETV application or not. If the decision is positive, the client develops an application file based on a structured application form requiring information about the technology and its performance that must be sufficient for the verification body to understand the technology and assess if its technical design is likely to deliver performance as declared by the client. The application specifies also the initial performance claim proposed for verification. The application file is evaluated by the verification body for compliance to formal and technical requirements and the procedure ends up stating the eligibility of a technology to enter the pre-verification stage. The client agrees with the verification body on the performance claim and the specific parameters to be verified and based on this, the verification body elaborates a verification plan in consultation with the client. The plan defines the requirements for test data to back-up the claim. To verify the performance, the verification body analyses the available performance test data provided by the client. If the data set meets the requirements, the performance can be verified, if not the client is requested to perform additional testing. The end result is a conclusion of the verification |

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| | body about the actual achieved performance presented in details in a verification report and summarised in a statement of verification. Upon successful completion of all the procedures the statement of verification is published by the verification body at a minimum. This customer journey can last about 12 months and even more (depending on the testing needs). Compared to technology development processes and the commercialisation route of new technologies on a wider scale, this should be an acceptable timeframe. However, in terms of CSRD, ESRS and EU taxonomy compliance of technologies considered by organisations in their green transition, this could be a hurdle. Therefore, the process could be optimised by way of delivering clients with guidance and tools accelerating some processes (e.g. a self-assessment tool to help the client define the readiness for ETV application in terms of technology TRL level, scope of information about the technology, test data requirements as well as formal requirements), development of testing protocols and a network of test bodies that know the ETV requirements and are able to deliver appropriate test data. |
| | **OBJECTIVE** |
| OBJ1 | Improve the client-ETV relationship and communication by way of introducing the self-assessment tool, appropriate information exchange ( e.g. through the ETV Knowledge Hub) and optimise the work in the process. |
| OBJ2 | Build a network of competent test bodies that can be considered by the client in case of the need to deliver additional test data. |
| | **SOLUTIONS** |
| The ETV body should take up a proactive role in the eco-system, however maintaining its neutral position. It shall provide supportive tools for clients, train own personnel in communication techniques with clients and elaborate a network of accredited laboratories. As a result of improvements, the total customer journey should not take more than 10 months – apart from cases requiring extended testing due to the need of seasonal data collection. | |
| Opportunities | ETV body to become an active reliable market-oriented neutral player in green transition processes, positioning third-party technology verification as a means to diminish investment related risks in green transition processes. |
| | **KEY STAKEHOLDERS** |
| Who and Why | Technology providers and technology users that developed own installations on the basis of acquired technologies in order to receive objective technology verification and verified data proving compliance of the applied technological solution with specific requirements (ESRS) for ESG reports. |
| Who and Why | Test bodies, accredited laboratories under ISO 17025 (general requirements for the competence of testing and calibration laboratories) to develop a reference list of competent entities that can support clients in test data generation for ETV needs. |
| | **ACTIONS** |
| M.A1: Develop and promote the self-assessment tool for applicants and discuss opportunities for further improvement of the ETV service | |

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| M.A2: Identify test bodies and accredited laboratories under ISO 17025 active in the field of water-related technologies and start bilateral contacts with these laboratories or the organisations they are active within in order to discuss the terms of cooperation. Provide training materials concerning testing requirements for ETV. |
| M.A3: Prepare a list of test bodies and accredited laboratories with whom the ETV body may sign a memorandum of understanding and create a reference list of qualified providers. Present the list of laboratories on the ETV body web site, promote them through ETV Network and Knowledge Hub and communicate to potential partners about the availability of the list of test bodies. |
| M.A4: Prepare and disseminate marketing materials informing about the ETV service with clear information about the cooperation and information exchange procedure and requirements for test data. |

# 7. DEVELOPMENT OF THE IMPLEMENTATION STRATEGY

## 7.1. Actions prioritisation

For each problem category described in section 6 (regulatory, market, technological and cultural) a number of actions were identified to be implemented during the promotion campaign. Considering ETV use case presented in this roadmap and the related business case, the proposed actions have been further prioritised considering their relevance in achieving the goals (Table 6).

Table 6: Actions and their impact on the achievement of the goals

| ACTIONS | GOALS | PRIORITY |
|---|---|---|
| **REGULATORY** | | |
| R.A1: Identify leading financial institutions and law firms that are already active in the field of sustainability reporting and EU taxonomy compliance assessments of investment projects and are ready to consider ETV statements in investment projects' due diligence processes. | G1<br>G2<br>G3<br>G4 | 4 |
| R.A2: Provide bilateral meetings with representatives of financial institutions and law firms to explain the ETV scheme and to present the added value of the ETV service in the verification process of CSRD, ESRS and EU taxonomy compliance of their clients' investment projects, in particular in the field of water-related technologies. | | 4 |
| R.A3: Enter into contact with the Polish Bank Association and verify the possibility to jointly promote third-party technology verification in CSRD, ESRS and EU taxonomy compliance assessments of investment projects. | | 3 |
| R.A4: Prepare training materials and test a training programme for financial institutions and law firms about the ETV scheme. | | 4 |
| R.A5: Enter into cooperation with associations in the water supply and wastewater treatment sector and introduce ETV issues in their training programmes on CSRD and EU taxonomy for water supply and wastewater treatment companies. | | 5 |

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| ACTIONS | GOALS | PRIORITY |
|---|---|---|
| R.A6: Provide information and training sessions for water supply and wastewater treatment companies and engineering companies on the use of ETV in the context of green public procurement. | | 4 |
| **CULTURAL** | | |
| C.A1: Verify the time schedule for planned events directed to organisations in the water supply and wastewater treatment sector and connect with organisation responsible for programming. Propose to include the issues of CSRD, ESRS and EU taxonomy in the programme and agree on a presentation about ETV by the ETV body. | | 3 |
| C.A2: Engage into cooperation with experts on CSRD, ESRS and EU taxonomy that can deliver complementary information and prepare a joint training offer for target groups. Inform target groups directly or indirectly through branch associations about the training offer. | | 5 |
| C.A3: Prepare presentation content for small presentations and training content for training sessions about the ETV scheme in the context of CSRD, ESRS and EU taxonomy. Agree with branch organisations about the possibility to provide training sessions about the ETV scheme and the possibility to set new performance standards by technology users. | G1<br>G2<br>G3<br>G4 | 5 |
| C.A4: Verify the readiness among organisations in the water supply and wastewater treatment sector to define new (more stringent) values for indicators and parameters for a selected group of water-related challenges (for instance starting from the minimum requirements defined in ESRS and EU taxonomy or starting from BAT/BREF and then setting new values that could trigger cutting-edge technology development and implementation in the framework of green procurement). In case of a positive contribution from the side of these organisations and their readiness to provide green procurement based on a commonly agreed approach (including the requirement for third-party verification of technological solutions proposed in the bids), promote the new approach and solution requirements (values for specific indicators and parameters) among technology providers. | | 3 |
| **TECHNOLOGICAL** | | |
| T.A1: Define the terms of cooperation with the representatives of the Polish Development Bank on the 3W platform and prepare a time schedule of joint promotional activities and training sessions about the role of ETV in water-related technology commercialisation. | | 5 |
| T.A2: Provide joint promotional activities and training sessions for the stakeholders on the 3W platform. | G1<br>G2<br>G3<br>G4 | 5 |
| T.A3: Identify high-risk capital funds supporting innovative water-related technology projects and negotiate cooperation terms. | | 3 |
| T.A4: Provide information and training sessions for green start-ups on the ETV system. | | 3 |
| T.A5: Identify representatives of national public bodies managing public support instruments for environmental investment projects, who are responsible for | | 3 |

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| ACTIONS | GOALS | PRIORITY |
|---|---|---|
| instrument planning, monitoring and optimisation. Organise a meeting with these representatives to discuss current and potentially new stipulations that could be foreseen in programming documents to promote third-party environmental technology verification in public support instruments as a means to spur cutting-edge environmental technology development and commercialisation in Poland. | | |
| T.A6: Engage representatives of national public bodies managing public support instruments for environmental investment projects in one specific case study of an instrument that could include third-party environmental technology verification in technology development project (workshops) and develop a scenario that is feasible and deliver added value for all parties. | | 3 |
| **MARKET** | | |
| M.A1: Develop and promote the self-assessment tool for applicants and discuss opportunities for further improvement of the ETV service | | 4 |
| M.A2: Identify test bodies and accredited laboratories under ISO 17025 active in the field of water-related technologies and start bilateral contacts with these laboratories or the organisations they are active within in order to discuss the terms of cooperation. Provide training materials concerning testing requirements for ETV. | G1<br>G2<br>G3<br>G4 | 5 |
| M.A3: Prepare a list of test bodies and accredited laboratories with whom the ETV body may sign a memorandum of understanding and create a reference list of qualified providers. Present the list of laboratories on the ETV body web site, promote them through ETV Network and Knowledge Hub and communicate to potential partners about the availability of the list of test bodies. | | 5 |
| M.A4: Prepare and disseminate marketing materials informing about the ETV service with clear information about the cooperation and information exchange procedure and requirements for test data. | | 5 |

## 7.2. Action plan - implementation

The below presented action plan refers to the assumed period of about 8 months. The proposed actions have to allow the ETV body to position itself as a valuable partner for third party environmental technology verification of water-related technologies. The plan foresees: eco-system building, training of target groups, information dissemination as well as service optimisation.

Table 7: detailed action plan

| ACTIONS | TASKS | TIME SCHEDULE |
|---|---|---|
| **Regulatory challenges covered by the following actions** | | |
| R.A1: Identify leading financial institutions and law firms that are already active in the field of sustainability reporting and EU taxonomy compliance assessments of investment projects and are ready to | • Analyse websites of financial institutions and law firms and articles on sustainable development, EU taxonomy and CSRD in media.<br>• Prepare a list of financial institutions and law firms and contact persons in line with GDPR. | M1 |

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| ACTIONS | TASKS | TIME SCHEDULE |
|---|---|---|
| consider ETV statements in investment projects' due diligence processes. | | |
| R.A2: Provide bilateral meetings with representatives of financial institutions and law firms to explain the ETV scheme and to present the added value of the ETV service in the verification process of CSRD, ESRS and EU taxonomy compliance of their clients' investment projects, in particular in the field of water-related technologies. | • Contact the identified representatives of financial institutions and law firms and arrange meetings.<br>• Provide bilateral meetings during which the ETV scheme is presented and the organisation's experience in ESG and EU taxonomy related issues is being discussed.<br>• Prepare minutes of meetings and decide about a common approach towards the visited organisations. Send them a formal cooperation proposal. | M2 |
| R.A3: Enter into contact with the Polish Bank Association and verify the possibility to jointly promote third-party technology verification in CSRD, ESRS and EU taxonomy compliance assessments of investment projects. | • Contact the Polish Bank Association and verify who is responsible for EU taxonomy and ESG issues.<br>• Arrange a meeting with the representative of the Polish Bank Association during which the ETV scheme shall be presented and potential joint promotional activities discussed.<br>• Prepare minutes of the meeting and send a formal proposal for joint activities.<br>• Prepare a proposal for media communication that can be placed on the Polish Bank Association's website. | M2 |
| R.A4: Prepare training materials and test a training programme for financial institutions and law firms about the ETV scheme. | • Based on the materials from C.A2, prepare a training programme for financial institutions and law firms about the ETV scheme/process.<br>• Agree with the Polish Bank Association upon a time schedule for a training session for its members.<br>• Provide the test training programme with representatives of financial institutions. Foresee workshop sessions during the training session so to discuss and create approaches to integrate ETV statements in the due diligence processes for investment projects.<br>• Prepare a concept note with the outcomes of the workshop and discuss it with the representative of the Polish Bank Association and the representatives of the participating financial institutions.<br>• Prepare the final concept note and send it to the Polish Bank Association to be published on its website. | M3 |

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| ACTIONS | TASKS | TIME SCHEDULE |
|---|---|---|
| R.A5: Enter into cooperation with associations in the water supply and wastewater treatment sector and introduce ETV issues in their training programmes on CSRD and EU taxonomy for water supply and wastewater treatment companies. | • Prepare a set of information materials about the ETV scheme, including ETV and EU taxonomy in sustainable financing and ETV and green procurement.<br>• Contact associations in the water supply and wastewater treatment sector to discuss their plans for training about CSRD and EU taxonomy for their members. Discuss with them the possibility to provide a session on the ETV scheme and the added value of third-party technology verification in sustainable financing in green transition processes. | M1-M2 |
| R.A6: Provide information and training sessions for water supply and wastewater treatment companies and engineering companies on the use of ETV in the context of green public procurement. | • In cooperation with associations in the water supply and wastewater treatment sector set a date for training sessions (for instance regionally or during branch events)<br>• Apply the brochure on the use of ETV to support green public procurement prepared under the LIFEproETV project[39].<br>• Provide training sessions for water supply and wastewater treatment companies and engineering companies on ETV and EU taxonomy in sustainable financing and on green procurement.<br>• Provide follow-up of training results by way of contacting the participants by phone/email in a period of two weeks after the training. Assess the plans of these companies concerning green (public) procurement. | M3 – M8 |
| **Cultural challenges covered by the following actions** | | |
| C.A1: Verify the time schedule for planned events directed to organisations in the water supply and wastewater treatment sector and connect with organisation responsible for programming. Propose to include the issues of CSRD, ESRS and EU taxonomy in the programme and agree on a presentation about ETV by the ETV body. | • Verify the time schedule for planned events directed to organisations in the water supply and wastewater treatment sector and connect with organisation responsible for programming these events.<br>• Discuss the possibility to provide a presentation or a workshop or a side event about CSRD, EU taxonomy and ETV.<br>• Agree upon the conditions for cooperation (non-paid partnership or paid). | M1 |

[39] https://lifeproetv.eu/wp-content/uploads/2019/09/LIFEproETV_brochure_Guidance_on_the_use_of_ETV_to_support_Green_Public_Procurement_and_Innovation_Procurement.pdf

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| ACTIONS | TASKS | TIME SCHEDULE |
|---|---|---|
| C.A2: Engage into cooperation with experts on CSRD, ESRS and EU taxonomy that can deliver complementary information and prepare a joint training offer for target groups. Inform target groups directly or indirectly through branch associations about the training offer. | • Identify experts on CSRD, EU taxonomy, LCA and EMAS in national associations, law firms and consultancy firms.<br>• Invite selected experts to cooperate on developing a training programme.<br>• Present these experts the idea behind ETV. | M1 |
| C.A3: Prepare presentation content for small presentations and training content for training sessions about the ETV scheme in the context of CSRD, ESRS and EU taxonomy. Agree with branch organisations about the possibility to provide training sessions about the ETV scheme and the possibility to set new performance standards by technology users. | • Prepare with the experts a joint training offer for target groups and agree upon the approach to share tasks in the training.<br>• Publish information about the training offer on the ETV body's website and on the website of participating branch associations.<br>• Invite target groups to participate in training sessions through social media and by the branch associations (among their members).<br>• Provide small presentations during conferences. | M2-M8 |

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| ACTIONS | TASKS | TIME SCHEDULE |
|---|---|---|
| C.A4: Verify the readiness among organisations in the water supply and wastewater treatment sector to define new (more stringent) values for indicators and parameters for a selected group of water-related challenges (for instance starting from the minimum requirements defined in ESRS and EU taxonomy or starting from BAT/BREF and then setting new values that could trigger cutting-edge technology development and implementation in the framework of green procurement). In case of a positive contribution from the side of these organisations and their readiness to provide green procurement based on a commonly agreed approach (including the requirement for third-party verification of technological solutions proposed in the bids), promote the new approach and solution requirements (values for specific indicators and parameters) among technology providers. | • Discuss with representatives of selected branch associations which challenges could be addressed to define new technology standards. Prepare a list of challenges.<br>• Organise a workshop with selected branch associations and their members with the aim to verify readiness in setting new standards for technologies for a specific group of challenges.<br>• Prepare minutes of the workshop and a concept paper showing potential for new technology standards. Send the concept note to the branch associations.<br>• Publish the concept note and invite the branch association's members to a second meeting to agree upon an ETV approach for the new defined standards.<br>• Organise the second workshop, define ETV measures for the set of technology standards. Formalise the decisions in the form of a memorandum of understanding.<br>• Communicate the new standards in media. | M3 – M7 |
| **Technology challenges covered by the following actions** | | |
| T.A1: Define the terms of cooperation with the representatives of Bank Gospodarstwa Krajowego (BGK) on the 3W platform and prepare a time schedule of joint promotional activities and training sessions about the role of ETV in water-related technology commercialisation. | • Organise a meeting with the representatives of the Bank Gospodarstwa Krajowego (BGK) on the 3W platform and discuss the terms of cooperation.<br>• Prepare a time schedule of joint promotional activities and training sessions.<br>• Prepare training and promotional materials and agree on the role of additional experts in the field of ESG and EU taxonomy to be involved in the training. | M1 |
| T.A2: Provide joint promotional activities and training sessions for the stakeholders on the 3W platform. | • Agree with the Polish Development Bank representative on the training approach (online or on premise) and the promotion of the training sessions (website, mailing, follow-up).<br>• Provide joint promotional activities and training sessions for the stakeholders on the 3W platform.<br>• Organise regular feedback with the Polish Development Bank representative and the experts | M3-M8 |

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| ACTIONS | TASKS | TIME SCHEDULE |
|---|---|---|
| | about the quality and impact of the training sessions. | |
| T.A3: Identify high-risk capital funds supporting innovative water-related technology projects and negotiate cooperation terms. | • Prepare a list of at least three high-risk capital funds supporting innovative water-related technology projects and negotiate cooperation terms.<br>• Contact the high-risk capital funds and invite them for a meeting to explain the role of ETV scheme in new environmental technology commercialisation.<br>• Agree upon the possibility to provide ETV training sessions for the technology start-ups in their portfolio. | M3-M4 |
| T.A4: Provide information and training sessions for green start-ups on the ETV system. | • In cooperation with the high-risk capital funds invite start-ups to participate in the training session.<br>• Provide information and training sessions for green start-ups. Do a follow-up within two weeks after the training to verify their willingness to make use of ETV. | M5-M8 |
| T.A5: Identify representatives of national public bodies managing public support instruments for environmental investment projects, who are responsible for instrument planning, monitoring and optimisation. Organise a meeting with these representatives to discuss current and potentially new stipulations that could be foreseen in programming documents to promote third-party environmental technology verification in public support instruments as a means to spur cutting-edge environmental technology development and commercialisation in Poland. | • Identify representatives of national public bodies managing public support instruments for environmental investment projects, who are responsible for instrument planning, monitoring and optimisation.<br>• Provide bilateral talks with the identified representatives of national public bodies managing public support instruments for environmental investment projects to agree about the terms of cooperation.<br>• Invite the interested representatives of national public bodies to an online meeting to present the ETV scheme, discuss potential areas of cooperation and identify a business case that could serve as a joint project. | M1-M3 |
| T.A6: Engage representatives of national public bodies managing public support instruments for environmental investment projects in one specific case study of an instrument that could include third-party environmental technology verification in technology development project (workshops) and develop a scenario that is feasible and deliver added value for all parties. | • Organise a preparatory meeting with the representative of the public body managing the public support instrument on the basis of which a case study and scenario for including the ETV scheme would be considered. Discuss the idea behind the instrument, the implementation process at the project preparation stage and the project implementation stage, and agree on the expected | M4-M8 |

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| ACTIONS | TASKS | TIME SCHEDULE |
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| | results in order to show the added value of the ETV scheme.<br>• Organise a workshop with alle interested representatives of the public bodies managing public instruments and engage them in elaborating the business case for the selected instrument.<br>• Prepare the report with the business case for the selected instrument, send it to the public body managing the specific public support instrument and provide follow-up to monitor the further actions from the side of the public body. | |
| **Market challenges covered by the following actions** | | |
| M.A1: Develop and promote the self-assessment tool for applicants and discuss opportunities for further improvement of the ETV service | • Develop a tool for potential client support in the form of a self-assessment tool available on the ETV body's website (ETV skills and capacity building tools for technology providers).<br>• Test the tool in cooperation with technology providers. Get their feedback and provide adaptations. Publish the final version of the tool and inform about the tool on social media.<br>• Provide an in-depth analysis of the steps in the ETV process. Identify bottlenecks and propose potential solutions.<br>• Prepare a step-by-step approach for continuous improvement of the ETV service. | M1-M8 |
| M.A2: Identify test bodies and accredited laboratories under ISO 17025 active in the field of water-related technologies and start bilateral contacts with these laboratories or the organisations they are active within in order to discuss the terms of cooperation. Provide training materials concerning testing requirements for ETV. | • Verify websites and articles in media about accredited laboratories active in the field of water-related technologies.<br>• Identify contact persons and contact them by phone and e-mail. Deliver them with information about ETV and the possibility for cooperation with future ETV clients.<br>• Prepare a memorandum of understanding informing about the role of test bodies accredited laboratories in the ETV process, the expected quality requirements for test data and the need for their willingness to accept inspection by the ETV body. Send the memorandum for understanding to the accredited laboratories, test bodies and their organisations.<br>• Follow-up the signing of the memorandum of understanding. | M1-M4 |

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| ACTIONS | TASKS | TIME SCHEDULE |
|---|---|---|
| M.A3: Prepare a list of test bodies and accredited laboratories with whom the ETV body may sign a memorandum of understanding and create a reference list of qualified providers. Present the list of laboratories on the ETV body web site, promote them through ETV Network and Knowledge Hub and communicate to potential partners about the availability of the list of test bodies. | • Prepare a list of accredited laboratories/ test bodies with which the ETV body signed a memorandum of understanding, their fields of specialisation and their contact persons.<br>• Present the list of laboratories on the ETV website and communicate to potential partners about the availability of the list of laboratories.<br>• Invite the test bodies/laboratories to join the ETV Network. | M5-M8 |
| M.A4: Prepare and disseminate marketing materials informing about the ETV service with clear information about the cooperation and information exchange procedure and requirements for test data. | • Prepare marketing materials in line with the agreements in the other areas (branch organisations, financial institutions, law firms, accredited laboratories).<br>• Disseminate marketing materials informing about the ETV service with clear information about the cooperation and information exchange procedure and requirements for test data on the ETV website, in brochures, in articles in media. | M2-M8 |

# 8. CONCLUSION FOR THE POLISH BUSINESS CASE AND ROADMAP

The entering into force of the Corporate Sustainability Reporting Directive (CSRD), European Sustainability Reporting Standards (ESRS) and EU taxonomy for sustainable activities brings new administrative and financial challenges for companies and the financial sector. But it also creates new opportunities for technology development in Europe. Ongoing discussions show the need for more clarity in the proposed reporting procedures and disclosure requirements in terms of business activities meeting legal and environmental indicators. For now, delegated acts refer to BAT, BREF and branch related directives, norms and standards as the starting point for confirming enviromental sustainability compliance without defining technology related indicators or recommendations. Experts and stakeholders draw attention to the fact that this approach might lead to a technology status quo in Europe, rather than to spur new technology development. Notwithstanding the current situation and the legal framework, there are severe challenges in the economy and society that should be tackled sooner than later and for which new environmental technologies should be considered. Among these challenges one can count water scarcity and the need for a better water management in the aspect of the the circular economy.

The Institute for Ecology of Industrial Areas has been playing an active role in the ETV eco-system in Europe for over 18 years. Its widespread network of contacts in the field of environmental technologies, especifically water-related technologies, shall form the basis for strengthening the Polish CSRD, ESRS, EU taxonomy eco-system, within which it can become a reliable partner for financial institutions, insurance companies and legal firms in supporting investment project compliance assessments and the green transition of Polish companies. Based upon the minimal requirements and indicators in ESRS and EU taxonomy, together with company groups and branch associations, IETU shall discuss opportunities for defining new indicator values to promote technology development and commercialisation. As such it

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shall deliver professional service to technology providers wanting to validate their environmental technologiy functionalities and characteristicss in respect to CSRD, ESRS, EU taxonomy and additional branch set indicators.

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