



Utrecht University

From directives to impact: Unraveling the EU's legal sustainability maze and the role of full cost account methodologies in aiding businesses navigate it

Tailored made course

Master's program: Sustainable Business and Innovation

Student name: Beatriz Hidalgo Daim

Student number: 7073844

Course supervisor: dr. Walter J.V. Vermeulen

doi: 10.5281/zenodo.8289882

Preface

Sustainability has never been a hotter topic than in today's modern society. Professionals in the field are getting increasingly pressured by demands from private, public and civil actors. While trying to navigate this maze, they are bombarded by ever more stringent legislative requirements, along with a plethora of tools, guidelines, and standards, which compete for their uptake and vow to be the leading supporting mechanism. When considering the strong interconnection between sustainability issues and the economy, namely with the current patterns of production (Croes & Vermeulen, 2015), full cost accounting methodologies are particularly suitable. After working in the research team of the Oiconomy Pricing (O.P) system, at the Copernicus Institute of Sustainable Development, and writing my Master's thesis on (social) sustainability assessment, the potential of this comprehensive methodology in aiding companies assess their sustainability impact, and improve their related performance, became clear to me. This research aims to shed light on the complex sustainability legal-market dynamic. It does so by analyzing the EU sustainability legislative landscape, its impact on organizations and value chains, and the extent to which the O.P can support practitioners in navigating, complying and improving their sustainability performance. Based on that, this research is targeted at, all sustainability experts in any sector, who want to better understand the impact of prominent EU legislative requirements, on their business activities, and explore the supporting role of a comprehensive full cost accounting methodology, i.e. the O.P system, in helping them assess, evaluate, and progress on their sustainability efforts. Furthermore, the research findings are also relevant for policy makers in the search for effective supporting tools to monitor, enforce, simplify, and ensure corporate compliance to legislative requirements.

Table of contents

Table of contents	3
List of acronyms	4
1. Introduction	6
2. Methodology	8
2.1 Research Design	8
2.2 Data collection and analysis	8
Main RQ and sub-question 1	8
Sub-question 1	11
Sub-question 2	11
3. Literature review	13
3.1 Legal concepts and definitions	13
3.2 EU sustainability legislative landscape	14
3.2.A Legislation	14
A.1 EU Regulation on Deforestation-free Products	14
A.2 Ecodesign for Sustainable Product Regulation (ESPR): Digital Product Passport (DPP) Regulation	18
A.3 Forced Labour Ordinance	20
3.2.B Directives	22
B.1 Corporate Sustainability Reporting Directive (CSRD)	22
B.2 Corporate Sustainability Due Diligence Directive (CSDDD)	30
4. Oiconomy Pricing (O.P) System	35
4.1 Introducing the O.P system	35
4.1.2 Value chain perspective	35
4.2 Legal requirements and links with the O.P methodology	36
A. Regulations	36
A.1 The EURDP and the O.P	36
A.2 The DPP and the O.P	39
A.3 Forced Labor Ordinance and the O.P	40
B. Directives	41
B.1 The CSRD and the O.P	41
B.2 The CSDDD and the O.P	42
5. Limitations	47
6. Conclusion	48
6.1 Main findings	48
6.2 Future research	50
6.3 Practical recommendation for the O.P development	51
References	53
Appendix	57

List of acronyms

O.P	Oconomy Pricing
ESCU's	Eco Social Units
EOL	End-of-life
CSDDD	Corporate Sustainability Due Diligence Directive
SA	Sustainability assessment
EU	European Union
UN	United Nations
WBCSD	World Business Council for Sustainable Development
RVO	The Netherlands Enterprise Agency
ICSR	International Corporate Social Responsibility
SFDR	Sustainable Finance Disclosure Regulation
EURDP	EU Regulation on Deforestation free Products
ESPR	Ecodesign for Sustainable Product Regulation
DPP	Digital Product Passport (regulation)
CSRD	Corporate Sustainability Reporting Directive
ESRS	European Sustainability Reporting Standards
(ESRS) DR	(ESRS) Disclosure Requirements
NFRD	(EU) Non-financial Reporting Directive
GHG	Greenhouse gas(es)
SME	Small-medium enterprise
GIS	Geographic Information System
UID	Unique Product Identifier
EFRAG	European Financial Reporting Advisory Group

TCFD	Task-force on Climate related Financial Disclosures
ISSB	International Sustainability Standards Board
ESG	Environment, Social and Governance
EBU	European Broadcasting Unit
GVC	Global value chains
SBTs	Science-based targets

1. Introduction

Socio-environmental issues are one of the main focus of contemporary debates regarding globalization (Croes & Vermeulen, 2015). All around the world companies from different industries are restructuring their operations and outsourcing their activities to countries with cheaper labor, and less rigorous social and environmental legislation (Faber, 1993; Faber & McCarthy, 2003). Yet, the increased awareness of businesses' impact on society and the environment, has put global value chains under scrutiny. For example, since the beginning of 2023, the Business & Human Rights Resource Centre has approached European companies more than 200 times, concerning allegations of abuse in their value chain (Wilks, 2023). In response to this, high functioning democracies, such as EU Member states, are implementing ever more stringent and comprehensive sustainability legislation (OECD, n.d.). Such legislative measures aim to promote sustainable growth by improving environmental and social outcomes, while increasing costs for related degradation (Albrizio et al., 2017). By doing so, it directly affects economic actors, in particular businesses and their activities. International legal efforts, such as the EU Directive on Corporate Sustainability Due Diligence (CSDDD), which aims to make organizations accountable for the environmental and social impacts of their entire value chains (European Commission, 2022), exemplifies this notion.

In line with that, is the plethora of tools, guidelines, and standards, that have developed with the aim to aid companies in assessing, understanding and complying with increasingly complex legal requirements (Parris & Kates, 2003). Examples are The Guiding Principles on Business and Human Rights, OECD Guidelines for Multinational Enterprises, Greenhouse Gas Protocol etc. Yet, in order to report on sustainability performance, companies first need to understand and evaluate their current impact. In this sense, sustainability assessment (SA) is key. When considering the strong interconnection between sustainability issues and the economy, namely with the current patterns of production (Croes & Vermeulen, 2015), full cost accounting methodologies are particularly suitable. These identify, quantify and price the externalities produced by business activities, supporting policy and market interventions, which favor the production and consumption of goods with the lowest true cost (Sustainable Food Trust, 2019), the cost of sustainability. An example of such is the Oiconomy Pricing (O.P), a comprehensive product-level SA, covering the three P's of sustainability defined as Planet, People and Prosperity, which measures a product's sustainability by means of the preventive costs to negative impact.

Given the complex legal-market dynamic in the global sustainability crisis, this research aims to summarize the current European Union (EU) sustainability regulatory landscape, and analyze the implications of sustainability directives and legislation for businesses. Furthermore, due to the potential role of SA, in particular full cost accounting methodologies, in supporting sustainable business practices, the current study sets to evaluate the extent to which the Oiconomy Pricing can support organizations, in navigating and complying with the latest sustainability legislation, and improving their related performance.

Based on that, the following research questions have been developed:

RQ. Based on the past three years, i.e. between 2021-2023, what is the current EU sustainability regulatory landscape in terms of directives and legislations, with a direct impact on businesses' value chains?

Sub-question 1. What are their implications to businesses in terms of requirements and action points concerning value chain transparency and monitoring?

Subquestion 2. To what extent does full cost accounting SA methodologies, i.e. The Oiconomy Pricing, help organizations comply with the legislative requirements?

2. Methodology

2.1 Research Design

An inductive research approach is implemented for the current study. In order to investigate the EU sustainability landscape, a descriptive analysis is conducted. Firstly, an overview of basic legal concepts and definitions is provided, to form a better understanding of the functionings of EU legislation. Secondly, a summary of the latest sustainability directives and legislation, from the years of 2020 to 2023, is given. Focus is on directives and legislations with a direct impact on businesses, involving set action points and compliance requirements.

Following that, the implications of such directives and legislation to businesses are evaluated, including action points and potential impact on value chains. Lastly, in order to evaluate the extent to which full cost accounting methodologies can aid companies in complying with these requirements, the Oiconomy Pricing is analyzed. This analysis is based on its development as a SA system, its sustainability indicators, the external and internal validity of its methodology and the practical usefulness of its assessment results for companies.

2.2 Data collection and analysis

A mixed method data collection is implemented, further specified to each research question below.

Main RQ and sub-question 1

Given the vast amount of EU sustainability legislations over the past three years, this paper exclusively analyzes those communicated and discussed by three main institutions in The Netherlands: MVO Nederland, the World Business Council for Sustainable Development (WBCSD), and The Netherlands Enterprise Agency (RVO). The justification thereafter is that such institutions are primarily focused on helping organizations and entrepreneurs connect and develop their businesses. While the former two are particularly concerned with the transition to a sustainable economy, offering a network for businesses and entrepreneurs to innovate, collaborate, and successfully implement sustainable business practices (MVO, n.d; WBCSD, n.d.), the latter is a government agency part of the Dutch Ministry of Economic

Affairs and Climate Policy, which supports businesses in expanding and investing on projects, through funding and networking opportunities (RVO n.d.). Based on that, it is evident that such institutions will inevitably address any current EU sustainability legislation with a direct impact on businesses, being reliable sources for the research data collection (see table 1 for an overview of data sources).

MVO	WBCSD	RVO
<p>Official website:</p> <ul style="list-style-type: none"> • https://www.mvonederland.nl/ 	<p>Official website:</p> <ul style="list-style-type: none"> • https://www.wbcd.org/ 	<p>Official website:</p> <ul style="list-style-type: none"> • https://english.rvo.nl/ <p>International Corporate Social Responsibility (ICSR) support website in collaboration with the Ministry of Foreign Affairs:</p> <ul style="list-style-type: none"> • https://www.rvo.nl/onderwerpen/imvo-steunpunt

Table 1: Data sources for main RQ and sub-question 1

Following a thorough website search, the main EU sustainability directives and legislation from 2021-2023, with a direct impact on businesses, are identified and presented in a literature review. Specific methods for data search and collection varied according to the organization and its website structure. Below further details are given:

MVO: In order to scope for the most prominent EU sustainability legislation addressed by the MVO, the "Nieuws & Opinie", translated "News & Opinion", section of its website was chosen. "Alle update", translated "All updates", was used as a filter for the published content. This led to over 60 pages containing 5 news articles each. Given the defined research time frame, i.e. 2021-2023, only 28 pages containing articles from 1st of January 2021 until 26th of June 2023, were analyzed. Articles were further selected based on their title, particularly whether they mentioned a (new) policy and/or a legislative requirement. This led to a selection of 13 news articles, out of which two were excluded from the analysis, given the misalignment between the reported topics, and the search criteria mentioned above. In the Appendix, an overview of the remaining 11 news articles, their titles and concerning topics, is given (see in Appendix table A1).

WBCSD: For the scoping of the most relevant EU sustainability legislation addressed by the WBCSD, the same data collection method, as implemented for the MVO, was applied. News articles, under the "News & Insights" section of the WBCSD website, were selected based on their publishing date, i.e. between 1st of January 2021 until 26th of June of 2023, and whether they refer to a (new) policy and/or a legislative requirement on their title. All in all, 77 pages of content showcasing eight articles each, were analyzed. The above search criteria led to an initial selection of 15 articles. From this amount, six articles were further excluded from the analysis, as covered topics did not relate to specific (EU) laws or policies. In general, it was noticed that most content published by the WBCSD referred to new tools and frameworks, to aid companies progressing towards sustainability, through analysis, evaluation and/or reporting. Furthermore, many articles were also mere corporate highlights by WBCSD members, i.e. global companies, linked to their sustainability ambitions, commitments and progress. Lastly, sustainability updates were broadly tailored to international markets, with local contexts and developments from India, South America and Africa also being reported. In the Appendix, an overview of the selected nine articles, their titles and concerning topics, is given (see table A2).

RVO: In order to scope for the most prominent EU sustainability legislation addressed by the RVO, the "Nieuws", translated "News", section of its website was analyzed. After assessing the 117 news articles published, by scanning its titles and first three sentences, it was observed that most content related to subsidy opportunities for companies, as well as the status of implemented projects. Based on that, the RVO website aimed at International Corporate Social Responsibility (ICSR) support for companies, in collaboration with the Ministry of Foreign Affairs, was chosen as an alternative source for data collection (see table 1). This support center is specifically aimed at informing and advising companies, with international value chains, on ICSR and due diligence requirements. For the research purpose, the information section of the website was selected. This section contains seven information pieces, out of which one was selected as data source, since it specifically addresses ICSR laws, and mandatory due diligence rules. The remaining six information pieces were not considered, as they mostly focused on voluntary ICSR guidelines, standards and certificates. In the Appendix, an overview of the information piece, its title, and mentioned legislations, is given (see table A3).

Based on the overview of legislations, laws, and directives presented in tables A1 to A3, an initial investigation of their substance, addressed topics and requirements was conducted. This led to the definitive scoping of EU sustainability legislations and directives,

that will be analyzed by the present study (see table 2). Exclusions included local legislations, voluntary guidelines and legislative acts with no direct impact or requirements on business value chains. Additionally, the *EU European Conflict Minerals Regulation* as well as the *EU Battery Directive 2006*, both cited in the RVO's website, were further excluded from the analysis, given the narrow focus on specific product-categories. Lastly, the *Sustainable Finance Disclosure Regulation (SFDR)* was also excluded from the analysis, given that it came into effect in 2019 and exclusively focuses on the finance sector.

EU sustainability legislation	EU sustainability directive
EU regulation on deforestation free products (EURDP)	Corporate Sustainability Reporting Directive (CSRD) <ul style="list-style-type: none"> • European Sustainability Reporting Standards (ESRS)
Digital Product Passport (DPP) (Part of the Ecodesign for Sustainable Product Regulation)	EU non-financial reporting directive (NFRD)
Forced Labor Ordinance	Corporate Sustainability Due Diligence Directive (CSDDD)

Table 2: Definitive research data - Overview of EU sustainability legislation and directive

Sub-question 1

In order to analyze their implications to businesses, and thereby answer sub-question 1, a critical analysis is developed. The EU directives and legislations identified in the main RQ, through the MVO, WBCSD and RVO's websites, are evaluated and summarized (see above). Focus is given to their legislative requirements and the specific action points demanded from organizations. Additionally, external data sources such as the EU-Lex, and legal magazines and blogs, are further used for a better understanding of the scoped legislative landscape.

Sub-question 2

In order to analyze the extent to which full cost accounting SA systems, i.e. the Oiconomy Pricing, can support organizations in complying with the identified legislative requirements, an overview of its methodology is provided. For this purpose, all official

materials found, currently available, and if applicable, in its latest version, of the Oiconomy Pricing system, are used (see table 3 below).

A summary of the methodology's functioning and characterizing elements, such as objective and scope, processes for data collection and analysis, and assessment tool, is created. Additionally, an analysis focusing on the necessary steps for its implementation as well as the usefulness of assessment results to companies, concerning the identified legislative requirements, is developed, thereby answering sub-question 2.

The Oiconomy Pricing: Data sources
<p>Case study reports:</p> <ul style="list-style-type: none"> ● 2022: Real price of a stone kitchen countertop (Arte Groep) ● 2022: Real price of pepper from Indonesia (Verstegen) ● 2022: Real price of a pack heater (ADMC)
<p>Assessment tool:</p> <ul style="list-style-type: none"> ● Oiconomy assessment tool v2.04
<p>Scientific articles:</p> <ul style="list-style-type: none"> ● Vermeulen et al (2022) ● Croes & Vermeulen (2021) ● Croes & Vermeulen (2019) ● Croes & Vermeulen (2016a) ● Croes & Vermeulen (2016b) ● Croes & Vermeulen (2015)
<p>Official websites:</p> <ul style="list-style-type: none"> ● https://oiconomy.geo.uu.nl/ ● https://www.oiconomy.eu/

Table 3: Data sources for sub-question 2

3. Literature review

This section aims to provide an overview of the most prominent EU sustainability legislation with a direct impact on businesses, in particular their value chain activities, decisions and reporting. Firstly, the most important legal concepts and definitions are provided. Following that, a descriptive analysis of the main directives and legislation, as identified through the data collection (see Methodology chapter), is presented.

3.1 Legal concepts and definitions

Legal acts are composed of regulations, directives, decisions, recommendations and opinions (EU-Lex, n.d.). While the former three concepts are binding legal acts, the latter two are non-binding legal acts. The EU sustainability legislation covers a wide range of topics established over decades through a mix of regulations, directives and delegated regulations/acts (Thomas Reuters Practical Law, n.d.). Below their concepts are explained.

To begin with, regulations are defined as explicit rules to guide behavior, enforced by specific institutions or agencies (Oxford reference, n.d.). In the EU, implementing regulations have general application, meaning they aim to ensure the uniformity of EU law across the EU, without needing to be translated into different national laws. In other words, they are binding and directly applicable simultaneously, automatically and uniformly in and to EU Member States (EUR-Lex, n.d.; EU Monitor, n.d.) Alternatively, delegated regulations/acts are limited in what they can set out to regulate and they aim to add or amend non-essential elements of legislation (EU Monitor, n.d.).

On the other hand, a directive is defined as an official instruction or order coming from an authority (Cambridge dictionary, n.d.). Whilst they are adopted at EU level, directives must be further translated into national laws by each EU Member State, to determine how their rules and instructions shall be conformed and applied to in each specific context (EUR-Lex, n.d.).

Furthermore, a legal decision is defined as the adoption, amendment, or repeal of a regulation or an applicable local act (Law Insider, n.d-b.). They may address one or more agents, such as one or several EU Member States.

3.2 EU sustainability legislative landscape

Below, the relevant EU sustainability legislations and directives, as mentioned in the MVO's-, WBCSD's-, RVO's website throughout 2021-2023, are described (see table 2). It is pertinent to note that most of these are part of a broader environmental commitment set by the European Union, through the **European Green Deal**, to align EU policies on climate, energy, transport and taxation, to reach climate neutrality by 2050 and promote fair and prosperous society (European Council, n.d.).

3.2.A Legislation

A.1 EU Regulation on Deforestation-free Products

The **EU Regulation on Deforestation-free Products (Regulation (EU) No 2023/1115)**¹, here abbreviated as EURDP, published in the Official Journal of the European Union on the 9th of June of 2023, aims to curb global deforestation and forest degradation linked with EU consumption and production, as well as promote deforestation-free products (European Commission, n.d; PrivateWaterhouseCoopers [PWC], 2023). By doing so, it also aims to reduce the EU's contribution to greenhouse gas (GHG) emissions and global biodiversity loss. Under this regulation, deforestation is defined as the conversion of forests to agricultural use, whilst forest degradation concerns structural changes to forest cover, to other types of forest, such as plantation forests, planted forests and/or wooded lands (European Commission, n.d.).

Legal requirements

In accordance with the EURDP, certain commodities and products, recognized as main drivers for deforestation and forest degradation, are only allowed to enter EU markets or be exported from the EU, when harvested from land that have not been deforested, and induced forest degradation, after the 31st of December 2020. Additionally, they also must be produced according to the relevant legislation of the production country concerning land use rights, environmental protection, forest-related rules, third parties' rights, labor rights, human rights protected under international law, the principle of free, prior and informed consent

¹ For more information, please visit:

https://environment.ec.europa.eu/topics/forests/deforestation/regulation-deforestation-free-products_en#publications

(FPIC) as defined in the UN Declaration on the Rights of Indigenous Peoples, tax, anti-corruption, trade and customs regulations (European Commission, n.d.). Lastly, they must be covered by a due diligence statement.

Scope

Relevant commodities and products

The EURDP applies to the following commodities: Cattle, cocoa, coffee, oil palm, rubber, soya and wood. Additionally, certain products deriving from the above mentioned commodities, are also subject to this regulation (see table A4 in Annex for a complete overview).

Subjects of obligations

The EURDP applies to operators and traders that in the course of commercial activity, place the relevant commodities and products on the EU, or export them from it (European Commission, n.d.). However, obligations for Non-small medium enterprise (Non-SME) operators and traders, differ from SME operators and traders. Non-SME operators and traders are obliged to conduct due diligence (see *Due Diligence process* below), and submit a statement proving that the commodities and products they deal with, comply with the legal requirements set above. On the other hand, SME operators and traders are exempt from doing so, if the commodity and/or product in place, has already been subject to due diligence procedures. In such cases, they can collect information from suppliers, and provide the due diligence statement reference number. Yet, larger operators who refer to already submitted due diligence statements, remain responsible and liable for the compliance of their products and commodities, to the defined legal requirements.

Implementation timeline

The EURDP will apply for all the scoped commodities and products as of the 30th of December 2024, for non-SMEs operators and traders, and as of the 30th of June of 2025, for SMEs operators and traders. Furthermore, the first review of the commodities and products under scope, is also set for the 30th of June of 2025.

Due Diligence process

The due diligence process of the relevant commodities and products consist of three steps: Information collection, risk assessment and risk mitigation. This process needs to be

formerly established through a due diligence system, which is annually reviewed. Furthermore, non-SMEs companies are also required to report on the due diligence process including a summary of information collection, conclusions of the risk assessment and the steps taken to risk mitigation.

To begin with, operators and traders need to gather geolocation data of plots of land, where commodities and products are harvested and/or produced, in order to prove absence of deforestation and forest-degradation. This can be collected via mobile phones and digital applications, such as the Geographic Information Systems (GIS). Air photos, satellite images, field photographs along with geotags and time stamps can be used for verifying deforestation-free product statements (European Commission, n.d.). Depending on land size, requirements for such information also differ. While larger land plots, consisting of more than four hectares, require polygons, smaller land plots, consisting of four hectares or less, are allowed to use single point coordinates to provide geolocation. Such data needs to be uploaded in the Information System, as part of the due diligence statements that operators and traders need to provide before placing in, or exporting to, products in the EU. This Information System is an online platform where due diligence statements are to be submitted. In case of bulk and composite products, subjects of the EURDP have to ensure that these are not mixed with products steaming from unknown origin, as the due diligence requirements apply to every single batch of product, which needs to be verified and linked to a plot of land. Additional required information include: Commodity/product type, trade name and description, quantity entering or leaving the EU in kilograms of net mass, volume or number of items, country/countries of production and if applicable, parts thereof, name, postal address, email address of any business or person from whom operators have been supplied with or to whom operators supplied to, verifiable information that products are deforestation-free and comply with relevant legislation of the country (European Commission n.d).

Based on the information collected for the due diligence process, operators and traders need to conduct an annual risk assessment of commodities/products' potential compliance. In case commodities/products bear a non-compliance risk, they are not allowed to be placed in or exported from the EU. The risk assessment is based on a wide range of criteria such as: The deforestation risk level of the production country, its socio-economic and environmental concerns, such as human rights, the rights of indigenous people, corruption cases, conflict, as well as any information received suggesting non-compliances.

The third and last step of the due diligence process consists of risk mitigation, of

commodities and products' potential non-compliance aspects, before these are placed in or exported from the EU. Risk mitigation procedures and measures include requiring extra information, data or documents from suppliers, supporting them in their compliance, in particular if suppliers concern smallholders, implementing independent audits, corporate policies and management systems to effectively address the risks of non-compliance. Although certification schemes can aid operators and traders with the risk assessment, and support information collection for the due diligence requirements, companies are still liable for the credibility and suitability of data, as well as any non-compliances.

Enforcement of the EURDP

Minimum inspection standards are set to support the enforcement of the EURDP (PrivatewaterhouseCoopers [PWC], 2023). These inspection standards are based on a benchmarking system implemented by the European Commission, which will classify countries, both within and outside the EU, according to their risk level of deforestation and forest degradation, as well as the existence, monitoring and effective enforcement of local regulation on several social, economic, and environmental issues, such as human and labor rights, environmental protection, rights of indigenous communities, corruption, bribery etc (Human Rights Watch, 2023). The higher a country's risk-level, the more thoroughly checked and scrutinized are the submitted due diligence statements, by the EU customs and competent authorities (Human Rights Watch, 2023; European Commission, n.d.). For example, each member state of the EU needs to ensure that at least 9% of operators placing or exporting the relevant commodities and products into the EU, deriving from high-risk countries, are checked. The same 9% rule applies to volumes of relevant commodities and products deriving from high-risk countries. On the other hand, a mere 1% applies to operators and volumes of products from low-risk countries. Furthermore, a portal for third parties is available, for complaints and concerns to be submitted, for cases that risk the effective enforcement and/or compliance of the regulation. Lastly, the European Commission will actively engage with countries classified as high-risk level of deforestation and forest degradation, to jointly address the root causes of such issues and reduce their risk-levels (European Commission, n.d.).

In case of non-compliance to the legal requirements, operators and traders need to take appropriate corrective action. EU countries are allowed to implement fines, to confiscate commodities and products, their revenues, and to temporarily exclude companies from public tenders (PrivatewaterhouseCoopers [PWC], 2023).

A.2 Ecodesign for Sustainable Product Regulation (ESPR): Digital Product Passport (DPP) Regulation

The proposal for a new **Ecodesign for Sustainable Product Regulation (ESPR)² (Document 52022PC0142)**, published by the European Commission on the 30th of March of 2022, aims to reduce the negative environmental impact of products' throughout its life cycle, as well as improve its circularity. The ESPR extends and replaces the current **Ecodesign Directive (Directive 2009/125/EC)**, which only applies to energy-related products. It sets a framework of diverse ecodesign requirements, that a wide range of products need to meet, in order to be placed on the market (European Commission, n.d.).

Scope

Subjects of obligation

The ESPR applies to any physical good placed on the market or put into service, including their loose components and intermediate products, but excluding products defined as food, feed, medical, veterinary medical, living plants, animals and microorganisms, products of human origin or products of plants and animals linked directly to their future reproduction (European Commission, n.d.)

Legal requirements

Under the ESPR, products need to meet a diverse set of ecodesign requirements, in order to be introduced in the market. These requirements concern the following aspects:

- 1) Durability and reliability
- 2) Reusability
- 3) Upgradability, reparability, maintenance and refurbishment
- 4) The presence of certain substances of concern
- 5) Energy and resource efficiency
- 6) Recycled materials
- 7) Remanufacturing and recycling
- 8) Carbon and environmental footprints
- 9) Expected generation of waste materials

² For more information, please visit:

https://commission.europa.eu/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/sustainable-products/ecodesign-sustainable-products-regulation_en

The EU Commission will set delegated acts, to define the specific eco-design requirements related to these aspects, to the individual categories. When product categories share technical similarities, requirements might be horizontally set for product groups. In the development of the requirements, elements such as EU and international standards, EU and national environmental legislation, as well as climate priorities and targets, will be considered. Additionally, performance and information related requirements may also be included.

Information requirements

Digital Product Passport (DPP)

Products' information, as defined by the information requirements, shall be available through a digital product passport (DPP), such as a QR code format, to be further specified in delegated acts. General conditions for the DPP require information to be open, free, organized, machine-readable and compliant with EU regulation on data protection. Additionally, to avoid data fraud and tampering, DPPs need to be connected, through a data carrier, to a unique product identifier (UID). Both the data carrier and the UID need to comply with the ISO/IEC 15459:2015 standard on information technology (PSQR, 2023).

The aim of the DPP is to effectively communicate about products' relevant (environmental) information, to value chain actors. By doing so, it increases the transparency of products' environmental impact, and allows businesses and consumers to make informed decisions concerning its purchase, repair and recycle. Furthermore, the DPP also facilitates the control and verification of compliance to eco-design requirements, by relevant authorities. It enhances products' traceability along its life cycle, and promotes circular value chain collaboration such as circular designs (recyclability) and close-looped activities (repair, refurbishment, recycling) (WBCSD, 2023).

Implementation timeline

Final approval of the ESPR, including the DPP, is expected in 2024. For the DPP, the first product categories are expected to be covered in 2026-2027, with most products covered by 2030 (WBCSD Products and Materials team, 2023). Delegated acts specifying legal requirements for more than 10 product categories are expected to be drafted by 2030. These are likely to be connected with the already established priority sectors for the DPP, namely electronics, automobile, textile, construction, furniture and chemicals (WBCSD, 2023).

A.3 Forced Labour Ordinance

On the 14th of September of 2022, the European Commission published a **legislative proposal prohibiting products made using forced labor (Document 52022PC0453)**³, including child labor, in the EU. The prohibition applies to all products available within the EU market, such as exported and imported goods, as well as products made for domestic consumption.

Scope

Subjects of obligations and covered products

The legislation applies to all products entering, leaving or being produced within the EU market regardless of their category, type and industry. All companies involved in these activities, independent of size and industry, are subject to the legislation.

Guidelines

The EU Commission will provide additional guidelines and information for subjects of obligations as well as competent authorities to assist with the compliance and implementation of this regulation. These include guidelines on corporate due diligence of forced labor, information on risk indicators of forced labor, relevant data sources and information to assist legislative implementation, as well as guidelines on information to be provided to local customs authorities (European Commission, n.d.).

Enforcement

The legislation is to be locally enforced in and by each EU Member state, through the appointment of competent authorities. These authorities are required to follow a risk-based approach, by focusing on products, companies and regions, bearing a high risk of forced labor and impact severity. For this purpose, the EU Commission will support Member States with a public database of forced labor risks according to geographic areas and product categories. Considerations such as economic operators' size, resources, as well as the risk-level of associated forced labor are taken into account, before the commencement of a formal investigation (EUR-Lex, n.d.). Additionally, authorities shall request information on any due diligence actions and procedures taken by the economic operator to identify, monitor, prevent, mitigate or terminate risks of forced labor in their value chain, concerning the

³ For more information, please visit:
https://ec.europa.eu/commission/presscorner/detail/en/ip_22_5415

product under assessment (European Commission, n.d.). Investigations shall be carried out on goods with well-founded suspicions of being connected with forced labor. Furthermore, competent authorities will prioritize investigating economic operators that are positioned in the value chain as close as possible to where the risk of forced labor is present, considering their size, economic resources, quantity of products concerned and severity level of the suspicion. Investigations will be based on any and all information available to competent authorities, such as independent and verifiable information on forced labor, data deriving from market surveillance and compliance of products shared by other EU Member States, submissions by third parties, whether due diligence practices on forced labor are already implemented by investigated economic operators etc (European Commission, n.d.; EUR-Lex, n.d.). If suspicions are positive, products are either prohibited to be exported/imported, or if already on the market, are recalled. Third-parties can also submit alleged violations and suspicions to the competent authorities.

Legal requirements

The competent authorities need to communicate their decision as to whether a formal investigation will be initiated, to concerned companies, national custom authorities, as well as the EU Commission and other EU Member states. This communication should include information concerning the initiation of the investigation and its potential consequences, products under investigation, reasons for investigation and possibility for economic operators to submit additional documents, including dates to do so (European Commission, n.d.).

Furthermore, a digital platform named EU Forced Labor Product Network will be established to facilitate the coordination between national authorities and the EU Commission. While concerned companies are required to dispose of the respective products and bear the associated costs, national custom authorities should prohibit their release for circulation or export and/or ensure their disposal according to EU legislation. If companies do not comply with the decisions' requirements, they will face penalties under national law. Lastly, following investigation and its conclusion, if economic operators can prove to competent authorities that they have eradicated forced labor in the value chains linked to concerned products, local authorities can withdraw products' prohibition for the future (European Commission, n.d.; EUR-Lex, n.d.).

Link with Corporate Sustainability Due Diligence Directive (CSDDD)

The **Corporate Sustainability Due Diligence Directive (CSDDD) (Document 52022PC0071)** requires companies to implement due diligence processes to identify, monitor, prevent and mitigate negative environmental and social impact of their value chains (see section 3.2.B). In contrast with the Forced Labour Ordinance, under this directive, non-compliance with due diligence requirements does not lead to products' ban on the EU market. Yet, there is a strong interconnection between the two. If a company has already established an effective due diligence system of its value chain, mitigating, preventing and terminating risks of human rights violation, such as forced labor, these will be considered by competent authorities enforcing the Forced Labour Ordinance, when evaluating whether suspicions concerning forced labor are well-founded (European Commission, n.d.).

Implementation timeline

The legislation enters into force one day after its publication in the Official Journal of the European Commission and applies to the subjects of obligations 24 months after its entry into force (EUR-Lex, n.d.). Delegated acts by the European Commission are expected to be implemented to further specify legislative procedures and guidelines.

3.2.B Directives

B.1 Corporate Sustainability Reporting Directive (CSRD)

The **Corporate Sustainability Reporting Directive (CSRD) (Directive (EU) 2022/2464)**⁴, which came into effect on the 5th of January of 2023, aims to revise and replace the existing **Non-Financial Reporting Directive (NFRD) (Directive (EU) 2014/95)**. The latter requires companies with more than 500 employees to publicly report on environmental and social issues, such as working conditions, human rights, anti-corruption, bribery, and diversity on company boards. By doing so, it aims to increase business transparency and understand the impact of economic activities on society and the environment. Despite its broad reporting scope, the NFRD does not establish any specific indicators, metrics, or formats that companies should use for reporting on issues. Furthermore, it does not require third-party verification of the published information.

⁴ For more information, please visit:

https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

Reporting scope

The CSRD applies to a wider range of companies than the NFRD, including all publicly listed companies in regulated markets within the EU, except micro-enterprises (RVO, n.d.). It further applies to large companies, listed or not, which either have a turnover higher than 40 million euros, a balance sheet of higher than 20 million euros, or more than 250 employees. Lastly, non-EU companies with a turnover higher than 150 million euros in the EU, with at least one subsidiary in a EU Member state, that also meet one of the conditions above, are also subject to the CSRD.

Reporting format

European Sustainability Reporting Standards (ESRS)

Contrary to the NFRD, the CSRD has an established reporting format, which is based on the requirements set by the **European Sustainability Reporting Standards (ESRS)**. The ESRS was developed by the EFRAG, previously known as the European Financial Reporting Advisory Group (European Commission, n.d.). The first draft of the ESRS, published in November 2022, is composed of 12 different standards divided into two categories, cross-cutting standards and topical standards. While the cross-cutting standards provide all encompassing requirements to every reporting issue, the topical standards, categorized across an environmental, social and a governance pillar, focus on metrics for the specific issues (Greenomy, 2023; Position Green, n.d.). All in all, the 12 standards result in 82 disclosure requirements. From these, ESRS2, with general disclosures, ESRS E1: Climate change, ESRS S1: Own workforce, in particular, the disclosure requirements 1 to 9 of this topic, and disclosure requirements deriving from other EU legislation (including indicators of the **Sustainable Finance Disclosure Regulation (SFRD)**⁵, **EU Climate Law**⁶, Pillar III⁷, EU

⁵ The SFRD is a regulation aimed at increasing market transparency for sustainable investment products, prevent greenwashing and assess the credibility of sustainability claims of financial market participants (Eurosif, 2023)

⁶ The EU Climate Law, which supports the European Green Deal, set the goal for Europe's economy and society to become climate neutral by 2050 (European Commission, n.d.).

⁷ Pillar III, which is part of Basel III, aimed at the regulation, supervision and risk management of the banking sector, focuses on market discipline through disclosure requirements for banks (European Central Bank, 2022)

benchmarks⁸), are mandatory (Position Green, n.d., EFRAG, 2023; EFRAG, 2022). All remaining topics and disclosure requirements in the ESRS are subject to materiality assessment. Below, an overview of the ESRS structure, is given (see figure 1).

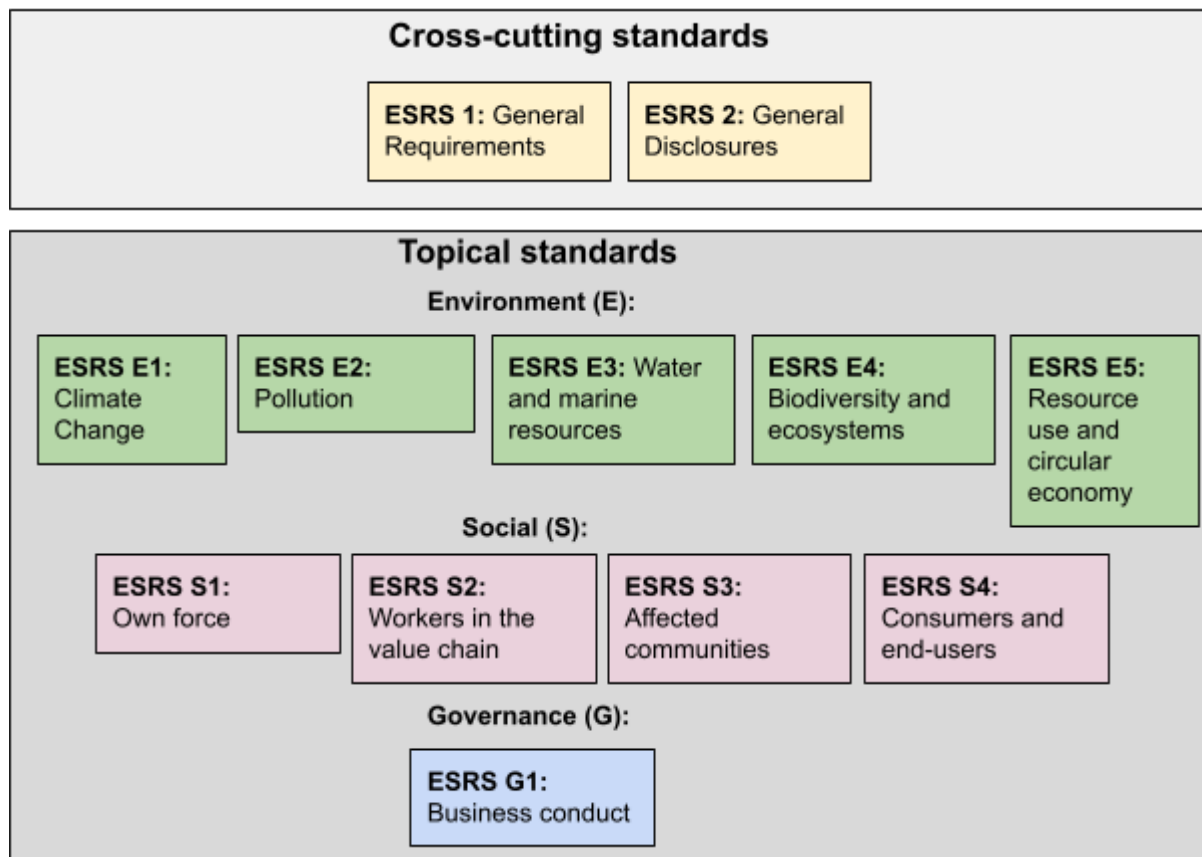


Figure 1: Overview of the ESRS

Cross-cutting standards: ESRS 1 and ESRS 2

The ESRS 1: General requirements is the conceptual framework for the application of the ESRS (EFRAG, 2023). In the draft of the ESR1, many different aspects are covered, including the categorization of the standards and disclosure, the expected qualitative characteristics of the reporting information, the concept of double materiality, the principle of sustainability due diligence and how it covered in the ESRS, the principle of value chain information, the use of standardized time horizons in the report, the preparation and communication of sustainability information/statements, the structure of sustainability information/statements, linkages with other parts of corporate reporting as well as the applicable provisions to all other topical standards.

⁸ EU Benchmarks specify how authorities and market participants have to comply with the requirements set by regulation (European Commission, n.d.)

In general, ESRS's disclosure requirements, as set by ESRS 2, cover four different reporting areas, which are aligned with the Task-force on Climate related Financial Disclosures (TCFD) and the International Sustainability Standards Board (ISSB) for conversion purposes, namely Governance (GOV), Strategy (SBM), Impact, risk and opportunity management (IRO), as well as Metrics and targets (MT). To begin with, GOV refers to the governance processes to monitor and manage sustainability and financial impacts, risks and opportunities. On the other hand, SBM indicates the corporate strategies and business models influencing and addressing sustainability and financial impacts, risks and opportunities. Furthermore, IRO refers to the procedures that sustainability and financial impacts, risks and opportunities are identified, evaluated and managed through policies and actions. Lastly, MT indicates how the company is measuring performance and progressing towards set targets. (EFRAG, 2022).

As previously mentioned, apart from the mandatory disclosure requirements of ESRS 2, ESRS E1, and ESRS S1, all remaining reporting information is determined by materiality assessment. Materiality assessment is a formal analysis conducted by companies, to define the most important environment, social and governance (ESG) aspects to its business and stakeholders (KPMG International, 2014). The ESRS are based on double materiality, including impact and financial materiality, to evaluate, understand and report on corporate sustainability impact. While impact materiality aims to identify the short and long-term, actual, potential, positive and/or negative impact, the company has on individuals and the environment, financial materiality aims to identify the short and long-term risks and opportunities, affecting corporate cash flows, development, performance, position, cost of capital and/or access to finance (Position Green). Based on this double materiality assessment, companies identify the ESG topics that are most relevant to their activities and stakeholders, and determine which of the topical standards they are required to report on. If a topic is deemed material, companies are required to disclose information on all data points related to policies, actions, metrics and targets. If a topic is not deemed material, companies are still required to report on the reason thereafter. Yet, besides a thorough definition of what double materiality consists of, including its main principles, and a description of the disclosure requirements concerning its assessment, such as the processes, assumptions and methodologies used, no further guidelines concerning its implementation are given, such as a standardized step-by-step procedure.

Furthermore, in the 10 topical standards, disclosure requirements are divided into sector-agnostic, sector-specific and entity specific disclosures. While sector-agnostic

disclosure requirements apply to all companies irrespective of their industries, sector-specific relates to disclosure requirements within a certain sector. Lastly, entity-specific disclosures are supplementary information provided by companies, in case disclosure requirements of a material topic is deemed incomplete (EFRAG, 2022).

Although the ESRS does not require any action points from companies on sustainability due diligence, it has aligned with the definition and core elements of such principle, as described in the UN Guiding Principles on Business and Human Rights and in the OECD Guidelines for Multinational Enterprises. These core elements, set as:

- 1) Integrating sustainability due diligence in governance, strategy and business models
- 2) Engaging with affected stakeholders
- 3) Identifying and evaluating negative impacts on individuals and the environment
- 4) Addressing these impacts
- 5) Measuring the effectiveness of actions to address impacts

are reflected in the ESRS disclosure requirements including the four different reporting areas previously elaborated, i.e. Governance (GOV), Strategy (SBM), Impact, risk and opportunity management (IRO), and Metrics and targets (MT).

Concerning value chain information, companies are required to report data on their upstream and downstream value chains, when these are connected to their material impacts, risks and opportunities, set by the outcomes of sustainability due diligence processes and/or materiality assessment, or when specifically requested in the topical standards. In case primary value chain data cannot be collected, indirect generic sources, such as sector-average data, can be used. Furthermore, in the first three years of the ESRS, in case of effective unavailability of value chain information, primary or secondary, the company can justify the reasons thereafter, and report on future efforts and plans to obtain the requested information.

Lastly, when it comes to the actual communication of the ESG data, the ESRS requires the reporting period to be aligned with corporate financial statements. Furthermore, companies are required to disclose one year of comparative information concerning all reported metrics. The report needs to be structured in a way that allows the distinction between ESRS required data, divided by general-, environmental-, social- and governance information, and other types of information included in the document. Additionally, the structure should be easily understandable in human and as well as machine-readable formats (ESRS report). The report's inclusion and alignment with other sustainability standards and voluntary guidelines, as well as information concerning corporate compliance with local

legislations, is permitted, as long as clearly referenced to the respective guidelines and laws, and complementary to the ESRS Disclosure Requirements.

Implementation timeline

The CSRD will apply for the first time in the financial year of 2024, to an initial group of companies, i.e. those already subject to the NFRD, for reports published in 2025 (European Commission, n.d.). As of the financial year of 2025, its requirements will be extended to other large companies, currently not subject to the NFRD, for reports published in 2026. Furthermore, as of the financial year of 2026, the CSRD will also apply to publicly listed small-medium enterprises (SMEs), for reports published in 2027. Lastly, as of the financial year of 2028, the directive will further encompass its requirements to non-EU companies, listed and with subsidiaries in EU countries, which either have a turnover higher than 40 million euros, a balance sheet higher than 20 million euros, or more than 250 employees.

Topical standards

Environment

Below, an overview of the disclosure requirements (general and topical) of all five standards under the environmental category, is presented (see table 4).

Environmental standard	Disclosure requirements (DR)
ESRS E1: Climate change	General disclosures (ESRS 2): <ul style="list-style-type: none"> ● ESRS 2 GOV-3: Integration of sustainability-related performance in incentive schemes Topical disclosure requirements: <ul style="list-style-type: none"> ● E1-1: Transition plan for climate change mitigation ● E1-2: Policies related to climate change mitigation and adaptation ● E1-3: Actions and resources in relation to climate change policies ● E1-4: Targets related to climate change mitigation and adaptation ● E1-5: Energy consumption and mix (Energy intensity based on net revenue) ● E1-6: Gross Scope 1, 2, 3, and total GHG emissions (GHG intensity based on net revenue) ● E1-7: GHG removals and GHG mitigation projects financed through carbon credits ● E1-8: Internal carbon pricing ● E1-9: Potential financial effects from material physical and transition risks and potential climate related opportunities
ESRS E2: Pollution	General disclosures (ESRS 2): <ul style="list-style-type: none"> ● ESRS 2 IRO-1: Description of the processes to identify and assess material pollution-related impacts, risks and opportunities Topical disclosure requirements: <ul style="list-style-type: none"> ● E2-1: Policies related to pollution

	<ul style="list-style-type: none"> ● E2-2: Actions and resources related to pollution metrics and targets ● E2-3: Targets related to pollution ● E2-4: Pollution to air, water and soil ● E2-5: Substances of concern and of very high concern ● E2-6: Potential financial effects from pollution-related impacts, risks and opportunities
ESRS E3: Water and marine resources	<p>Topical disclosure requirements:</p> <ul style="list-style-type: none"> ● E3-1: Policies implemented to manage water and marine resources ● E3-2: Measurable targets for water and marine resources ● E3-3: Water and marine resources action plans and resources ● E3-4: Water management performance ● E3-5 (optional): Water intensity performance ● E3-6: Marine resources related performance (Taxonomy regulation for water and marine resources) ● E3-7: Financial effects from water and marine resources-related impacts, risks and opportunities
ESRS E4: Biodiversity and ecosystems	<p>Topical disclosure requirements:</p> <ul style="list-style-type: none"> ● E4-1: Transition plan in line with the targets⁹ of no net loss by 2030, net gain from 2030 and full recovery by 2050 ● E4-2: Policies implemented to manage biodiversity and ecosystems ● E4-3: Measurable targets for biodiversity and ecosystems ● E4-4: Biodiversity and ecosystems action plans ● E4-5: Pressure metrics ● E4-6: Impact metrics ● E4-7: Response metrics ● E4-8 (optional): Biodiversity-friendly consumption and production metrics (Taxonomy regulation for biodiversity and ecosystems) ● E4-9 (optional): Biodiversity offsets ● E4-10: Financial effects from biodiversity-related impacts, risks and opportunities
ESRS E5: Resource use and circular economy	<p>General disclosures (ESRS 2):</p> <ul style="list-style-type: none"> ● ESRS 2 IRO-1: Description of the processes to identify and assess material resource use and circular economy-related impacts, risks and opportunities <p>Topical disclosure requirements:</p> <ul style="list-style-type: none"> ● E5-1: Policies related to resource use and circular economy ● E5-2: Actions and resources related to resource use and circular economy ● E5-3: Targets related to resource use and circular economy ● E5-4: Resource inflows ● E5-5: Resource outflows ● E5-6: Potential financial effects from resource use and circular economy-related impacts, risks and opportunities

Table 4: Disclosure requirements for the ESRS E (Environmental standards)

Social

Below, an overview of the disclosure requirements (general and topical) of all four standards under the social category, is displayed (see table 5).

⁹ In line with the targets set by the **Post-2020 Global Biodiversity Framework** and the **EU Biodiversity Strategy for 2030**

Social standard	Disclosure requirements (DR)
ESRS S1: Own workforce	<p>Topical disclosure requirements:</p> <ul style="list-style-type: none"> ● S1-1: Policies related to own workforce ● S1-2: Processes for engaging with own workers and workers' representatives about impacts ● S1-3: Channels for own workers and workers' representatives to raise concerns ● S1-4: Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities ● S1-5: Taking action on material impacts on own workforce and effectiveness of those actions ● S1-6: Approaches to mitigating material risks and pursuing material opportunities related to own workforce ● S1-7: Characteristics of the Undertaking's Employees ● S1-8: Characteristics of non-employee workers in the undertaking's own workforce ● S1-9: Training and Skills Development indicators ● S1-10: Coverage of the health and safety management system ● S1-11: Performance of the health and safety management system ● S1-12 (Optional): Working Hours ● S1-13: Work-Life Balance indicators ● S1-14: Fair remuneration ● S1-15: Social security eligibility coverage ● S1-16: Pay gap between women and men ● S1-17: Annual total compensation ratio ● S1-18: Discrimination incidents related to equal opportunities ● S1-19: Employment of persons with disabilities ● S1-20: Differences in the provision of benefits to employees with different employment contract types ● S1-21: Grievances and complaints related to other work-related rights ● S1-22: Collective bargaining coverage ● S1-23: Work stoppages ● S1-24: Social dialogue ● S1-25: Identified cases of severe human rights issues and incidents ● S1-26: Privacy at work
ESRS S2: Workers in the value chain	<p>Topical disclosure requirements:</p> <ul style="list-style-type: none"> ● S2-1: Policies related to value chain workers ● S2-2: Processes for engaging with value chain workers about impacts ● S2-3: Channels for value chain workers to raise concerns ● S2-4: Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities ● S2-5: Taking action on material impacts on value chain workers and effectiveness of those actions ● S2-6: Approaches to mitigating material risks and pursuing material opportunities related to value chain workers
ESRS S3: Affected communities	<p>General disclosures (ESRS 2):</p> <ul style="list-style-type: none"> ● ESRS 2 SBM-2: Interests and views of stakeholders ● ESRS 2 SBM-3: Material impacts, risks and opportunities and their interaction with strategy and business model(s) <p>Topical disclosure requirements:</p> <ul style="list-style-type: none"> ● S3-1: Policies related to affected communities ● S3-2: Processes for engaging with affected communities about impacts ● S3-3: Processes to remediate negative impacts and channels for affected communities to raise concerns

	<ul style="list-style-type: none"> ● S3-4: Taking action on material impacts on affected communities, and approaches to mitigating material risks and pursuing material opportunities related to affected communities, and effectiveness of those actions ● S3-5: Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities
ESRS S4: Consumers and end-users	<p>Topical disclosure requirements:</p> <ul style="list-style-type: none"> ● S4-1: Policies related to consumers and end-users ● S4-2: Processes for engaging with consumers and end-users about impacts ● S4-3: Channels for consumers and end-users to raise concerns ● S4-4: Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities ● S4-5: Taking action on material impacts on consumers and endusers and effectiveness of those actions ● S4-6: Approaches to mitigating material risks and pursuing material opportunities related to consumers and end-users

Table 5: Disclosure requirements for the ESRS S (Social standards)

Governance

Below, an overview of the disclosure requirements (general and topical) for ESRS G1: Business conduct, is shown (see table 6).

Governance standard	Disclosure requirements (DR)
ESRS G1: Business conduct	<p>General disclosures (ESRS 2)</p> <ul style="list-style-type: none"> ● ESRS 2 GOV-1: The role of the administrative, supervisory and management bodies ● ESRS 2 IRO-1: Description of the processes to identify and assess material impacts, risks and opportunities <p>Topical disclosure requirements:</p> <ul style="list-style-type: none"> ● G1-1: Corporate culture and business conduct policies ● G1-2: Management of relationships with suppliers ● G1-3: Prevention and detection of corruption or bribery ● G1-4: Confirmed incidents of corruption or bribery ● G1-5: Political influence and lobbying activities ● G1-6: Payment practices

Table 6: Disclosure requirements for the ESRS G (Governance standard)

B.2 Corporate Sustainability Due Diligence Directive (CSDDD)

The **Corporate Sustainability Due Diligence Directive (CSDDD) (Document 52022PC0071)**¹⁰, adopted by the European Commission on the 23rd of February of 2022, aims to promote sustainable and responsible corporate behavior. Under this directive, in-scope companies are required to implement due diligence processes to identify, monitor, prevent and mitigate negative environmental and social impact, in particular human right violations, of their direct and indirect operations, including those related to their subsidiaries and value chain partners.

Scope

Subjects of obligation

The CSDDD applies to a wide range of companies divided in four groups (EUR-Lex, n.d.) (see below). Although SMEs are not under the directive scope, they can support and be indirectly affected by its measures, given their participation in global value chains (European Broadcasting Unit [EBU], 2023).

- Group 1: Refers to EU companies which have more than 500 employees and a net turnover higher than 150 million euros worldwide
- Group 2: Concerns EU companies operating in high impact sectors set as textile, agriculture, forestry, fisheries, food manufacturing, production or trading, extraction, manufacture or trading of mineral resources, which have more than 250 employees and a net turnover equal or higher than 40 million euros worldwide
- Group 3: Refers to non-EU companies with a net turnover higher than 150 millions in the EU
- Group 4: Concerns non-EU companies with a net turnover higher than 40 million euros in the EU, out of which at least 50% of its net turnover worldwide is generated in one of the high impact sectors set as textile, agriculture, forestry, fisheries, food manufacturing, production or trading, extraction, manufacture or trading of mineral resources

¹⁰ For more information, please visit:

https://commission.europa.eu/business-economy-euro/doing-business-eu/corporate-sustainability-due-diligence_en

The directive further acknowledges the key role that asset managers and institutional investors can play, on the compliance and successful implementation of corporate due diligence processes. Where relevant, financial actors are required to engage with the management bodies of invested companies, to ensure legal requirements are met (IIGCC, 2023).

Environmental and human rights impact

The CSDDD incorporates international environmental conventions and human rights agreements to identify violations defined as adverse environmental and human rights impacts (for a detailed overview, see *Annex to proposal for a Directive on corporate sustainability due diligence* - European Commission, 2022).

For environmental impact, these include, among many other aspects, the prohibition of export/import of hazardous wastes, production and consumption of specific substances that deplete the ozone layer, handling, collection, storage and disposal of waste in a way that is not environmentally sound etc.

For human rights impact, these include, among many other aspects, violation to the right to life and security, freedom of thought and religion, violation of the prohibition of child labour, forced labour, all forms of slavery, human trafficking, discrimination in employment etc.

Due diligence process

Companies subject to the CSDDD are required to conduct human rights and environmental due diligence through six steps (Directive regulation):

- 1) Integrating due diligence into corporate policies:** The due diligence policy, which should be yearly updated, needs to contain a description of corporate approach to due diligence, a code of conduct to be followed by employees and subsidiaries, and an overview of the due diligence processes and measures, including those aimed at varying compliance with the code of conduct
- 2) Identifying actual or potential adverse impact on human rights and the environment**
- 3) Preventing and mitigating respective potential adverse impacts and ending actual ones:** This includes the development and implementation of prevention action plans, with affected stakeholders, with set timelines and

indicators to measure progress, management and production investments to prevent and mitigate detrimental impact, the seek of contractual assurance from value chain partners concerning the compliance with the company's code of conduct, measures to verify compliance, and in case impact cannot be effectively prevented or mitigated, the temporarily suspension or effective termination of commercial relationships, financial compensation to affected stakeholders

- 4) Creating a complaint procedure for third-party reporting of actual and adverse impacts:** Third parties include stakeholders, trade unions and workers' representatives, civil society organizations. This step also includes establishment of measures and procedures to deal and evaluate complaints
- 5) Evaluating the effectiveness of the due diligence policy and measures** including yearly assessments of companies own operations, of their subsidiaries, and where relevant, of their value chain partners. Based on the findings, due diligence policy is to be updated
- 6) Publicly communicating on the due diligence systems:** The topics covered by this directive shall be reported each year (by the 30th of April), concerning the previous calendar year. EU countries to determine content, report criteria and format

It is important to note that the EU Commission may still issue industry or impact-specific guidelines to support companies and/or EU member countries, on how companies should comply with their due diligence requirements (Regulation). Furthermore, extra requirements apply to larger companies. Businesses falling under group 1 of the directive scope, will have to align their business strategy with the Paris Agreement, reducing their GHG emissions and contributing to limiting global warming to 1.5 degrees celsius, through the development of a transition plan (European Commission, 2022). Additionally, companies with more than 1000 employees are also required to establish a remuneration policy, aligning corporate directors' salaries, to the achievement of the plan's objectives (Loyensloeff, 2023).

Enforcement of the CSDDD

Each EU Member state is responsible for the enforcement of the CSDDD at country-level. Yet, for this purpose, the EU Commission proposed three general enforcement mechanisms:

- 1) Administrative supervision and sanctions:** EU Member states should appoint national administrative authorities for supervising compliance with the CSDDD and impose sanctions, such as fines, in case of non-compliance (European Commission, 2022; European Broadcasting Unit [EBU], 2023). Furthermore, at EU-level, an European Network of Supervisory Authorities, composed of representatives of the national administrative authorities, will be set up, to ensure cross-country alignment (EBU, 2023). Lastly, third-parties, such as natural and legal persons, are also allowed to submit concerns to any supervisory authorities, in case it is believed that subjects of legal requirements are failing to comply with their obligations
- 2) Civil liability:** EU member countries will ensure that affected stakeholders are appropriately compensated for damages led by the failure of companies to comply with their due diligence obligations (EBU, 2023)
- 3) Financial incentives:** The progress of transition plans and its defined objectives, set out by large companies to align their business strategy with the Paris Agreement, will be connected with corporate directors' financial remuneration.

Implementation timeline

At present, June 2023, trialogue negotiations on the CSDDD between the European Parliament, the EU Commission, and the EU Council are expected, with the aim of adopting the directive by 2024 (EBU, 2023). Once formally adopted, EU countries have two years to translate the CSDDD into national laws (Loyens & Loeff, 2023).

4. Oiconomy Pricing (O.P) System

This section aims to introduce the Oiconomy Pricing (O.P) system by summarizing the methodology's functioning and characterizing elements. Following that, critical links between its methodological aspects and the legal requirements stemming from upcoming EU directives and legislations (see section 3.2), are elaborated. Focus is given to the ways that the O.P system can aid businesses in complying with legislative obligations and beyond.

4.1 Introducing the O.P system

The Oiconomy Pricing system is a comprehensive product-level assessment covering the 3 P's of sustainability: Planet, People and Prosperity. As a full cost accounting methodology, it measures a product's sustainability, by means of the preventative costs to negative impact. In order to do so, the system uses normal economic price buildup in the supply chain, for the hidden costs of preventing negative social, environmental and economic impact along a product's lifecycle. This is assessed through a virtual monetary unit expressed in Eco Social Units (ESCU's). This way, the final ESCU score of a product represents the hidden costs of preventing negative impact, as a consequence of its production, use, and end of life (EOL). In other words, the fully sustainable alternative for the analyzed product (Croes & Vermeulen, 2015; The Oiconomy Standard, 2022). Concerning assessment scope, the O.P applies a 80% rule on the analyzed product's input value and weight, to include the most relevant upstream supply chains, with end-producers or retailers leading the assessment. Furthermore, if the product uses or consists of high impact items/substances, such as toxic components and antibiotics, these are also considered in the assessment regardless of this rule. This way, the methodology ensures that the entire life cycle of products and the most relevant supply chains are covered.

4.1.2 Value chain perspective

The systemic analysis of a product's impact is particularly relevant in the era of global value chains (GVC). Globalization has led companies to restructure their operations internationally, through the outsourcing of activities (OECD, n.d.). Based on that, organizations seeking more sustainable business practices need to consider its entire supply chain and partners, not just those stages falling under their direct responsibility. Ultimately, the sustainability impact of the whole supply chain is dependent on the individual

sustainability impact of the partnering companies (Hutchins & Sutherland, 2008). This notion is exemplified by an increasingly complex legislative landscape, which requires private actors to fulfill due diligence obligations of their entire value chains (see section 3.2). In this sense, sustainability assessment, such as the O.P, can play a key role in aiding businesses with impact assessment and directing them to sustainable pathways (Lannoy & Devuyst, 2001).

4.2 Legal requirements and links with the O.P methodology

A. Regulations

A.1 The EURDP and the O.P

The link between the O.P system and the **EU Regulation on Deforestation-free products (EURDP)** is particularly clear as both evaluate sustainability impact at product-level. Although the EURDP primarily focuses on deforestation and forest degradation, it also considers products' compliance with national legislations on socio-economic issues, such as labor rights, human rights, indigenous rights, tax and anti-corruption. Given that the O.P system is a full-inclusive sustainability assessment, an overlap of the covered issues can be noticed. In the latest version of the O.P assessment tool (v2), sustainability topics are divided between Planet, People and Prosperity pillars, further comprising several (sub)categories and issues. Below, an overview per pillar, categories and subcategories, is displayed. (see table 7 to 9).

Category:	Sub-categories:
Pollution & Climate	<ul style="list-style-type: none"> ● Emission of Bulk Gasses (Type A pollution) ● Electricity ● Fuels ● Transport: Commuting of workers ● Transport: Business trips ● Transport: Goods ● Emission of harmful agrichemicals (Type B pollution) ● Quantitatively measurable emissions of other substances (Type C pollution) ● incident-caused emissions (Type E pollution)
Depletion	<ul style="list-style-type: none"> ● Depletion of minerals, plants and animal materials ● Water depletion
Land Occupation	<ul style="list-style-type: none"> ● Land occupation for agricultural or forestry for food purposes ● Land occupation for non-food forestry products ● Land occupation for non-agricultural or forestry products
Biodiversity	<ul style="list-style-type: none"> ● Land degradation and biodiversity

Disposal and waste	<ul style="list-style-type: none"> • Disposal and waste
--------------------	--

Table 7: Planet pillar - Overview of categories and sub-categories in the O.P system

Category:	Sub-categories:
Human Health	<ul style="list-style-type: none"> • Human health and safety risks
Labour	<ul style="list-style-type: none"> • Remuneration (wages) • Inequality • Overtime wages • Health insurance plans • Personnel development • Various labor related aspects • Occupational health and safety • Labor conditions • Child labor
Various Social	<ul style="list-style-type: none"> • Various social aspects • Animal welfare

Table 8: People pillar - Overview of categories and sub-categories in the O.P system

Category:	Sub-categories:
Economic	<ul style="list-style-type: none"> • Fair Transactions • Transparency • Finance related criteria • Taxes
Corruption & Conflict	<ul style="list-style-type: none"> • Corruption and conflict

Table 9: Prosperity pillar - Overview of categories and sub-categories in the O.P system

Although the indicators used by the EURDP and the O.P to evaluate biodiversity, and forest degradation, differ greatly, there is a connection on how socio-economic issues are considered, and more generally, on the required due diligence process. To begin with, the O.P system ensures site-specific assessment, considering the different countries of each value chain actor and the associated product's life stage. Based on that, socio-economic issues such as remuneration, the risk of child labor, corruption level as well as the presence of wars and armed conflicts, are automatically tailored to the local conditions of the analyzed country.

Such feature aligns with the EURDP's requirement of products' compliance with their production countries' national regulations, particularly on topics such as labor, tax, anti-corruption and human rights, facilitating product assessment on these issues. Furthermore, under the EURDP, companies are required to implement a due diligence process of products and their value chains, following three steps: Information collection, risk assessment and risk mitigation (see section A.1 under 3.2.A). In the stage of risk assessment, products are evaluated against a wide range of criteria, based on countries' risk level of environmental and social issues. A similar system is also used to support the enforcement of the EURDP. This refers to minimum inspection standards, based on a benchmarking system implemented by the EU Commission, to classify countries according to the investigated environmental and social impacts. The higher a country's risk-level, the more thoroughly checked are the submitted due diligence statements, by the EU customs and competent authorities (Human Rights Watch, European Commission FAQ). In this case, the use of the O.P tool for aspects such as child labor, corruption, and conflict, which also considers the local contexts of different countries, can already indicate to companies potential topics of concern based on the geographical area of their value chains. The system can therefore work as a pre-evaluation of a product's negative impact. By doing so, it further guides businesses on which aspects to most prepare for, investigate and diligently assess.

Additionally, for all categories and subcategories under the people and prosperity pillars, the O.P system uses sustainability targets, as reference values, to represent the ideal state of the issue covered. These are hierarchically based on the following aspects depending on data availability: 1. International conventions and targets, 2. Benchmark of the methods to handle the issue in the 20% highest performing functioning democracies, 3. Calculation of a management quality score, based on the PDCA (Plan-Do-Check-Act) principles (The Oiconomy Standard, n.d.). The use of ambition sources for the determination of specific sustainability targets, ensures that if the assessed product lacks negative ESCU's on certain issues, it is certainly complying with local legislations and most likely, outperforming it in terms of sustainability performance. Yet, even when the product results in negative ESCU's, in general, the implementation of the O.P methodology is comparable with the first step of the due diligence process required by the EURDP. The data collection of several issues concerning the products' social and environmental impact, is a valuable activity for companies to increase supply chain transparency, deepen communication with business partners, and better understand the sustainability performance of their value chains, consequently and accordingly preparing for potential mitigation measures.

Lastly, linked to mitigation measures, is the O.P assessment of organizations' governance level on specific sustainability issues. In the last step of the due diligence process demanded by the EURDP, companies are required to establish risk mitigation procedures which include, among different aspects, corporate policies and management systems to effectively address the risks of non-compliance to legal requirements. For 10 different aspects in the O.P methodology, i.e. *Type B and E pollution, Human health & safety, Occupational health & safety, Labor conditions, Corruption & conflict, Various social responsibilities, Animal welfare, Product's health and safety and End-of-life*, for which optimum states of sustainability could not be determined using international targets or country benchmarks, the system also assesses products' performance based on the organization's governance level on the issue, rooted in the PDCA (Plan-Do-Check-Act) principles. These include corporate policies, management systems and reviews, internal audit, preventive and corrective measures, monitoring, measurement, evaluation, communication, goals, risk analysis as well as operational and document control on the relevant aspect, closely connected and even expanding the risk mitigation procedures required by the EURDP.

A.2 The DPP and the O.P

The aim of the **Digital Product Passport (DPP)**, which is part of the **Ecodesign for Sustainable Product Regulation (ESPR)**, is to improve the communication exchange between value chain actors (and consumers), about products' environmental performance. As ecodesign requirements have yet to be defined by the European Commission, an evaluation of whether and the extent to which the O.P system could support these, is not possible. Yet, given the broad encompassment of environmental aspects in the O.P system (see table 7), there is a strong possibility that when set, requirements will converge with the issues covered by the methodology, which also bases its sustainability targets on international conventions and standards, with a focus on high-functioning democracies such as the EU Member states.

Furthermore, when considering the main objectives of the DPP, including higher information transparency and traceability along products' life cycle, the O.P system could most definitely serve as an aiding mechanism. To begin with, the DPP is part of a product regulation. Its upcoming legal requirements will be set for specific product/product categories, while its encompassing information is to be exclusively linked to a specific good, through an unique product identifier (UID). The application of the O.P methodology, which includes products' most relevant supply chains, allows each value chain actor to assess the environmental impact of its contributing material/component, consequently improving value

chain traceability. Additionally, although the environmental indicators used by the ESPR, might eventually differ from the ones set by the Oiconomy Pricing, if implemented, assessment results can pre-demonstrate the environmental externalities related to the products' different life stages, pinpointing which aspects will likely and potentially not meet future ecodesign requirements. Lastly, the O.P implementation is also a valuable experience for companies to engage and improve communication with its business partners, trigger information exchange and transparency, and identify where, along the products' value chain, these interactions need improvement and extra attention, all of which are primary objectives of the DPP.

A.3 Forced Labor Ordinance and the O.P

The **Forced Labor Ordinance** prohibits all products made using forced labor, including child labor, in and out the EU. Although the EU Commission is still expected to provide additional guidelines and information to assist with its legal compliance, supplementary instructions will include recommendations on corporate due diligence of forced labor, risk indicators, as well as relevant data sources for risk assessment.

In this sense, there is a clear overlap between these requirements and outcomes, and the ones demanded by the **Corporate Sustainability Due Diligence Directive (CSDDD)** (see section B.2 under 3.2.B). In order to prove that products are forced labor free, companies need to assess the risk of forced labor in their value chains, frequently connected with the geographical area of their business activities, as well as effectively prevent and mitigate it, when present. By bearing an inclusive value chain perspective, and allowing site-specific assessments, including the consideration of varying social risks particular to different regions around the world, the O.P system could be an appropriate supporting tool for all companies subject to this legislation. Even when communication with business partners is challenging, and company-specific data is not available, the system automatically assesses the risk level of forced and child labor, based on the different value chain actors and their locations, aiding risk-level assessment. Additionally, by quantifying social impact through negative hidden costs, the O.P assessment results show companies the costs involved in replacing child by adult labor, for instance, further supporting the evaluation of mitigation measures. As poverty and indecent employment conditions are amongst the root causes of forced labor (Fairtrade International, n.d.), through the assessment of the O.P's labour category (see table 8), involving aspects such as a fair minimum wage, personnel development, health insurance plan etc., organizations can better evaluate whether a potential risk is significant, and if so,

work on preventative measures, such as raising wages and employment benefits. Lastly, since both the O.P assessment and the Forced Labor Ordinance are set at product-level, there are no differences in scale to account for.

B. Directives

B.1 The CSRD and the O.P

The **Corporate Sustainability Reporting Directive (CSRD)** requires companies to publicly report on a number of environmental, and social issues, to increase the transparency and understanding of corporate activities' impact. With an established reporting format, based on the **European Sustainability Reporting Standards (ESRS)**, organizations are obliged to report on general disclosures (ESRS2), climate change (ESRS E1), and social issues concerning their own workforce (ESRS E2). All other topics are subject to double materiality assessment, including impact and financial materiality.

Although the O.P methodology assesses sustainability impact at product-level, the system could serve as a basis for the implementation of a double materiality assessment. Given its nature as a full cost accounting methodology, assessment results suitably demonstrate where, along the product's value chain, adverse environmental and social issues are to be found, and how much the preventative measures to address these, would cost. In this sense, it can aid businesses in identifying the short and long-term, actual, potential, positive and/or negative impact it has on individuals and the environment, as well as the related short and long-term financial risks and opportunities affecting corporate cash flows, position, performance and development. This is particularly interesting for companies with compact product portfolios, or with products sharing similar value chains, such as those embedded in the same product category, for instance. In such cases, the O.P assessment of a few products, are likely to serve as an adequate indication of prominent sustainability issues, and their related costs, for all corporate activities.

Furthermore, when zooming in at the mandatory disclosure requirements, it is noticeable that ESRS2, i.e general disclosures, is comparable to the structure of the O.P's governance assessment. Both comprise of general reporting aspects concerning companies processes, policies, (risk) management and assessment systems, goals, targets and evaluation measures of sustainability issues. These further represent the core elements of due diligence, as described in the UN Guiding Principles on Business and Human Rights, and in the OECD Guidelines for Multinational Enterprises, which aims to identify, evaluate and address

sustainability impacts, suitably aligning with the O.P assessment purpose and end result. Governance related questions are also present in all the 10 topical standards of the ESRS, frequently consisting of the first five to six disclosure requirements. An example is E1-2 under ESRS E1: Climate Change, referring to policies related to climate change mitigation and adaptation. Additionally, concerning the other mandatory requirements, i.e. ESRS 1: Climate Change and ESRS S1: Own workforce, and the metrics for their specific issues, an overlap is also apparent. For example, E1-5 relates to energy consumption and mix, which is comparable to the electricity sub-category of the O.P assessment, under Pollution & Climate (see table 7). On the other hand, S1-9 concerning training and skills development indicators, S-10 concerning coverage of health and safety management systems, and S-14 concerning fair remuneration, are also reflective of issues covered by the O.P's People pillar, such as remuneration, personnel development and occupational health and safety (see table 8). This alignment between sustainability issues covered can also be seen on other ESRS topical standards, exemplifying the comprehensiveness and external relevancy of the O.P system, with the utter difference in scale, as it assesses impact on a product-level. Yet, for most of the converging environmental and social issues mentioned above, it is commonly the case that corporate sustainability performance is the same throughout different products. For example, employees' remuneration, personnel development, and occupational health and safety are not product based issues, but rather commonly set by all encompassing policies and measures, valid for the whole organization. In such cases, even with scale differences, the O.P could serve to assess the social and environmental impact of corporate activities.

B.2 The CSDDD and the O.P

The **Corporate Sustainability Due Diligence Directive (CSDDD)** and the O.P system are also closely connected through the due diligence requirements of the former. Under the CSDDD, companies are obliged to conduct human rights and environmental due diligence through six steps: 1. Integrating due diligence into corporate policies, 2. Identifying actual or potential adverse impact on human rights and the environment, 3. Preventing and mitigating respective potential adverse impacts and ending actual ones, 4. Creating a complaint procedure for third-party reporting of actual and adverse impacts, 5. Evaluating the effectiveness of the due diligence policy and measures and 6. Publicly communicating on the due diligence systems (see section B.2 under 3.2.B). While steps 1, 3 and 4 are justly linked with the O.P assessment, there are also similarities to be found between the methodology and steps 2 and 5.

Generally speaking, the CSDDD uses international environmental and human rights agreements to identify violations which would be defined as adverse impact. While for environmental impact these include aspects such as improper waste disposal, export/import of hazardous waste, the use of toxic substances, i.e. mercury, in manufacturing facilities, for human rights impact, these include aspects such as child and forced labor, human trafficking, as well as several forms of discrimination and threats to individual freedom. Under this directive, companies are required to implement due diligence processes of these topics not only of their direct, but also of their indirect operations, including those related to subsidiaries and value chain partners. Such a requirement suitably aligns with the O.P methodology and its assessment scope, which considers 80% of the analyzed product's input value and weight, to include the most relevant upstream supply chains and partners. Furthermore, there is a clear connection between the environmental and human rights issues covered by the CSDDD and the O.P methodology (see table 7 to 9). As previously mentioned, the O.P assessment also uses international conventions to set sustainability targets and optimum states, against which products' performances are evaluated. On the Oiconomy Pricing website, the methodology's scientific justification is currently incomplete, preventing a more detailed comparison of the environmental and human rights agreements used by the CSDDD (see CSDDD Regulation, Part I and II, Annex), and the ones used by the O.P system. Yet, for the few aspects that have their methodological justification published, which are mostly the environmental ones, targets align with SBTs (science-based targets) and/or are ambitiously set for no negative impact, i.e. zero emissions/depletion. Furthermore, as human rights violations have legal consequences in well functioning democracies, the targets for issues such as child and forced labor, human trafficking, discrimination and violation of individual freedoms, are also based on their complete absence.

Concerning the specific steps of the CSDDD's due diligence requirements, step 1 defined as the integration of due diligence into corporate policies, is utterly comparable to the O.P corporate governance assessment on specific issues. This is based on a wide range of measures such as corporate policies, management systems and reviews, internal audit, preventive and corrective measures, monitoring, measurement, evaluation, communication, goals, risk analysis as well as operational and document control on the relevant aspect, indirectly covering all required aspects of step 1. In fact, the O.P corporate governance assessment even covers a whistleblowing procedure, which aligns with step 4 of CSDDD's due diligence requirements, i.e. the establishment of a complaint procedure for third party reporting of actual and adverse impact. Furthermore, step 3 of the CSDDD's due diligence

requirements, defined as the prevention and mitigation of potential adverse impacts, and the ending of actual ones, includes many different measures, out of which, the development and implementation of prevention action plans with affected stakeholders, is also covered by the O.P's governance assessment. Below, an overview of the different due diligence steps required by the CSDDD (see table 10), and as well as the O.P's governance assessment and their link (see table 11), is given. In the Appendix, a detailed overview of all aspects included in the O.P's governance level assessment, is displayed (see table A5).

All in all, a major contrast is that the CSDDD requires due diligence processes to be implemented at company-level, while the O.P is a product-level assessment. Yet, in most cases, corporate policies and management systems are consistently and generally implemented throughout organizations, covering all business activities and product portfolios. Yet, currently, the O.P's governance assessment is limited to only 10 aspects covered by the methodology, for which sustainability targets could not be determined using international conventions and country-benchmarks. All remaining sustainability aspects, including those related to human rights, are quantitatively assessed based on actual corporate performance.

Although steps 2 and 5 of the CSDDD's due diligence requirements are reflective of the actual O.P implementation, the differences in scale become increasingly prominent here. While step 2 concerns the identification of actual or potential adverse impact on human rights and the environment, step 5 refers to the evaluation of due diligence policy and measures. In order for the O.P system to serve as a suitable supporting tool for these steps, the company would need to conduct the assessment on a yearly basis and for all products in its portfolio. While feasible for organizations with small product offerings, it becomes unrealistic for those with a wide product portfolio. However, as similar products within a category often share similar value chains, including suppliers and geographic locations, the assessment of one single product could already indicate which environmental and human rights issues are of high corporate concern. Additionally, a most practical element of the O.P system is the automatic allocation/calculation of secondary data, when primary data specific to product's actual performance is unavailable. Secondary data is generic data based on external resources using products', industries' and countries' averages, which can be a fitting indication of potential adverse impact on human rights and the environment.

CSDDD's due diligence requirements
Step 1: Integrating due diligence into corporate policies
Step 2: Identifying actual or potential adverse impact on human rights and the environment
Step 3: Preventing and mitigating respective potential adverse impacts and ending actual ones
Step 4: Creating a complaint procedure for third party reporting of actual and adverse impact
Step 5: Evaluating the effectiveness of the due diligence policy and measures
Step 6: Publicly communicating on the due diligence systems

Table 10: Overview of the CSDD's due diligence requirements (steps)

O.P's governance level assessment	Link with CSDDD's due diligence requirements
1. Policy on the relevant aspect	Step 1
2. Risk analysis on the relevant aspect	Step 2
3. Legal requirements on the relevant aspect	X
4. Goals on the relevant aspect	Step 3
5. Resources available for the relevant aspect	Step 3
6. Knowledge and training on the relevant aspect	Step 3
7. Internal and external communication the relevant aspect	Step 2, Step 4
8. Documentation on the relevant aspect	Step 1
9. Document control on the relevant aspect	X
10. Operational control on the relevant aspect	Step 3
11. Emergency plans (if applicable for the aspect)	Step 3, Step 5
12. Monitoring and measurement on the	Step 5

relevant aspect	
13. Evaluation of the relevant aspect	Step 5
14. Preventive and corrective measures on the relevant aspect	Step 3
15. Registration and control	X
16. Internal audit on the relevant aspect	Step 6
17. Management review on the relevant aspect	Step 5

Table 11: Link between the O.P's governance level assessment and CSDDD's due diligence requirements

5. Limitations

The EU sustainability legislative landscape is complex and rapidly developing. The researcher lacks formal education on legal matters, which hinders a more in depth understanding of the analyzed directives and regulations, and threatens the research validity and reliability. Furthermore, the selection criteria, delineated by the years of 2021-2023, and a narrow focus on legal mechanisms with a direct impact on business value chains, resulted in a fairly small data sample. Mere three regulations and two directives are not representative of all that comprises the EU legislative landscape on sustainability, threatening research generalizability. Additionally, some of the scoped regulations and directives, such as the ESPR and the CSDDD, are still in early stages of development. This means that not all of its processes and guidelines have been established, preventing a more thorough evaluation of its content, potential implications, and connection with the O.P system. Furthermore, except for the EURDP and the ESPR, which are product regulations, all other analyzed legislations and directives bear company-level requirements. Given the difference in scale, the link between the scoped regulations/directives and the O.P system, is challenging and risks research reliability.

6. Conclusion

6.1 Main findings

Socio-environmental issues are at the center of contemporary debates concerning globalization (Croes & Vermeulen, 2015), its impact on the economy through global value chains. The international reporting and allegation of corporate scandals and abuses, are provoking ever more stringent sustainability legislation, particularly in high functioning democracies, such as in European countries. Such legislations aim to promote sustainable growth by improving environmental and social outcomes, while increasing costs for related degradation (Albrizio et al., 2017), directly affecting economic actors i.e. businesses and their activities. In line with that, is the plethora of tools, guidelines and standards that aim to help companies in navigating and complying with increasingly complex legal requirements (Parris & Kates, 2003). Alas this potential relevance, their uptake by governmental bodies in official guidelines and legislative requirements, remain elusive and voluntary. Yet, among these, sustainability assessment (SA), specifically full cost accounting methodologies, could play a key role in supporting organizations with evaluating and quantifying their sustainability impact and performance, a primary objective of the most prominent EU sustainability legislative mechanisms. Given the complex legal-market dynamic in the global sustainability crisis, this research aimed to analyze the current EU sustainability regulatory landscape, focusing on the implications of directives and legislations to businesses and their value chains. Furthermore, it also aimed to evaluate the extent to which a prominent full cost accounting methodology, i.e. the Oiconomy Pricing, can support companies in complying with the latest requirements and improve their sustainability performance. For this purpose, one main research question and two sub-questions have been formulated, guiding the research methodology and design:

Based on the past three years, i.e. between 2021-2023, what is the current EU sustainability regulatory landscape in terms of directives and legislations, with a direct impact on businesses' value chains?

1. What are their implications to businesses in terms of requirements and action points concerning value chain transparency and monitoring?

2. To what extent does full cost accounting SA methodologies, i.e. The Oiconomy Pricing, help organizations comply with the legislative requirements?

In order to scope for the relevant EU sustainability directives and legislations, and thereby answer the main RQ and sub-question 1, the websites of three institutions in the Netherlands, aimed at supporting organizations to attract investments, collaborate and implement sustainable business practices, i.e. MVO Nederland, WBSCD, and RVO, were analyzed. These served as reliable sources for data collection and sample, which resulted in the descriptive analysis of two directives (CSRD and CSDDD) and three legislations (EURDP, ESPR/DPP and Forced Labor Ordinance), with focus on their requirements to companies. Furthermore, in order to answer sub-question 3, all materials found and currently available of the Oiconomy Pricing system, including case-study reports, assessment tool, scientific articles, and official websites, were used to summarize the methodology's functioning and characterizing elements, as well as analyze its usefulness in supporting companies with the identified legislative requirements.

The research findings show that there is a significant overlap between the environmental and social issues covered by the scoped directives and legislations, and the ones considered by the O.P system. This is specifically the case for the EURDP, the Forced Labor Ordinance, the CSRD and the CSDDD. Although in some cases the indicators used may differ, given its comprehensive nature and the integration of ambitious sustainability targets, the O.P methodology suitably serves as a supporting tool for risk assessment, positively reflecting on the system's validity.

Furthermore, through an inclusive value chain perspective, which ensures site-specific assessments, the system evaluates sustainability issues based on different local conditions. Such a feature is particularly practical for cases when company-specific data is unavailable, and for which the tool automatically uses secondary data, based on the absence/presence and the severity, of the sustainability aspect in the analyzed region. By doing so, it justly aligns with due diligence requirements and enforcement mechanisms, which demand geographical risk-level assessment of sustainability issues, i.e. the EURDP.

In general, it was noticed that all of the analyzed regulatory mechanisms consisted either directly, through formal requirements, or indirectly, through recommendations/guidelines, of due diligence processes. In this sense, the O.P system can serve as an adequate supporting tool for many different reasons. To begin with, its assessment scope, which considers 80% of the analyzed product's input value and weight, requires

companies to assess and take responsibility for the sustainability impact, of both its direct and indirect operations, a notion exemplified in the CSDDD. This comprehensive value chain perspective, increases traceability, transparency, and promotes supply chain collaboration and communication, commonly shared objectives in many of the analyzed legislation, such as the ESPR/DPP.

Furthermore, the O.P's governance level assessment encompasses five out of the six due diligence requirements of the CSDDD, further also aligning with the core due diligence elements as described in the UN Guiding Principles on Business and Human Rights, and in the OECD Guidelines for Multinational Enterprises. Broadly speaking, these consist of due diligence policies, the identification of actual or potential negative sustainability impact, the prevention, mitigation and/or ending of negative sustainability impact, the implementation of a complaint procedure for third-party reporting of negative sustainability impact and the evaluation of the effectiveness of due diligence procedures.

A potential limitation is that while the O.P assesses impact at product-level, most of the legislative requirements are set at company-level. Yet, this is counteracted by the fact that certain sustainability issues, and most due diligence processes and measures, are generally representative of the whole organization, including all its business activities and product portfolios. Furthermore, products with similar technical features are also likely to share similar value chains. In such cases, the implementation of the O.P methodology could effectively aid companies in engaging and collaborating with their business partners, increase transparency, and most importantly, identify where, along their value chains, are prominent sustainability issues, and the cost of their preventative measures. All of which are the main objectives of the analyzed sustainability legislation.

6.2 Future research

In order to increase research validity and generalizability, future research should expand the data sample to include more EU sustainability regulations and directives. This could be accomplished for instance, by extending the research criteria in terms of years, as well as including legal mechanisms tailored to specific industries, which have been purposefully excluded from the present study. Such measures would lead to a bigger and more representative data sample, consequently allowing for a more comprehensive analysis of the EU sustainability legislative landscape. Focus could also be given to those regulations and directives which already apply, or are in later stages of development, bearing established

requirements, processes and guidelines. Furthermore, in order to enhance the understanding and analysis of the legislative landscape and its implications, future studies could implement a mix method research design, including interviews with legal (sustainability) experts and corporate practitioners. By further gathering their perceptions and knowledge on the subject, research validity and reliability could be improved.

6.3 Practical recommendation for the O.P development

As a general recommendation, the O.P system could focus on the priority/high impact sectors established by the ESPR and the CSDDD (see table 13), for its continuous development. This could be accompanied by tailored sustainability indicators and categories, which are particularly relevant to such industries. For example, the development of metrics to assess sea degradation and marine biodiversity, could be useful for the fishing industry, as these are explicit environmental concerns related to this sector. By doing so, the system could build its relevance as a supporting method to ever more industry-specific regulations. Additionally, O.P assessment results could also be displayed in a way, which not only showcases products' negative hidden costs, but also their general environmental information, such as encompassing materials, recyclability, durability etc., thereby converging with future DPP requirements.

All in all, the O.P's governance level assessment is the methodological aspect that most comprehensively aligns with legislative requirements on due diligence. Yet, to the present date, only 10 aspects covered by the methodology are subject to it, i.e. *Type B and E pollution, Human health & safety, Occupational health & safety, Labor conditions, Corruption & conflict, Various social responsibilities, Animal welfare, Product's health and safety* and *End-of-life*. Although the O.P is a full cost accounting methodology, aimed at assessing the hidden costs of preventing products' negative impact, there is a clear opportunity for development in a different direction, consequently matching ever more conclusive EU legal requirements on sustainability. By expanding the scope of its governance assessment to all other sustainability aspects under the 3P's, as well as supporting, perhaps in combination with product-level, an organization-level assessment, the Oiconomy Pricing could effectively become a suitable supporting tool for companies subject to (value chain) due diligence obligations. Lastly, as directives are to be locally translated into national laws by each EU Member State, governmental bodies will be on the search for mechanisms to aid and facilitate verification, legal enforcement and corporate compliance. In this sense, if the

system implements a third party verification, building on the credibility and legitimacy of assessment results, it could potentially become an official partner of both governments and companies alike, in efforts towards a more sustainable economy.

Legislative mechanism	Priority sectors
Corporate Sustainability Due Diligence Directive (CSDDD)	<ul style="list-style-type: none"> ● Textile ● Agriculture ● Forestry ● Fishery ● Food manufacturing/production/trading ● Extraction/manufacturing/trading of mineral resources
Ecodesign for Sustainable Product Regulation (ESPR) & Digital Product Passport (DPP)	<ul style="list-style-type: none"> ● Textile ● Electronics ● Automobile ● Construction ● Furniture ● Chemicals

Table 13: Overview of priority sectors set by the CSDDD and the ESPR/(DPP)

References

- Albrizio, S., Kozluk, T., & Zipperer, V. (2017). Environmental policies and productivity growth: Evidence across industries and firms. *Journal of Environmental Economics and Management*, 81, 209–226. <https://doi.org/10.1016/j.jeem.2016.06.002>
- Croes, P. R., & Vermeulen, W. J. (2015). Comprehensive life cycle assessment by transferring of preventative costs in the supply chain of products. A first draft of the Oiconomy system. *Journal of Cleaner Production*, 102, 177–187. <https://doi.org/10.1016/j.jclepro.2015.04.040>
- EFRAG. (2022a). *Draft European Sustainability Reporting Standards ESRS 1: General Requirements*. EFRAG.
- EFRAG. (2022b). *Draft European Sustainability Reporting Standards ESRS 2: General Disclosures*.
- EFRAG. (2023, March 3). *Educational session on draft ESRS 1 General requirements* [Video]. YouTube. <https://www.youtube.com/watch?v=IWtruaU-MNo>
- EU Monitor. (n.d.-a). *Delegated regulation*. <https://www.eumonitor.eu/9353000/1/j9vvik7m1c3gyxp/vkh7cp7t4km6#:~:text=Delegated%20regulation%20in%20detail,-Area%20of%20application&text=Delegated%20regulations%20can%20only%20seek,down%20in%20each%20individual%20act.>
- EU Monitor. (n.d.-b). *Implementing regulation - EU monitor*. <https://www.eumonitor.eu/9353000/1/j9vvik7m1c3gyxp/vkh7cggewpvt#:~:text=Implementin g%20regulations%20deal%20with%20very,well%20as%20other%20legal%20entities.>
- EUR-Lex. (n.d.-a). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:114522>
- EUR-Lex. (n.d.-b). *EUR-LEX - 52022PC0071 - EN - EUR-LEX*. Retrieved July 19, 2023, from <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0071>
- EUR-Lex. (n.d.-c). *EUR-LEX - 52022PC0453 - EN - EUR-LEX*. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0453>
- European Broadcasting Union (EBU). (2023, June 15). *Sustainability Rulebook: The Corporate Sustainability Due Diligence Directive (CSDDD)*. EBU. <https://www.ebu.ch/case-studies/open/legal-policy/the-future-of-eu-sustainability-regulation-ii-the-corporate-sustainability-due-diligence-directive-csddd>
- European Central Bank. (2022, November 17). *Pillar 3 reconciliation: improving banks' reporting discipline*. European Central Bank - Banking Supervision. https://www.bankingsupervision.europa.eu/press/publications/newsletter/2022/html/ssm.nl221117_2.en.html#:~:text=Pillar%203%20of%20the%20Basel,in%20separate%20Pillar%203%20reports
- European Commission. (n.d.-a). *Benchmarks regulation*. Finance. https://finance.ec.europa.eu/regulation-and-supervision/financial-services-legislation/implementing-and-delegated-acts/benchmarks-regulation_en
- European Commission. (n.d.-b). *Corporate sustainability reporting*. Finance. https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en
- European Commission. (n.d.-c). *Corporate sustainability reporting*. Finance. Retrieved July 19, 2023, from

- https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en
- European Commission. (n.d.-d). *Ecodesign for sustainable products*. https://commission.europa.eu/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/sustainable-products/ecodesign-sustainable-products-regulation_en
- European Commission. (n.d.-e). *EUR-LEX - 32023R1115 - EN - EUR-LEX*. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1115&qid=1687867231461>
- European Commission. (n.d.-f). *European Climate Law*. Climate Action. https://climate.ec.europa.eu/eu-action/european-green-deal/european-climate-law_en
- European Commission. (n.d.-g). *Press corner*. European Commission - European Commission. Retrieved July 19, 2023, from https://ec.europa.eu/commission/presscorner/detail/en/ip_22_5415
- European Commission. (n.d.-h). *Proposal for Ecodesign for Sustainable Products Regulation*. Environment. https://environment.ec.europa.eu/publications/proposal-ecodesign-sustainable-products-regulation_en
- European Commission. (n.d.-i). *Regulation on deforestation-free products*. Environment. https://environment.ec.europa.eu/topics/forests/deforestation/regulation-deforestation-free-products_en
- European Commission. (2022). *Press corner*. European Commission - European Commission. Retrieved July 19, 2023, from https://ec.europa.eu/commission/presscorner/detail/en/IP_22_1145
- European Council. (n.d.). *European Green Deal*. European Council.
- EUROSIF. (2023, May 16). *SFDR - EUROSIF*. <https://www.eurosif.org/policies/sfdr/>
- Faber, D. (1993). Environment under Fire: Imperialism and the Ecological Crisis in Central America. *Hahr-hispanic American Historical Review*, 74(1), 183. <https://doi.org/10.2307/2517486>
- Faber, D. R., & McCarthy, D. W. (2003). Neo-liberalism, Globalization and the Struggle for Ecological Democracy: Linking Sustainability and Environmental Justice. *Just Sustainabilities: Development in an Unequal World*, 55–80. <https://doi.org/10.4324/9781849771771-11>
- Fairtrade International. (n.d.). *Forced labour*. Retrieved July 19, 2023, from <https://www.fairtrade.net/issue/forced-labour#:~:text=Poverty%20is%20one%20of%20the,in%20grained%20after%20years%20of%20exploitation>
- Greenomy. (2023, July 6). *The European Sustainability Reporting Standards: a Phase-in Journey to Sustainability*. [https://greenomy.io/blog/esrs-phase-in-journey#:~:text=The%20European%20Sustainability%20Reporting%20Standards%20\(ESRS\)%20are%20standards%20that%20define,will%20need%20to%20report%20on](https://greenomy.io/blog/esrs-phase-in-journey#:~:text=The%20European%20Sustainability%20Reporting%20Standards%20(ESRS)%20are%20standards%20that%20define,will%20need%20to%20report%20on)
- Human Rights Watch. (2023, May 10). EU: Major Step For ‘Deforestation-Free’ Trade. *Human Rights Watch*. <https://www.hrw.org/news/2023/04/19/eu-major-step-deforestation-free-trade>
- Hutchins, M. J., & Sutherland, J. W. (2008). An exploration of measures of social sustainability and their application to supply chain decisions. *Journal of Cleaner Production*, 16(15), 1688–1698. <https://doi.org/10.1016/j.jclepro.2008.06.001>
- IIGCC. (2023). *European Parliament agrees Corporate Sustainability Due Diligence Directive (CSDDD) position* – IIGCC. <https://www.iigcc.org/news/european-parliament-agrees-csddd-position/>

- KPMG International. (2014). The essentials of materiality assessment. In *KPMG International*.
- Lannoy, D. W., & Devuyt, D. (2001). *How Green Is the City?: Sustainability Assessment and the Management of Urban Environments* (0 ed.). Columbia University Press.
- Law Insider. (n.d.-a). *Legislative decision Definition*.
<https://www.lawinsider.com/dictionary/legislative-decision#:~:text=Legislative%20decision%20The%20adoption%2C%20amendment,or%20an%20applicable%20local%20act>.
- Law Insider. (n.d.-b). *Legislative decision Definition*.
<https://www.lawinsider.com/dictionary/legislative-decision#:~:text=Legislative%20decision%20The%20adoption%2C%20amendment,or%20an%20applicable%20local%20act>
- Loyens & Loeff. (2023). *The Corporate Sustainability Due Diligence Directive (CSDDD): the position of the European Parliament and potential impact*.
<https://www.loyensloeff.com/insights/news--events/news/the-corporate-sustainability-due-diligence-directive-csddd-the-position-of-the-european-parliament-and-the-impact/>
- MVO Nederland. (2023, July 13). *What is MVO Nederland?*
<https://www.mvonederland.nl/en/about-mvo-nederland/who-we-are-movement-of-sustainable-entrepreneurs/>
- Netherlands Enterprise Agency* | *RVO.nl*. (n.d.).
<https://english.rvo.nl/about-netherlands-enterprise-agency>
- Organization for Economic Co-operation and Development [OECD]. (n.d.). OECD. Retrieved October 29, 2022, from
<https://www-oecd-org.proxy.library.uu.nl/sti/ind/global-value-chains.htm>
- Oxford reference. (n.d.). *Overview: Regulation*. Oxford Reference. Retrieved July 19, 2023, from
<https://www-oxfordreference-com.proxy.library.uu.nl/display/10.1093/oi/authority.20111013152605301;jsessionid=5CCAF63842ADB22EB7F176BA0AEB1C76>
- Parris, T. M., & Kates, R. W. (2003). CHARACTERIZING AND MEASURING SUSTAINABLE DEVELOPMENT. *Annual Review of Environment and Resources*, 28(1), 559–586.
<https://doi.org/10.1146/annurev.energy.28.050302.105551>
- Position Green. (n.d.). *A guide to the CSRD and ESRs*.
- PricewaterhouseCoopers [PwC]. (n.d.). *Agreement about EU Deforestation Regulation*. PwC.
<https://www.pwc.nl/en/insights-and-publications/tax-news/vat/eu-regulation-on-deforestation-free-products.html>
- PSQR. (2023). All You Need To Know About the EU Digital Product Passports. *PSQR*.
<https://psqr.eu/publications-resources/all-about-dpp/#:~:text=The%20EU%20digital%20product%20passport%27s,use%20and%20their%20environmental%20impact>
- RVO. (n.d.). *IMVO-wetten en verplichte due-diligence-regels*. RVO.nl.
<https://www.rvo.nl/onderwerpen/imvo-wetten-en-regels>
- Sustainable Food Trust. (2019, March). *True Cost Accounting - Sustainable Food Trust*. Sustainable Food Trust - a Global Voice for Sustainable Food and Health. Retrieved July 19, 2023, from
<https://sustainablefoodtrust.org/our-work/true-cost-accounting/#what-is-true-cost-accounting?>
- The Oiconomy Standard. (2022, August 4). *Oiconomy Pricing*. Retrieved October 4, 2022, from
<https://oiconomy.geo.uu.nl/>
- The Oiconomy Standard. (n.d.). *What's different and new? - Oiconomy Pricing*. Oiconomy Pricing.
<https://oiconomy.geo.uu.nl/oiconomy-standard/whats-new/>
- The Oiconomy Standard. (2022, October 25). *Oiconomy Pricing Lab consortium created - Oiconomy Pricing*. Oiconomy Pricing.
<https://oiconomy.geo.uu.nl/2022/06/22/oiconomy-pricing-lab-consortium-created/>
- WBCSD. (2023). *The EU Digital Product Passport shapes the future of value chains: What it is and how to prepare now*. In <https://www.wbcd.org/contentwbc/download/15584/226479/1>.

- WBCSD Products and Materials team. (2023). *The EU Digital Product Passport: how can companies prepare for it today?* World Business Council for Sustainable Development (WBCSD). Retrieved July 19, 2023, from <https://www.wbcd.org/Overview/News-Insights/WBCSD-insights/EU-Digital-Product-Passport#:~:text=As%20regulatory%20first%20mover%20the,EU%20market%20will%20be%20affected>
- Wilks, J. B. a. S. (2023, June 14). Due-diligence directive—key issues for final negotiations. *Social Europe*. <https://www.socialeurope.eu/due-diligence-directive-key-issues-for-final-negotiations>
- World Business Council for Sustainable Development (WBCSD)*. (n.d.). World Business Council for Sustainable Development (WBCSD). <https://www.wbcd.org/>

Appendix

Link to the news article	Official title of news article in Dutch	*Title of news article translated in English <i>*Translated with Google translate</i>	Legislative topic	Date of publication
https://www.mvonderland.nl/news/minister-van-der-wal-herstel-onze-natuur-en-economie-met-de-natuurherstelwet/	"MINISTER VAN DER WAL, HERSTEL ONZE NATUUR ÉN ECONOMIE MET DE NATUUR HERSTELWET"	Minister Van der Wal, restore our nature and economy with the Nature Recovery Act	Nature Recovery Act	21/06/2023
https://www.mvonderland.nl/news/eerste-hulp-bij-due-diligence-wat-is-het-en-wat-moet-je-ermee/	"EERSTE HULP BIJ DUE DILIGENCE: WAT IS HET EN WAT MOET JE ERMEE?"	Due Diligence first aid: What is it and what should you do with it?	Corporate Sustainability Reporting Direction (CSRD)	11/05/2023
https://www.mvonderland.nl/news/mvo-nederland-reageert-klimaatpakket-jetten-biedt-ondernemers-perspectief-maar-maakt-duurzaam-ondernemen-niet-eenvoudiger/	"MVO NEDERLAND REAGEERT: KLIMAATPAKKET JETTEN BIEDT ONDERNEMERS PERSPECTIEF, MAAR MAAKT DUURZAAM ONDERNEMEN NIET EENVOUDIGER"	MVO Netherlands reacts: Climate package (by Minister Jetten) offers entrepreneurs perspective, but does not make sustainable business easier	Climate package	03/05/2023
https://www.mvonderland.nl/news/hoe-jouw-bedrijf-kan-en-moet-bijdragen-aan-het-tegenaan-van-ontbossing/	"HOE JOUW BEDRIJF KAN EN MOET BIJDRAGEN AAN HET TEGENGAAN VAN ONTBOSSING"	How your business can and should contribute to combating deforestation	Regulation on deforestation free products	14/04/2023
https://www.mvonderland.nl/news/dit-zijn-de-5-grootste-duurzame-politieke-ontwikkelingen-van-2022/	"DIT ZIJN DE 5 GROOTSTE DUURZAME POLITIEKE ONTWIKKELINGEN VAN 2022"	These are the 5 biggest sustainable political developments of 2022	1.Coalition agreement by Rutter's cabinet concerning the 7 themes of the new economy 2. Agriculture is in	21/12/2022

			<p>transition: Measures for nitrogen reduction and nature restoration</p> <p>3. The launch of the National Program Circular Economy</p> <p>4. National ICSR (International Corporate Social Responsibility) legislation</p> <p>5. Draft policy program on climate & energy</p>	
https://www.mvonderland.nl/news/wees-op-tijd-bereid-je-nu-voor-op-de-csr-d-richtlijn/	"WEES OP TIJD, BEREID JE NU VOOR OP DE CSR-D RICHTLIJN"	Be on time, prepare now for the CSRD Directive	Corporate Sustainability Reporting Direction (CSRD)	23/11/2022
https://www.mvonderland.nl/news/drie-redenen-om-je-klimaatdoelen-in-lijn-te-brengen-met-science-based-targets/	"DRIE REDENEN OM JE KLIMAATDOELEN IN LIJN TE BRENGEN MET SCIENCE BASED TARGETS"	Three reasons to align your climate goals with science based targets	Paris Agreement of 2015	02/05/2022
https://www.mvonderland.nl/news/de-europese-due-diligence-richtlijn-gaat-niet-ver-gen-oeg/	"DE EUROPESE DUE DILIGENCE-RICHTLIJN GAAT NIET VER GENOEG"	The European Due Diligence Directive does not go far enough	Due Diligence Directive	31/03/2022
https://www.mvonderland.nl/news/mvo-nederland-blij-verrast-nieuw-regeerakkoord-biedt-kansen-voor-duurzame-ondernemers/	"MVO NEDERLAND BLIJ VERRAST: NIEUW REGEERAKKOORD BIEDT KANSEN VOOR DUURZAME ONDERNEMERS"	MVO Netherlands pleasantly surprised: New country agreement offers opportunities for sustainable entrepreneurs	<p>Target-setting of CO2 reduction of 60% in 2030</p> <p>New environmental pricing: Road pricing in 2030</p> <p>National ICSR (International Corporate Social Responsibility) law</p>	15/12/2021
https://www.mvonderland.nl/news/mvo-nederland-regeerakkoord/	"MVO NEDERLAND: REGEERAKKOOR"	MVO Netherlands: "Government	Green Industrial Policy	03/09/2021

geerakkoord-op-hoofdlijnen-biedt-anknopingspunten-voor-ondernemers-in-de-nieuwe-economie/	D OP HOOFDLIJNEN BIEDT AANKNOPINGSPUNTEN VOOR ONDERNEMERS IN DE NIEUWE ECONOMIE"	agreement on key lines offers points for entrepreneurs in the new economy"	Circular Economy Policy	
https://www.mvonderland.nl/news/dit-betekent-de-nieuwe-due-diligence-wetgeving-voor-jou/	"DIT BETEKENT DE NIEUWE DUE DILIGENCE-WETGEVING VOOR JOU"	This is what the new Due Diligence law means for you	Due Diligence law	17/06/2021

Table A1: Overview of MVO's news articles for research data

Link to the news article	Official title of news article	Legislative topic	Date of publication
https://www.wbcsd.org/Overview/News-Insights/Member-spotlight/ESG-Insights-10-Things-That-Should-Be-Top-of-Mind-in-2023	"ESG Insights: 10 Things That Should Be Top of Mind in 2023"	ESG regulation: EU Corporate Sustainability Reporting Directive (CSRD) Corporate Sustainability Due Diligence Directive (CSDDD) EU Taxonomy Regulation EU Green Deal	16/01/2023
https://www.wbcsd.org/Overview/News-Insights/WBCSD-insights/EU-Digital-Product-Passport	"The EU Digital Product Passport: how can companies prepare for it today?"	Digital Product Passport (DPP) Regulation	24/01/2023
https://www.wbcsd.org/Overview/News-Insights/General/News/The-rise-in-ESG-lawsuits-highlights-the-need-for-companies-to-evaluate-supply-chain-risks	"The rise in ESG lawsuits highlights the need for companies to evaluate supply-chain risks"	ESG monitoring and disclosure: Policy mentioned - Duty of Vigilance law (France)	14/02/2023

<p>https://www.wbcsd.org/Projects/OP2B/News/FoodDrinkEurope-and-OP2B-advocate-for-regenerative-agriculture-as-a-pillar-for-the-upcoming-EU-Soil-Health-Law-proposal-and-call-for-incentives</p>	<p>"FoodDrinkEurope and OP2B advocate for regenerative agriculture as a pillar for the upcoming EU Soil Health Law proposal and call for incentives"</p>	<p>EU Soil Health Law EU Soil Strategy</p> <p>European Green Deal</p> <p>The Common agriculture policy</p> <p>EU rules on certification of carbon removals</p>	<p>24/10/2022</p>
<p>https://www.wbcsd.org/Overview/News-Insights/General/News/Letter-to-the-EU-Commission-on-European-Sustainability-Reporting-Standards</p>	<p>"Letter to the EU Commission on European Sustainability Reporting Standards"</p>	<p>Corporate Sustainability Reporting Directive (CSRD)</p> <p>European Sustainability Reporting Standards (ESRS)</p>	<p>13/09/2022</p>
<p>https://www.wbcsd.org/Programs/Climate-and-Energy/Climate/Climate-Action-and-Policy/News/EU-Fit-for-55-Package</p>	<p>"EU Fit for 55 Package"</p>	<p>EU "Fit for 55 package":</p> <p>Expansion of EU Emission Trading System (ETS)</p> <p>New legislative proposals:</p> <ul style="list-style-type: none"> - Carbon Border Adjustment Mechanism (CBAM) - ReFuelEU Aviation (on sustainable aviation fuel) - FuelEU Maritime (on greening the maritime space) - New Forest Strategy <p>Legislative amendments:</p> <ul style="list-style-type: none"> - Amendment to the Renewable Energy Directive (RED) - Amendment to the Energy Efficiency Directive (EED) 	<p>23/07/2022</p>

		<ul style="list-style-type: none"> - Revision of the energy taxation directive - Amendment of the regulation setting CO₂ emission standards for cars and vans - Revision of the Alternative Fuels Infrastructure Directive (AFID) - Revision of the Effort Sharing Regulation (ESR) - Revision of the regulation on land use, land use change and forestry (LULUCF) 	
https://www.wbcsd.org/Projects/OP2B/News/European-business-urges-no-further-delay-in-proposal-for-legally-binding-nature-restoration-targets	"European business urges no further delay in proposal for legally binding nature restoration targets"	EU Green Deal	08/06/2022
https://www.wbcsd.org/Programs/Redefining-Value/News/A-unified-approach-to-sustainability-reporting	"A unified approach to sustainability reporting"	Corporate Sustainability Reporting Directive (CSRD)	25/10/2021
https://www.wbcsd.org/Overview/News-Insights/WBCSD-insights/Accountants-creating-long-term-value-through-ESG	"Accountants creating long-term value through ESG"	ESG reporting: EU non-financial reporting directive (NFRD)	09/02/2021

Table A2: Overview of WBCSD's news articles selected for research data

Link to the information piece	Official title of news article	Legislations	Date of publication and update
-------------------------------	--------------------------------	--------------	--------------------------------

https://www.rvo.nl/ond-erwerpen/imvo-wetten-en-regels	ICSR laws and mandatory due diligence rules	EU Corporate Sustainability Due Diligence Directive (CSDDD) EU Corporate Sustainability Reporting Directive (CSRD) EU Sustainable Finance Disclosure Regulation (SFDR) EU European Conflict Minerals Regulation Proposed laws not yet approved: Forced Labor Ordinance EU regulation for deforestation-free products EU Battery Directive 2006	Published on: 19/09/2022 Last updated on: 22/02/2023
---	---	---	---

Table A3: Overview of RVO's information piece selected for research data

Relevant commodity	Relevant products
---------------------------	--------------------------

Cattle	0102 21 , 0102 29 Live cattle ex 0201 Meat of cattle, fresh or chilled ex 0202 Meat of cattle, frozen ex 0206 10 Edible offal of cattle, fresh or chilled ex 0206 22 Edible cattle livers, frozen ex 0206 29 Edible cattle offal (excluding tongues and livers), frozen ex 1602 50 Other prepared or preserved meat, meat offal, blood, of cattle ex 4101 Raw hides and skins of cattle (fresh, or salted, dried, limed, pickled or otherwise preserved, but not tanned, parchment-dressed or further prepared), whether or not dehaired or split ex 4104 Tanned or crust hides and skins of cattle, without hair on, whether or not split, but not further prepared ex 4107 Leather of cattle, further prepared after tanning or crusting, including parchment-dressed leather, without hair on, whether or not split, other than leather of heading 4114
Cocoa	1801 Cocoa beans, whole or broken, raw or roasted 1802 Cocoa shells, husks, skins and other cocoa waste 1803 Cocoa paste, whether or not defatted 1804 Cocoa butter, fat and oil 1805 Cocoa powder, not containing added sugar or other sweetening matter 1806 Chocolate and other food preparations containing cocoa
Coffee	0901 Coffee, whether or not roasted or decaffeinated; coffee husks and skins; coffee substitutes containing coffee in any proportion

Oil palm	<p>1207 10 Palm nuts and kernels</p> <p>1511 Palm oil and its fractions, whether or not refined, but not chemically modified</p> <p>1513 21 Crude palm kernel and babassu oil and fractions thereof, whether or not refined, but not chemically modified</p> <p>1513 29 Palm kernel and babassu oil and their fractions, whether or not refined, but not chemically modified (excluding crude oil)</p> <p>2306 60 Oilcake and other solid residues of palm nuts or kernels, whether or not ground or in the form of pellets, resulting from the extraction of palm nut or kernel fats or oils</p> <p>ex 2905 45 Glycerol, with a purity of 95 % or more (calculated on the weight of the dry product)</p> <p>2915 70 Palmitic acid, stearic acid, their salts and esters</p> <p>2915 90 Saturated acyclic monocarboxylic acids, their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives (excluding formic acid, acetic acid, mono-, di- or trichloroacetic acids, propionic acid, butanoic acids, pentanoic acids, palmitic acid, stearic acid, their salts and esters, and acetic anhydride)</p> <p>3823 11 Stearic acid, industrial</p> <p>3823 12 Oleic acid, industrial</p> <p>3823 19 Industrial monocarboxylic fatty acids; acid oils from refining (excluding stearic acid, oleic acid and tall oil fatty acids)</p> <p>3823 70 Industrial fatty alcohols</p>
----------	---

Rubber	<p>4001 Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, in primary forms or in plates, sheets or strip</p> <p>ex 4005 Compounded rubber, unvulcanised, in primary forms or in plates, sheets or strip</p> <p>ex 4006 Unvulcanised rubber in other forms (e.g. rods, tubes and profile shapes) and articles (e.g. discs and rings)</p> <p>ex 4007 Vulcanised rubber thread and cord</p> <p>ex 4008 Plates, sheets, strips, rods and profile shapes, of vulcanised rubber other than hard rubber</p> <p>ex 4010 Conveyer or transmission belts or belting, of vulcanised rubber</p> <p>ex 4011 New pneumatic tyres, of rubber</p> <p>ex 4012 Retreaded or used pneumatic tyres of rubber; solid or cushion tyres, tyre treads and tyre flaps, of rubber</p> <p>ex 4013 Inner tubes, of rubber</p> <p>ex 4015 Articles of apparel and clothing accessories (including gloves, mittens and mitts), for all purposes, of vulcanised rubber other than hard rubber</p> <p>ex 4016 Other articles of vulcanised rubber other than hard rubber, not elsewhere specified in chapter 40</p> <p>ex 4017 Hard rubber (e.g. ebonite) in all forms including waste and scrap; articles of hard rubber</p>
Soya	<p>1201 Soya beans, whether or not broken</p> <p>1208 10 Soya bean flour and meal</p> <p>1507 Soya-bean oil and its fractions, whether or not refined, but not chemically modified</p> <p>2304 Oilcake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of soya-bean oil</p>

Wood	<p>4401 Fuel wood, in logs, in billets, in twigs, in faggots or in similar forms; wood in chips or particles; sawdust and wood waste and scrap, whether or not agglomerated in logs, briquettes, pellets or similar forms</p> <p>4402 Wood charcoal (including shell or nut charcoal), whether or not agglomerated</p> <p>4403 Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared</p> <p>4404 Hoopwood; split poles; piles, pickets and stakes of wood, pointed but not sawn lengthwise; wooden sticks, roughly trimmed but not turned, bent or otherwise worked, suitable for the manufacture of walking sticks, umbrellas, tool handles or the like; chipwood and the like</p> <p>4405 Wood wool; wood flour</p> <p>4406 Railway or tramway sleepers (cross-ties) of wood</p> <p>4407 Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm</p> <p>4408 Sheets for veneering (including those obtained by slicing laminated wood), for plywood or for other similar laminated wood and other wood, sawn lengthwise, sliced or peeled, whether or not planed, sanded, spliced or end-jointed, of a thickness not exceeding 6 mm</p> <p>4409 Wood (including strips and friezes for parquet flooring, not assembled) continuously shaped (tongued, grooved, rebated, chamfered, V-jointed, beaded, moulded, rounded or the like) along any of its edges, ends or faces, whether or not planed, sanded or end-jointed</p> <p>4410 Particle board, oriented strand board (OSB) and similar board (for example, waferboard) of wood or other ligneous materials, whether or not agglomerated with resins or other organic binding substances</p> <p>4411 Fibreboard of wood or other ligneous materials, whether or not bonded with resins or other organic substances</p> <p>4412 Plywood, veneered panels and similar laminated wood</p> <p>4413 Densified wood, in blocks, plates, strips or profile shapes</p> <p>4414 Wooden frames for paintings, photographs, mirrors or similar objects</p> <p>4415 Packing cases, boxes, crates, drums and similar packings, of wood; cable-drums of wood; pallets, box pallets and other load boards, of wood; pallet collars of wood</p> <p>(not including packing material used exclusively as packing material to support, protect or carry another product placed on the market)</p> <p>4416 Casks, barrels, vats, tubs and other coopers' products and parts thereof, of wood, including staves</p> <p>4417 Tools, tool bodies, tool handles, broom or brush bodies and handles, of wood; boot or shoe lasts and trees, of wood</p> <p>4418 Builders' joinery and carpentry of wood, including cellular wood panels, assembled flooring panels, shingles and shakes</p>
------	---

<p>4419 Tableware and kitchenware, of wood</p> <p>4420 Wood marquetry and inlaid wood; caskets and cases for jewellery or cutlery, and similar articles, of wood; statuettes and other ornaments, of wood; wooden articles of furniture not falling in Chapter 94</p> <p>4421 Other articles of wood</p> <p>Pulp and paper of Chapters 47 and 48 of the Combined Nomenclature, with the exception of bamboo-based and recovered (waste and scrap) products</p> <p>ex 49 Printed books, newspapers, pictures and other products of the printing industry, manuscripts, typescripts and plans, of paper</p> <p>ex 9401 Seats (other than those of heading 9402), whether or not convertible into beds, and parts thereof, of wood</p> <p>9403 30 , 9403 40 , 9403 50 , 9403 60 and 9403 91 Wooden furniture, and parts thereof</p> <p>9406 10 Prefabricated buildings of wood</p>
--

Table A4: Overview of relevant commodities and products subject to the EURDP

O.P's governance level assessment	Aspects included
1. Policy on the relevant aspect	<p>Policy defined, appropriate and up to date, and approved by the highest local management and by the corporate highest management.</p> <p>Policy is aimed at continual improvement.</p> <p>Policy includes compliance to the national law and to the requirements of this standard.</p> <p>Documented, maintained and implemented plan of goals in a (at least 5 years) plan. Decision structure and T.C.R.'s (*1) defined.</p>
2. Risk analysis on the relevant aspect	<p>Procedure for a risk analysis.</p> <p>Analysis of the relevant risks for all stakeholders.</p> <p>All risks listed in the relevant section of the Oiconomy Standard included</p> <p>Risks are ranked and priorities are set based on the seriousness and frequency (or ease) of occurrence.</p>
3. Legal requirements on the relevant aspect	<p>Analysis of the relevant legal requirements and international declarations and for which activities and properties related to the product these requirements are relevant. If it is demonstrated by independent experts that no risks exist on the aspect, following criteria can be answered with "1"</p>
4. Goals on the relevant	<p>Conversion of the policy goals into SMART goals. (Specific, Measurable, Acceptable, Realistic, Time limited)</p>

aspect	Plan of implementation and monitoring on the SMART goals.
5. Resources available for the relevant aspect	<p>Qualified people with defined T.C.R.'s, funds, time and investments.</p> <p>Qualified coordinator with access to the highest management.</p> <p>Top management commitment demonstrated by the documentation and communication.</p> <p>Required capital investments determined and approved by the highest (corporate) management, and in the planned stage of execution.</p>
6. Knowledge and training on the relevant aspect	<p>Required knowledge and skills throughout the organization defined and made available.</p> <p>Needs for training analyzed and training provided where necessary.</p> <p>Availability of knowledge documents and, where necessary, contacts with relevant experts.</p>
7. Internal and external communication on the relevant aspect	<p>The plan and T.C.R.'s are communicated internally and plan externally.</p> <p>Consciousness and relevant knowledge on the relevant aspect throughout the organization, contractors and subcontractors.</p> <p>Analysis of all internal and external stakeholders that may have an interest or influence on the relevant aspect.</p> <p>Analysis of all internal and external stakeholders that may experience an adverse effect regarding the relevant aspect.</p> <p>Plan of communication with all defined stakeholders.</p> <p>All risks and information are communicated to the relevant stakeholders in a clear, readily accessible, understandable, unambiguous way. The company is readily available for internal and external complaints and protects internal persons reporting violations (e.g. whistleblowers).</p>
8. Documentation on the relevant aspect	<p>Policy, scope and working of the relevant management system are documented.</p> <p>Documents required by this standard.</p> <p>Procedures that regulate the working of the system.</p> <p>Methods of measuring and sampling.</p> <p>Descriptions of functions, T.C.R.'s and the organization structure.</p>
9. Document control on the	Authorization of documents for first use and for revision.

<p>relevant aspect</p>	<p>Documents identifiable, up to date, legible and readily available where needed.</p> <p>Prevention of use of unauthorized documents.</p> <p>Identification of required external documents and controlled distribution thereof to the relevant locations and functions.</p>
<p>10. Operational control on the relevant aspect</p>	<p>Criteria identified based on requirements, risk analysis and goals</p> <p>System of preventative measures on identified risks. Analysis of those (critical control) points internally (and if necessary externally) where prevention can be achieved. Effective prevention systems on these points.</p> <p>Procedures to discover shortcomings and to convert these into improvements, including a procedure for handling complaints and incidents with a time limit for completing these.</p> <p>Control of the influence of third parties on the relevant aspect, including a procedure to monitor and evaluate the quality of the suppliers and the transparency of their communication.</p>
<p>11. Emergency plans (if applicable for the aspect)</p>	<p>Action plans (including communication plans and procedures) plans for social emergency situations (e.g. violence, discrimination, accidents, incidents, theft, serious violations of internal or external rules; cases of or corrupt proposals).</p> <p>Yearly evaluation of emergency situations.</p> <p>Yearly tests of emergency situations where practical.</p> <p>Traceability at least 1 step backwards and 1 step forwards, including waste flows.</p> <p>Procedure to recall products with shortcomings, including for waste flows.</p> <p>Yearly test of traceability (including waste) and recall procedure.</p>
<p>12. Monitoring and measurement on the relevant aspect</p>	<p>Plan and execution of monitoring (what, when, where and how), fit for demonstration that the control system is effective. Inclusion of near-accidents and near-incidents, where applicable.</p> <p>Use of calibrated means (where applicable) of measurement using validated methods for measurement and sampling only.</p>
<p>13. Evaluation of the relevant aspect</p>	<p>Procedures for periodical evaluation of the monitoring results against the requirements and goals.</p> <p>Procedures for registration and communication of the monitoring results and of the conclusions of the evaluation.</p>

14. Preventive and corrective measures on the relevant aspect	<p>Procedures to discover the root causes of shortcomings, incidents and complaints and to prevent repetition thereof. (Consider the possibility that top management ultimately may be the root cause, especially at repetition of the shortcoming).</p> <p>Procedures for preventive measurements based upon the risks found in the risk analysis.</p> <p>Procedures to analyse trends in incidents, shortcomings and complaints and to improve the policy.</p> <p>Procedures to compensate, remove or minimize the damage that has been caused by incidents or shortcomings.</p> <p>Monitoring on and registration of preventive and corrective measures.</p> <p>Procedures to regularly verify and evaluate the adequacy of earlier taken preventive and corrective measures.</p>
15. Registration and control	<p>Meeting the requirements is demonstrable by registered data.</p> <p>Registered data are traceable, stored in a protected way, available for at least 5 years, legible and identifiable.</p> <p>Coherent and communicated system of registration locations.</p>
16. Internal audit on the relevant aspect	<p>At least yearly internal audit by independent (no auditing of persons own responsibilities), objective and qualified persons against the requirements.</p> <p>Written report with information to the management.</p> <p>Audit procedure with criteria, scope, method, frequency, reporting, shortcomings, requirements for evaluation and corrective measures.</p>
17. Management review on the relevant aspect	<p>At least yearly management review.</p> <p>Top management responsibility is demonstrable in practice.</p> <p>Documented input: Internal audit, complaints, incidents, relevant communication with authorities and other stakeholders, evaluations, status of preventive and corrective measures, result of the decisions of the last MR, changes in this standard, legislation and other requirements and improvement propositions.</p> <p>Documented output: assessment of the effectiveness of the system, decisions for improvement; adjustments in the policy, goals and plans.</p>

Table A5: Detailed overview of the O.P's governance level assessment