



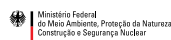
# Corporate Guidelines for the Reporting of Environmental Externalities

Version 1.0

An initiative of:



Por ordem do



da República Federal da Alemanha



Ministério do Meio Ambiente



## GVCES BUSINESS INITIATIVES

The Center for Sustainability Studies (GVces) of the Business Administration School at Getulio Vargas Foundation (FGV-EAESP) is an open arena for study, learning, insights, innovation, and knowledge production, formed by people with multidisciplinary background, engaged and committed, with an authentic desire to transform society. GVces activities are based on the development of public and private management strategies, policies and tools to promote sustainability for local, national and international scenarios, driven by four major pillars: (i) training activities; (ii) research and knowledge production; (iii) debates and exchange of information; and (iv) mobilization and communication.

Under this context, the Companies for the Climate (EPC) Platform, Innovation and Sustainability in the Value Chain (ISCV), Local Development and Large Projects (Local ID), and Trends in Ecosystem Services (TeSE) are GVces **Business Initiatives** for networked co-creation of strategies, tools and public and business policy propositions related to sustainability. There are addressed issues concerning local development, ecosystem services, climate, and value chain.

GVces business initiatives in 2014:



Elaboration of business agendas to adapt to climate change, with the co-creation of a framework and a tool to support its implementation; operation of the Emissions Trading System (EPC ETS), a carbon market simulation; and joint work with Business Initiatives on Climate (IEC) in international negotiations.



Joint work with Local ID on Innovation in Local Development. Construction of references and instruments to help companies incorporate sustainability in their management and relationship with suppliers.



Joint work with ISCV on Innovation in Local Development. Application of Business Guidance (BSC) for Full Protection of Children and Adolescents under the context of large projects, elaborated by the initiative in 2013.



Construction of the Corporate Guidelines for the Economic Valuation of Ecosystem Services and the Corporate Guidelines for the Reporting of Environmental Externalities; application of the methods on companies through pilot projects; and development of a calculation tool.

## MASTHEAD

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### Partnership



The 'TEEB Regional-Local: Biodiversity Conservation by Integrating Ecosystem Services in Public Policies and Business Operation' project is an initiative of the Brazilian government, coordinated by the Brazilian Ministry of the Environment (MMA), along with the Brazilian National Confederation of Industries (CNI), in the context of Brazil-Germany Cooperation for Sustainable Development. The German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) supports, as an integral part of the International Climate Initiative (IKI), the Project execution through the technical support of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

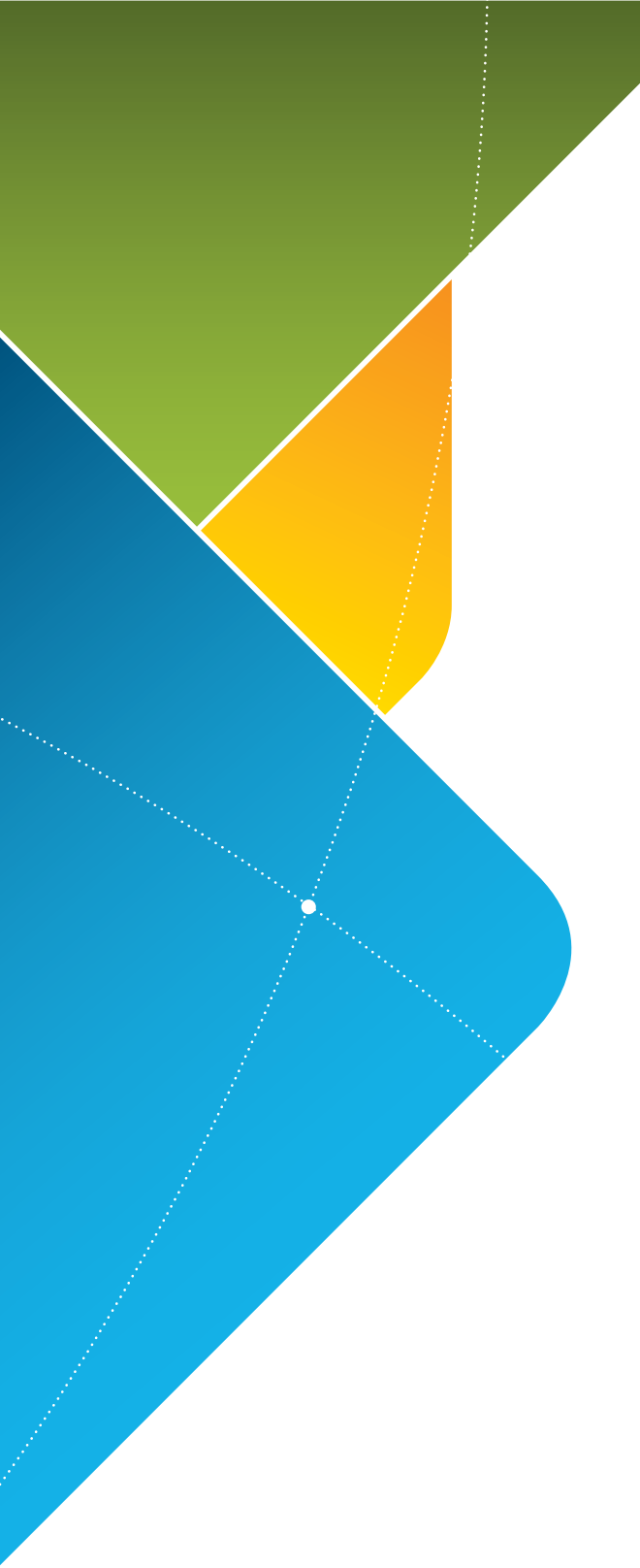
**Graphic Design**  
TheMediaGroup

## COMPANIES THAT PARTICIPATED IN THE WORKING GROUP



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## FOREWORD

The difficulty to internalize natural capital in the economy significantly contributes for ecosystem degradation and loss of biodiversity. In a business model that does not take sustainability into account, depletion of natural capital as a consequence of production processes is considered an environmental externality and, therefore, losses that affect the economic system and human welfare are not reflected in business accounting. So, it is critical to point out the relationships different sectors have with biodiversity and ecosystem services – such as water quality and stock, climate regulation, soil conservation, recreation and tourism – in such a way to foster impact mitigation strategies and adoption of best practices for production.

For businesses, considering the value of environmental externalities is also essential to manage risks and opportunities. Thinking that businesses are not isolated systems and depend on a range of natural resources, the effective use of natural capital is a necessary strategy for corporate sustainability. Given this context, economic valuation of environmental externalities becomes a powerful tool to measure performance, establish differentiated objectives, optimize processes, and monitor operational changes. Estimate values beyond the ones listed in conventional balance sheets may result in valuable information to redefine impacts, redesign products and promote efficiency and effectiveness in production processes. This type of approach will be increasingly crucial for business survival in the long term, ensuring availability of raw material, cost reduction, enhanced efficiency, product portfolio diversification, compliance with legal requirements, access to markets, and customer loyalty.

Besides, the competitive scenario and risks on image and reputation make it even more necessary to have a corporate communication system based on transparency and communication of results. Under this perspective, reporting environmental externalities is critical for businesses to communicate in an effective and productive way with their key stakeholders – employees, media, shareholders, suppliers, and service providers, as well as governmental institutions and civil society. Additionally, the communication of that type of information supports the dialogue between government and the business sector regarding elaboration of policies and tools to encourage best practices in the market. Such dialogue is essential to manage conflicts and find solutions to ensure effectiveness of investment decisions and promotion of sustainable business models.

In this context, the Ministry of the Environment, through the 'Biodiversity Conservation by Integrating Ecosystem Services in Public Policies and Business Operations' project – *TEEB Regional-Local*, has been supporting GVces initiative in Trends in Ecosystem Services (TeSE) efforts to develop innovative approaches for quantifying and reporting business environmental externalities, with the purpose of developing strategies and tools targeted at management of impacts, dependencies, risks and opportunities related to ecosystem services.

We hope this document serves as reference for the effective communication of economic valuation of environmental externalities, and that it encourages businesses to make sustainable choices when it comes to the impact of their operations, products and services, obtaining a competitive edge from strategies that incorporate conservation actions and sustainable use of biodiversity and ecosystem services.

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## GLOSSARY OF TERMS

subset of impacts, externalities in those Guidelines are considered separately.

**Impact:** The consequence of an action. It can be either positive or negative. In these Guidelines, references to impacts do not include externalities, which were defined previously and separately considered for practical reasons.

**Measurement:** The act of measuring a certain value.

**Quantify:** Measure, estimate, or calculate a certain quantitative metric, using data from other variables.

**Report:** Concise communication of the most relevant aspects to create value for an organization, according to its strategy and governance in the context of its external environment.

**Valuation:** Quantification of the value or importance of something. In the context of these Guidelines, it refers to the economic value, expressed in monetary units.

**Dependency:** Need of something to achieve a certain goal. The greater the need, the higher the dependency level.

**Ecosystem Service:** Direct or indirect ecosystem contributions for human well-being.

**Estimate:** Approximate calculation based on reference data.

**Externality:** An action taken by an agent that affects the well-being (or the production function) of another agent without any compensation paid or received. Therefore, consequences produced by the action are not reflected on market prices. They can be either positive or negative. Although they are part of a



## PRESENTATION

Accurate and transparent communication of environmental impacts is as important as the efforts to measure them. As business interrelationships increase, and so does the stakeholders' demand for corporate transparency, the range of people interested in the impacts of products and services supplied also increase, as well as the relevance of this kind of information.

Therefore, initiatives for reporting environmental impacts have emerged, and now integrate corporate communication pillars, particularly in large corporations. At first, guidelines were elaborated to report specific topics, such as air pollutants emissions, greenhouse gas emissions, water consumption, etc. More recently, stakeholders' demand has pushed businesses to enhance their reports, including other relevant, yet poorly explored environmental impacts.

Particularly relevant in this scenario are environmental impacts caused by business activities that affect third-parties and are not compensated or penalized by the market: the environmental externalities.

However, calculating environmental externalities implies a number of technical and scientific challenges, and still lacks practical estimate methods, with low cost implementation and which are not too complex for businesses to use. It is the only way to incorporate environmental externalities analyses and reports into the business planning and control routine, so they become an instrument for best practices in environmental management.

In this context, the Trends in Ecosystem Services (TeSE) initiative, launched by GVces in 2013, plays a critical role in the development of simplified methodological guidelines to elaborate economic value estimates related to ecosystem services. The result of GVces joint effort with member companies of the initiative, consolidated in the document entitled **Corporate Guidelines for the Economic Valuation of Ecosystem Services (DEVESE)**, is available at TeSE's website.

The reporting guidelines presented here provide the foundation for effective communication of economic valuation estimates of environmental externalities

related to ecosystem services. At the business discretion, the guidelines can be applied both to their own operations (direct externalities) and activities in their value chain (indirect externalities).

Communication is targeted at business stakeholders, including both their internal audience – since externalities valuation can, and should, be an important instrument to help in strategic and operational decision-making – and external audience, consisting of investors, consumers, suppliers, neighboring communities and other groups that are willing to have transparent information about the externalities produced, whether positive or negative.

Environmental externalities valuation reports under the TeSE initiative provide information that can be incorporated into more comprehensive business publications, such as sustainability reports and integrated reports, and are complementary to those tools. Thus, the reporting proposed by these Guidelines do not have the goal to replace other communication materials, but rather offer a structure that contributes to proper contextualization, summary and dissemination of the valuation study results.

The reporting guidelines proposed in this document are part of a set of instruments for Monitoring, Reporting and Verification (MRV) targeted at the economic valuation of ecosystem services. In that set, DEVESE are the monitoring guidelines. For this system to become even more robust, it is necessary to create guidelines to verify the information reported, which will convey enhanced reliability to decision making related to the management of ecosystem services.

The reporting approach described here is focused on externalities, although valuation reporting scope can be extended to the other two dimensions of the analysis proposed by the DEVESE guidelines – dependency and impact that affect the business itself – at the business discretion.

Lastly, these Guidelines will be continuously improved by TeSE, based on practical experience and on demands from member companies.

## OBJECTIVE

The main purpose of these Guidelines is to guide businesses in the elaboration of a clear and objective reporting of their estimates on the economic value of positive or negative environmental externalities, allowing for a realistic and coherent interpretation of what those estimates actually mean for businesses and their stakeholders.

The economic value estimation can be rather complex, both for quantifying environmental changes and for interpreting and sizing their economic consequences. Often, there is more than one methodological alternative for estimation and the methods adopted necessarily have their own limitations. Besides, estimates themselves are extremely dependent on the quality and the context in which data was obtained (locality, time period, existence of other internal or external events that interfere with data obtained, etc.)

Thus, an effective reporting on the economic value of environmental externalities shall clearly point relevant limitations of the methods adopted and data utilized, as well as the essential characteristics of the context in which estimates are inserted.

Hence, interpretation of the data contained in that report will be realistic and coherent, and the report, on its turn, will become an effective tool to support strategic planning and the business environmental management policy.

## GUIDANCE FOR REPORTING

The report shall be aligned with the scope determined in the planning stages of the study that produced economic value estimates. Businesses shall individually report economic value estimates for each ecosystem service analyzed, but they do not necessarily have to analyze or include all ecosystem services presented in the DEVESE guidelines or in another framework about the topic.

These reporting guidelines were based on the information produced from DEVESE 2.0. Therefore, it is recommended that planning and execution steps of environmental externalities valuation be performed according to DEVESE 2.0 and, whenever needed, with the support of the calculation tool built by TeSE initiative.

It is recommended to make the report as accurate as possible, according to the results obtained. Similar to other reporting initiatives, predetermined analyses on obtained estimates shall be avoided, in order not to bias stakeholders' opinions.

Thus, businesses should make an effort to suit the communication to the audience they are willing to target, reducing barriers to understand information and increasing the chances for interaction of the audience with the topic.

Leveraging the results obtained from the economic valuation, businesses shall elaborate a document using the following principles and structures.

## PRINCIPLES

Aiming at ensuring the quality and relevance of the information presented by organizations, it is recommended to elaborate the environmental externalities report based on the guiding principles listed here:

- Materiality
- Transparency
- Reliability
- Consistency
- Concision

### Materiality

It is recommended to target the reporting only at the communication of relevant information for businesses and their stakeholders, and information shall be directly associated with the business strategies for value creation.

Hence, non-material information shall not be reported.

### Transparency

Particularly in scenarios where reporting is voluntary, transparency shall always guide communication. The report shall be clear, neutral, comprehensible and, whenever possible, based on trackable documents, thus allowing for information checking.

It is recommended reporting organizations fully communicate all material results from the valuation study, providing relevant information to their stakeholders, regardless of their magnitude, whether the results are positive or negative.

Transparent reports allow third-parties to clearly understand the information provided, as well as the context in which it is inserted, therefore reducing the recurrence of misinterpretation of the information analysis.

### Reliability

Economic valuation results are part of an information database that supports strategic decision making for organizational management. So, it is strongly recommended that the results be produced using the best methods and data available.

This way, the better the quality of data used, the higher the reliability of the economic value estimates and, consequently, the larger the business ability to plan more effective management actions related to environmental externalities.

### Consistency

Data shall be organized and presented in such a way that stakeholders can track business performance over time. So, quantification and valuation methods shall be consistently applied at each cycle and, whenever there are changes in the methods or in the database used, they shall be communicated and described in the report.

Adopting this principle enhances businesses ability to assess their actions regarding the management of environmental externalities, besides allowing for an analysis of their positioning compared with sector and/or regional benchmarks.

Consistency also adds value to the report by promoting its institutionalization, making reporting procedures unbiased, and making them easier to be reproduced, without compromising quality, even in case the team changes.

### Concision

Reporting of externalities shall find a balance between concision and information detailing. Reporting organizations shall include sufficient information for stakeholders to understand the economic valuation context and the scope, while providing concise reporting focused on the material results obtained from the valuation study.

This means they shall seek to use a clear and objective language, avoid generic terms, or expressions that

are too technical, so as to allow all stakeholders to understand the information provided.

Reporting shall prioritize the economic valuation results. Any analyses made with the intention of facilitating understanding for stakeholders, such as the presentation of action plans for managing environmental externalities, shall be separately communicated in specific sections for that purpose.

Use of cross references and links to other documents – i.e.; sustainability reports – may contribute to keep the report concise.

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The principles adopted here for reporting ecosystem services valuation are aligned with worldwide initiatives for reporting business environmental performance<sup>1</sup>, which allows for reported information to be used in other broader reporting instruments.

Since these principles represent subjective concepts, reporting organizations shall, whenever possible, align their understanding of the principles with their stakeholders.

Additionally, and as a way to ensure reporting effectiveness, it is desirable that reporting organizations adopt a quality assessment procedure – which may include their stakeholders – to seek opportunities for ongoing improvements in the reporting of their environmental externalities.

<sup>1</sup> The initiatives mentioned include: **International Integrated Reporting Council (IIRC)**, **Global Reporting Initiative (GRI)**, **Greenhouse Gas Protocol (GHG Protocol)**, among others.





## REPORT STRUCTURE

The structure established by these Guidelines sets a logical sequence to organize information and favors the balance between the guiding principles of the report.

The report is divided into five sections, which shall preferably be individually developed for each ecosystem service reported: *Essential Information*, *Additional Information*, *Explanatory Notes*, *Analysis of the Results* and *Externalities Management*. The types of information that shall be presented in each section, as well as some examples, are described here.

### Essential Information

Essential information, directly related to the scope defined for economic valuation, is mandatory and must be presented to convey minimum consistency to the report.

This section shall include the following items: **Project Drivers**, **Description of the Ecosystem Service**, **Project Scope**, **Methods Used**, **Data Used** and **Results**.

#### Project Drivers

Brief description of the drivers that led the business to estimate the ecosystem service economic values and the applicability this information will have on their activities. You can mention here both external drivers – such as information demanded by stakeholders or compliance-related issues – and internal drivers, such as organizational policies, analyses to prospect new projects, management tools, among others.

### Description of the Ecosystem Service

Description of the ecosystem service shall be clear, objective and brief. It is recommended to use the definition presented in the most recent version of the DEVESE guidelines. In case the analyzed ecosystem service is not included in the DEVESE guidelines, reporting organizations shall present bibliographical references of the publication from where the description of the ecosystem service was extracted.

It is not desirable to include in this section information about the business interaction with the ecosystem service. Such information shall be included in the Project Scope section.

#### Project Scope

The information presented may come from different contexts: the current situation of an existing plant or project and the externalities of their installation and operation – when using a retroactive analysis – or support data to make a decision about a project that is still in the planning stage – when using a future perspective analysis.

The scope definition shall provide readers with information about:

1. The object of the project analysis
2. The geographical areas selected
3. Steps included in the business value chain
4. The type of approach used in valuation (**future perspective** or **retroactive**)<sup>2</sup>
5. The time horizon (period) selected

If the business selects a future perspective approach (*ex-ante*) for the report, the discount rate adopted shall also be reported in this section.

Further details about the items mentioned above are available in the **Study Planning** section, in the DEVESE guidelines.

<sup>2</sup> Basically, the DEVESE guidelines recommend two possible analysis approaches: prospective (or *ex-ante*), when you assess events or situations that have not occurred yet, i.e.; using a future perspective; or retroactive (*ex-post*), when you assess events or situations that have already occurred or could have occurred. For further details, please refer to the DEVESE guidelines.

### Methods Used

The economic valuation methods that were used shall be reported in this section. Reporting businesses shall only inform the name of the method, according to information available in the DEVESE<sup>3</sup> guidelines. There is no need to describe the method, since this information can be searched by report readers, because the methods indicated by the DEVESE guidelines are widely known and disseminated in the context of economic valuation.

In case reporting businesses choose to use any type of adaptation to the methods available at the DEVESE guidelines, such adaptations shall be briefly reported in that field, offering more transparency to the report and allowing for higher traceability of the information reported.

### Data Used

Critical data for economic value estimates shall be reported, paying special attention to their units of measurement. Besides, businesses must specify data characteristics, according to the classification below:

**Primary Data** – Data collected or estimated for the first time for a study with a specific goal. It can be obtained through experiments, *in loco* measurement, field monitoring networks, opinion polls, etc. It tends to be more accurate than secondary data, if collected specifically for the valuation that is being reported. This data is assumed to be local (autochthonous), otherwise it is necessary to specify it in the report.

**Secondary Data** – Data collected or estimated to meet a goal other than the one of the current project, but still useful to this project. It can be data previously collected and handled for different purposes, data made available by public agencies or research institutes, academic publication data, etc. Since that data is not specifically collected for the project, reporting businesses shall assess its representativeness for the valuation study that is going to be reported, preserving the reliability of the report.

- **Autochthonous Secondary Data** – Secondary data specific to the region covered by the project.
- **Allochthonous Secondary Data** – Secondary data not specific to the region covered by the project. It can be data from other regions with similar characteristics, or broader data – regional, state, national, global – about a specific environmental physical metric or aspect.

**Own Data** – Data belonging to the reporting business. It can be primary or secondary data.

**Acquired Data** – Data obtained through a contract with research organizations or the acquisition of private database. It can be primary or secondary data.

Priority shall be given to primary data, followed by autochthonous secondary data. It is also recommended that the references to the data presented for each ecosystem service reported are informed in the report document.

### Results

The results of the economic value estimate shall be presented in this section using the Brazilian currency (BRL).

In case any parameter used in the estimate is represented in a foreign currency, it shall be converted into Brazilian Reais, and the conversion rate adopted shall be reported in the **Additional Information** section.

Reporting of the economic valuation estimates shall specify the time horizon those estimates refer to, mention whether there was an update for future estimates to current values, and inform the discount rate used in that case.

### Additional Information

Information reported in this section shall be useful as support material to understand the results presented in the previous section. It is also mandatory and shall be as objective as possible.

Below, you will find a list of information that, when applicable, shall be reported in this section:

1. Assumptions adopted in the valuation estimates
2. Results of the physical metrics used to assess the variation in the analyzed ecosystem service
3. Methods and tools adopted to quantify physical metrics
4. Adjustments or derivation applied to the methods used to estimate physical metrics and economic values
5. Currency exchange rates.
6. Quality parameters adopted for those metrics
7. Reference to laboratory analyses and other relevant information associated with them
8. Other information reporting organizations may find indispensable to contextualize any information reported in the previous section

Effective reporting shall be self-explanatory, with little need for additional information or explanation about the results presented. So, it is recommended that reporting organizations avoid adding too much information in this section, observing the concision principle in the report.

### Explanatory Notes

In this section, you should present information that, even though not essential, contributes for readers to better understand the report that will be presented. Therefore, this is optional information.

Any specific characteristics considered relevant – such as seasonality –, as well as treatment applied to data or to data collection methods, shall be reported in this section.

Explanatory notes shall also contain bibliographical references that might have been mentioned or that are

relevant to previous sections (**Essential Information** and **Additional Information**).

It is important that reporting organizations keep the balance while reporting in that section, being particularly careful with the principles of materiality and concision.

### Analysis of the Results

Communication of economic value estimates obtained may, in some cases, require additional remarks about the relevance and context of the results obtained for business and stakeholders. This section is the right place for such remarks.

As the need for complementing is circumstantial and depends on the interpretation of reporting organizations, this section of the report is also optional.

Reporting organizations can adapt the information presented in this section according to the audience they want to target. Hence, it is possible to prepare more than one version of the reporting document, adapting the analysis of the results, the language and the level of information details to one or more specific audiences.

### Management of Environmental Externalities

This section is also optional and is aimed at the reporting of actions for management of current environmental externalities – which may include mitigation – or management of externalities that will be implemented based on the results presented.

You may include, complementarily, possible interfaces to integrate ecosystem services valuation with instruments to manage risks in the organization, referring to documents that present those actions in a more detailed format.

<sup>3</sup> A description of each economic valuation method is available in the chapter entitled 'Methods for Quantification and Economic Valuation of Ecosystem Services', in the DEVESE guidelines.

## SPECIFIC INFORMATION FOR REPORTING PER ECOSYSTEM SERVICE

Most of the information to be reported can be obtained in the DEVESE guidelines, as in the **Description of the Ecosystem Service** and **Methods Used** fields. For such reason, that information is not going to be covered in this section.

However, there is specific information about each ecosystem service<sup>4</sup> that cannot be ignored in the externalities reporting, regardless of other information reported, without compromising the critical and essential information previously mentioned.

This type of information, as highlighted here, shall be included in the **Essential Information** or **Support Information** sections. In the latter section, reporting organizations can complementarily include other data they may find relevant.

### Water Provision (Quantity)

#### Essential Information

Hydrological balance of the water used by the business

#### Additional Information

Businesses must specify the region with critical hydrological availability from where they collect water, because, according to the DEVESE criteria, this piece of information is essential to characterize externality. It is recommended that the document stating that a certain region has critical hydrological availability be referenced to through an explanatory note.

It shall be explicitly mentioned when the adopted economic valuation approach is based on environmental damage prevention costs.

If there is data available, businesses may choose to report in this section, complementarily:

- Watershed from where water is collected, name and classification of the water body from where water is collected

- Quantity of water collected from the watershed
- Quantity of water returned to the watershed
- References to scenarios adopted for hydrological availability, conflicts due to water use, and classification of consumptive use of water

### Biomass Fuel Provision

#### Additional Information

Type and local productivity of the removed economic activity, if applicable. Avoided emissions, in tCO<sub>2</sub>e, if applicable.

### Water Quality Regulation

#### Additional Information

Specify water quality parameters considered in the analysis.

It shall be explicitly mentioned when the adopted economic valuation approach is based on environmental damage prevention costs.

If there is data available, businesses may choose to report in this section, complementarily:

- Watershed from where water is collected, name and classification of the water body from where water is collected
- Levels of quality parameters in the water collected
- Levels of water quality parameters required by the business to use the collected water
- Cost of treatment(s) applied to meet the levels required by the business
- Cost of the infrastructure needed to start treating the water collected

### Regulation of Wastewater Assimilation

#### Additional Information

Specify the pollutants included in the analysis.

It shall be explicitly mentioned when the adopted economic valuation approach is based on environmental damage prevention costs.

If there is data available, businesses may choose to report in this section, complementarily:

- Water body that will receive wastewater and identification of its class
- Type of treatment applied before releasing wastewater in the body of water
- Cost of treatment and infrastructure assumed for valuation

### Global Climate Regulation

#### Additional Information

Information about global climate regulation, as indicated below, whenever possible, shall be presented separately (do not present net emissions):

- Actual emissions resulting from deforestation or environmental degradation, in tCO<sub>2</sub>e
- Actual removals resulting from environmental recovery, in tCO<sub>2</sub>e

Report the exchange rate used to convert the Social Cost of Carbon (SCC), in Brazilian Reais.

Report the information below for the avoided deforestation approach:

- Identification of the biome phytophysognomy and land use
- Area of avoided deforestation, in ha
- Deforestation rate considered as baseline
- Deforestation rate during the project (under the influence of reporting organizations)
- Avoided emissions, in tCO<sub>2</sub>e

Information on legal permission for deforestation shall only be presented in the **Explanatory Notes** section.

### Pollination Regulation

#### Additional Information

Agricultural crop(s) considered pollination dependent and areas covered in the analyses.

In case of method 1 – pollination replacement:

- Type of effort made: rental of bee hives, hand pollination, etc.

In case of method 2 – wild pollination:

- Number and size of areas considered as pollinator suppliers, and in how many and which ones a field diagnosis for bee diversity was run.
- Percentage of the area where a field diagnosis for bee diversity was run, compared with the total area considered as pollinator supplier.

### Soil Erosion Regulation

#### Additional Information

Total area assessed in erosion estimates, their different land uses<sup>5</sup> and slope (maximum altitude – altitude of the body of water) compared with the body of water used as reference for valuation.

### Recreation and Tourism

#### Essential information

Number of visitors per year.

#### Additional Information

Origins of visitors considered in the travel cost estimates and their corresponding representativeness compared with other origins (percentage of total visitors for each origin).

<sup>4</sup> For further details about each ecosystem service, as well as the units of measurement that should be used in the report, it is recommended to check the DEVESE guidelines.

<sup>5</sup> The soil classification as listed in DEVESE calculation tool can be used; it is available at TeSE website: [www.tendenciasemse.com.br](http://www.tendenciasemse.com.br)



## NEXT STEPS

These guidelines for the reporting of environmental externalities will be continuously enhanced, so as to increasingly contribute for the evolution in standardization, clarity and accuracy in the communication of this type of information.

In order to identify improvement opportunities, TeSE discussion forum is still the focal point, but contributions from other institutions and experts are mostly welcome.

This improvement effort will be aligned with the evolution of the DEVESE guidelines, also produced by TeSE, including the expansion of these guidelines in such a way that they reflect the specificities of other ecosystem services.

