



Increased transparency and documentation of private sector contributions to NDCs

Review of greenhouse-gas emissions- reporting protocols worldwide, to identify the sub-set of protocols that lend themselves to use by businesses in Latin America

Bakhtiari, Fatemeh; Puig, Daniel

Publication date:
2020

Document Version
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):

Bakhtiari, F., & Puig, D. (2020). *Increased transparency and documentation of private sector contributions to NDCs: Review of greenhouse-gas emissions- reporting protocols worldwide, to identify the sub-set of protocols that lend themselves to use by businesses in Latin America.*

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Increased transparency and documentation of private sector contributions to NDCs



Review of greenhouse-gas emissions- reporting protocols worldwide, to identify the sub-set of protocols that lend themselves to use by businesses in Latin America

September 2020

Project title:

Increased transparency and documentation of private sector contributions to NDCs

Deliverable title:

Review of greenhouse-gas emissions- reporting protocols worldwide, to identify the sub-set of protocols that lend themselves to use by businesses in Latin America

Authors:

Fatemeh Bakhtiari (UNEP DTU Partnership, UDP)

Daniel Puig (UNEP DTU Partnership, UDP)

COPYRIGHT©

This publication may be reproduced in whole or in part and in any form for educational or non-profit purposes without special permission from the copyright holder, provided acknowledgement of the source is made. UNEP DTU Partnership (UDP) would appreciate receiving a copy of any publication that uses this publication as a source. No use of this publication may be made for resale or for any other commercial purpose whatsoever without prior permission in writing from UDP.

DISCLAIMER

This publication has been produced as part of a component of the Initiative for Climate Action Transparency project (ICAT) implemented by UNEP DTU Partnership (UDP). The views expressed in this publication are those of the authors and do not necessarily reflect the views of UDP

PREPARED UNDER

The project Increased transparency and documentation of private sector contributions to NDCs supported by the Ministry of Foreign Affairs of Denmark Danida

ACKNOWLEDGEMENT:

The authors are grateful to David García (Libélula, Peru), for facilitating information regarding the reporting protocols used by the main Latin American private-sector reporters, and to Gordon Mackenzie (UNEP DTU Partnership), for comments on the approach to implementing the activity that is the object of this report.

.

REVIEWERS

Sandra Roxana Aparcana Robles

Chapter 1: introduction

To achieve the Paris Agreement's long-term goal of limiting warming to 1.5 °C above pre-industrial levels, large reductions in greenhouse-gas emissions are needed across all economic sectors. Complementing governmental efforts, the private sector is taking steps to cut its emissions of greenhouse gases. However, at present, mechanisms to account for private sector-driven emission-reductions are sub-optimal. The goal of the project is to help strengthen such mechanisms.

A number of voluntary platforms exists for businesses to disclose information concerning plant- or company-level greenhouse-gas emissions and the efforts made to reduce them. The type of information disclosed varies, as do the definitions and methods used. Consequently, comparability across individual reports is limited. Limited comparability precludes the use of the reports as benchmarking tools, and makes it difficult for governments to draw policy-relevant lessons.

As long as private-sector reporting remains voluntary, reporting platforms will continue to evolve independently, in ways where the innovation inherent to diversity may not always compensate for reduced comparability. Not least, an overview of such platforms and the associated reporting protocols is missing. As a result, companies wishing to disclose information on their greenhouse-gas emissions may find it difficult to choose, and indeed identify, the most suitable protocols.

This document presents a review of the main protocols that the private sector can use to report on its greenhouse-gas emissions. The review covers sixty-eight protocols, ranging from multi-sector to sector-specific protocols, developed by public and private actors alike. By documenting the diversity of available protocols, and describing their main features in comparative terms, the review seeks to help potential protocol users understand which protocol may be more suitable to their needs.

The remainder of this document is structured around three additional chapters. Chapter 2 describes the methodology used to identify and analyse the protocols presented in this review. Chapter 3 consists of the comparative description referred to in the previous paragraph. This description is structured around two sets of protocols: the three protocols upon which most other protocols have drawn, and the rest of the protocols. Chapter 4 provides a number of concluding remarks with regard to the impact that increased private sector reporting -- using any of these protocols -- may have with regard to promoting more and better disclosure by the private sector of climate change-related information.

Chapter 2: approach

This chapter describes the approach followed to prepare the review. The chapter is structured around three sections. Section 2.1 provides a definition of "protocol", as this is the central element of the review. Further, this section outlines the types of protocols included in the review, and those excluded. Section 2.2 summarises the methodology followed to identify, screen and analyse the various protocols reviewed. Finally, section 2.3 gives an overview of all protocols reviewed.

2.1 Scope of the review

The review focuses on protocols that can be used by businesses to report on their emissions of greenhouse gases. Here, protocol refers to an established set of generic principles or detailed procedural steps for the disclosure of data of relevance to climate-change mitigation. Protocols may be made up of obligatory elements only, or a combination of obligatory and optional elements. In addition to focusing on emissions data, protocols may also focus on measures to reduce future emissions.

Some protocols cater to specific sectors, in that they reflect the sources of emissions of the sector that is the object of the protocol. Typically, these protocols are prepared by industry umbrella organisations of the sector concerned. Although the vast majority of these protocols target economic activities such as cement manufacturing, some target specific pollutants, such as sulphur hexafluoride emissions (from power plants).

Conversely, some protocols cater to a wide range of economic sectors. These protocols favour comparability across users with regard to core reporting principles, such as the method used to calculate base-year data, and associated considerations, such as verification procedures or uncertainty management. Therefore, comparability comes at the expense of the technical detail afforded by the sector-specific protocols referred to above.

This review covers both types of protocols – sector-specific and multi-sector protocols. However, the review does not cover protocols that target emissions from cities, because only a portion of the emission sources covered by these protocols is of relevance to the private sector. Similarly, the review does not cover any of the spreadsheet-based calculators of greenhouse-gas emissions, because they lack most of the context and guidance provided by a protocol. Finally, and for the same reason, the review does not cover any of the advocacy documents that make the case for private sector disclosure of greenhouse-gas emissions data.

2.2 Methodology

The CDP (formerly, the Carbon Disclosure Project) is a not-for-profit organisation that promotes the disclosure by businesses of information of relevance to climate change mitigation, forest stewardship and water management. As of April 2020, more than 8,400 companies had disclosed to CDP. Annually, CDP releases an overview of the various reporting protocols that these companies have used to report on greenhouse-gas emissions. Because of the relatively large number of companies, located around the globe, this overview constitutes a nearly comprehensive listing of available protocols. Some of these protocols contain references to other protocols – protocols that inspired, or were inspired by, the design of a protocol in question. Drawing on this information, and eliminating redundancies, sixty-five protocols were identified to be reviewed for this report. (Annex ?)

The majority of the protocols – about four-fifths – have been developed as stand-alone products. The rest of the protocols has been created as a part of a broader reporting framework. Although this framework can be voluntary, such as The Climate Registry's, most often it is mandatory, related to national-level regulation. Legislative acts from Japan or the Republic of Korea, among others, are examples of the latter. Protocols associated with a reporting framework, especially those associated with a mandatory framework, may be difficult to use outside of the framework itself. This is because these frameworks tend to be restrictive with regard to the industrial processes considered, or the way data must be collected and reported. Nevertheless, the review includes these protocols,

because some of their features may be of interest to businesses interested in disclosing climate change-related information.

Similarly, language may be a barrier with regard to using a protocol or adopting some elements of it. Nevertheless, for the sake of completeness, protocols in languages other than English and Spanish have been included in the review.

The protocols were screened against five elements that are central to reporting on greenhouse-gas emissions at the corporate level¹:

- determining the boundaries of the reporting process;
- defining base years and calculating base-year emissions;
- identifying activity data and emission factors;
- engaging a third party to verify the reporting process;
- benchmarking performance and communicating results to stakeholders.

The screening revealed that, for most of these five elements, the majority of protocols rely on the approach proposed by three long-established protocols: the Global Reporting Initiative's "reporting requirements of emissions", the Greenhouse Gas Protocol's "corporate accounting and reporting standard", and the International Standard Organization's 14064 standard on "quantification and reporting of greenhouse gas emission removals". For this reason, the review is conducted in two parts: an extensive review of the three long-established protocols referred to above, which are themselves more extensive than the rest, followed by a lighter review of the remaining protocols. This distinction does not imply that the three protocols reviewed separately are more suitable for adoption by a given company. Indeed, suitability will likely be determined by how well a protocol aligns with the needs of a company in terms of both the envisaged scope of the reporting and the specific activities of the company.

Further to an initial screening of all protocols, two sets of parameters were identified. The first set, including twenty-one parameters (Annex 1), was used to articulate the review of the three long-established protocols (hereinafter, the primary protocols). The second set, including twelve parameters (Annex 2), was used to structure the review of the remaining protocols (hereinafter, the secondary protocols). Because the secondary protocols reproduce approaches put forward in the primary protocols, and given the large number of protocols, this two-pronged approach to the review helped eliminate repetitions.

2.3 Overview of the protocols

Table 2.1 lists the three primary protocols. Chapter 3.1 gives details on each of them, and analyses how they compare with one another across twenty-one parameters (Annex 1).

Table 2.1: Primary protocols

¹ Not least, these criteria reflect the issues that matter to managers of Latin American businesses, whose views have been elicited through a related activity in the project.

Protocol	Developer	Type of emissions covered	Language
GRI 305: Emissions	The Global Reporting Initiative	Direct	English and Spanish
The ISO 14064 standard	International Standards Organization (ISO)	Direct	English and Spanish
The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard	World Resources Institute and World Business Council for Sustainable Development	Direct	English and Spanish

The following paragraphs give an overview of the secondary protocols. The protocols are grouped according to whether they cater to multiple sectors (Table 2.2) or they are specific to one sector (Table 2.3). Chapter 3.2 gives details on each of them, and analyses how they compare with one another across twelve parameters (Annex 2).

Table 2.2: Multi-sector secondary protocols

Protocol	Origin	Public vs. private	Type of emissions covered	Linkages with a reporting framework	Language
Australia's National Greenhouse and Energy Reporting Act	Australia	Public	Direct	Yes (regulatory)	English
Bilan Carbone – generic protocol	France	Public	Direct, indirect and supply-chain	No	English
Brazil's Greenhouse Gas Emissions Protocol Programme	Brazil	Public	Direct	Unclear	Portuguese
Defra Voluntary Environmental Reporting Guidelines: Streamlined Energy and Carbon Reporting Guidance	United Kingdom	Public	Direct and indirect	Yes (regulatory)	English
Energy Information Administration's Voluntary Reporting of Greenhouse Gases Program	United States	Public	Direct	Yes (regulatory)	English
European Union's Emission Trading System: Monitoring and Reporting Regulation for Installations	Europe	Public	Direct	Yes (regulatory)	English
Japan's Act on Promotion of Global Warming Countermeasures	Japan	Public	Direct	Yes (regulatory)	Japanese
Japan's Act on the Rational Use of	Japan	Public	Direct and	Yes	Japanese

Energy			indirect	(regulatory)	
Korea's Greenhouse Gas and Energy Target Management System Operating Guidelines	Republic of Korea	Public	Direct and indirect	Yes (regulatory)	Korean
New Zealand's Guidance for Voluntary Corporate Greenhouse Gas Reporting	New Zealand	Public	Direct	No	English
Thailand's National Guideline Carbon Footprint for Organizations	Thailand	Public	Direct	No	Thai
The Climate Registry's General Reporting Protocol	North America	Not-for-profit	Direct and indirect	Yes (voluntary)	English
The Greenhouse Gas Protocol's Scope 2 Guidance	International	Not-for-profit	Indirect	No	English
The Greenhouse-gas Protocol's Technical Guidance for Calculating Scope 3 Emissions	International	Not-for-profit	Supply-chain	No	English

Table 2.2: Multi-sector secondary protocols (continued)

Protocol	Origin	Public vs. private	Type of emissions covered	Linkages with a reporting framework	Language
Tokyo's Cap-and-Trade Programme	Japan	Public	Unclear	Yes (regulatory)	Japanese
UNEP Guidelines for Calculating Greenhouse Gas Emissions for Businesses and NonCommercial Organisations	International	Public	Direct and indirect	No	English
US EPA's Greenhouse Gas Inventory Guidance for Direct Emissions from Mobile Combustion Sources	United States	Public	Direct	No	English
US EPA's Greenhouse Gas Inventory Guidance for Direct Emissions from Stationary Combustion Sources	United States	Public	Direct	No	English
US EPA's Greenhouse Gas Inventory Guidance for Direct Fugitive Emissions	United States	Public	Direct	No	English
US EPA's Greenhouse Gas Inventory Guidance for Indirect Emissions from Purchased Electricity	United States	Public	Indirect	No	English
US EPA's Mandatory Greenhouse Gas Reporting Rule	United States	Public	Unclear	Yes (regulatory)	English

Table 2.3: Sector-specific secondary protocols

Protocol	Origin	Public vs. private	Sector	Types of emissions covered	Language
American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry	United States	Private	Oil and gas	Direct	English
Association for Environmental Management and Sustainability in Financial Institutions' Indicators Standard	Germany	Private	Finance	Direct and indirect	German
Bilan Carbone - agriculture and agro-industries	France	Public	Agriculture and agro-industries	Direct and indirect	French
Bilan Carbone - airlines	France	Public	Airlines	Direct, indirect and supply-chain	French
Bilan Carbone bakeries	France	Public	Bakeries	Direct	French
Bilan Carbone - chemical industry	France	Public	Chemical industry	Direct, indirect and supply-chain	French
Bilan Carbone - cleaning industries	France	Public	Cleaning industries	Direct, indirect and supply-chain	French
Bilan Carbone - finance	France	Public	Finance	Direct and indirect	French
Bilan Carbone - furniture	France	Public	Furniture	Direct, indirect and supply-chain	French
Bilan Carbone - health sector	France	Public	Health sector	Direct, indirect and supply-chain	French
Bilan Carbone - information and communications technologies	France	Public	ICT companies	Direct, indirect and supply-chain	French
Bilan Carbone - public works	France	Public	Public works	Direct, indirect and supply-chain	French
Bilan Carbone - quarries and recycling sites	France	Public	Quarries and recycling sites	Direct, indirect and supply-chain	French

Table 2.3: Sector-specific secondary protocols (continued)

Protocol	Origin	Public vs. private	Sector	Types of emissions covered	Language
Bilan Carbone - retail	France	Public	Retail	Direct, indirect and supply-chain	French
Bilan Carbone - vineyards	France	Public	Vineyards	Direct	French
Bilan Carbone - water and sanitation	France	Public	Water and sanitation	Direct and indirect	French
Bilan Carbone - wine and spirits	France	Public	Wine and spirits	Direct, indirect and supply-chain	French
Canadian Association of Petroleum Producers' Greenhouse Gas Reporting Protocol	Canada	Private	Oil and gas	Direct	English
European Network of Construction Companies for Research and Development's Guide to Reporting	Europe	Private	Construction	Direct, indirect and supply-chain	English
Entreprises pour l'Environnement's Protocol for the Quantification of Greenhouse Gas Emissions from Waste Management Activities	France	Private	Waste management	Direct and indirect	English
Environment Canada's Reporting Protocol for Aluminium Production	Canada	Public	Aluminium production	Direct	English
Environment Canada's Reporting Protocol for Base Metals Smelting and Refining	Canada	Public	Base metals smelting and refining	Direct	English
Environment Canada's Reporting Protocol for Cement Production	Canada	Public	Cement production	Direct	English
Environment Canada's Reporting Protocol for Iron and Steel Production	Canada	Public	Iron and steel production	Direct	English
Environment Canada's Reporting Protocol for Lime Production	Canada	Public	Lime production	Direct	English
Environment Canada's Reporting Protocol for Magnesium Production	Canada	Public	Magnesium production	Direct	English
Environment Canada's Reporting Protocol for Metals Mining	Canada	Public	Metals mining	Direct	English

Table 2.3: Sector-specific secondary protocols (continued)

Protocol	Origin	Public vs. private	Sector	Types of emissions covered	Language
Environment Canada's Reporting Protocol for Sulphur Hexafluoride Emissions from Electricity Generation	Canada	Public	Electricity generation (SF ₆ emissions only)	Direct	English
European Public Real Estate Association's Sustainability Best Practice Recommendations Guidelines	Europe	Private	Real estate	Direct, indirect and supply-chain	English
European Union's Emission Trading System: Monitoring and Reporting Regulation for Aircraft Operators	Europe	Public	Aircraft operators	Direct	English
Global e-Sustainability Initiative's ICT Sector Guidance	International	Private	ICT industries	Direct and indirect	English
Hong Kong Environmental Protection Department's Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings	China (Hong Kong)	Public	Residential and commercial buildings	Direct, indirect and supply-chain	English
Innovation Center for US Dairy's Scope 3 Inventory Guidance	United States	Private	Dairy industries	Supply-chain	English
International Federation of Wines and Spirits's Greenhouse Gas Protocol and Accounting Tool	International	Private	Wine industry	Direct, indirect and supply-chain	English
IPIECA's Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions	International	Private	Oil and gas	Direct, indirect and supply-chain	English
Italian Banking Association's Reporting Guidelines	Italy	Private	Banking	Direct	Italian
Smart Freight Centre's Framework for Logistics Emissions Methodologies	International	Private	Freight transport	Direct, indirect and supply-chain	English
The Climate Registry's Electric Power Sector Protocol	North America	Not-for-profit	Power utilities	Direct, indirect and supply-chain	English
The Greenhouse Gas Protocol's Agricultural Guidance	International	Not-for-profit	Agriculture businesses	Direct and indirect	English
US EPA's Greenhouse Gas Inventory Guidance for Indirect Emissions from Events and Conferences	United States	Public	Events and conferences	Indirect	English
WBCSD's Cement Sector Scope 3 Greenhouse Gas Accounting and Reporting Guidance	International	Private	Cement production	Supply-chain	English
WBCSD's Guidance for Accounting and Reporting Corporate Greenhouse Gas Emissions in the Chemical Sector Value Chain	International	Private	Chemical industry	Supply-chain	English

Chapter 3: review of protocols

This chapter provides a review of all sixty-eight protocols identified (3 Primary and 65 secondary). The three protocols on which most other protocols draw are referred to as primary protocols (Section 3.1). The remaining sixty-five protocols are referred to as secondary protocols (Section 3.2).

3.1 Primary protocols

Box 3.A provides an overview of the three primary protocols. This section presents a review of the primary protocols. The review is structured around five key methodological aspects:

- determining the boundaries of the reporting process;
- defining base years and calculating base-year emissions;
- collecting activity data and developing emission factors;
- engaging a third party to verify the reporting process;
- benchmarking performance and communicating results to stakeholders.

Box 3.A: Overview of the three primary protocols

The Global Reporting Initiative (GRI) is a voluntary corporate sustainability reporting initiative launched in 2001 and updated in 2016. It offers guidelines to companies, which can be adapted to the sector, geographic location and size of the company. The guidelines targeting greenhouse-gas emissions (hereinafter, the GRI protocol) are applicable to direct, indirect and supply-chain emissions. These guidelines are available in English, Spanish and a number of other languages.

The ISO 14064 standard, developed by the International Standards Organization (ISO) is part of the ISO 14000 standard series, published in 2006 and updated in 2018, which provides international standards for environmental management. The ISO 14064 standard offers tools to quantify, monitor, report and verify greenhouse gas emissions. This standard can be used by businesses, but caters to governmental organisations too. The main protocol (ISO 14064-1:2018, hereinafter the ISO protocol) has been complemented by a second protocol focused on reporting project-level greenhouse gas emissions (ISO 14064-2:2019) and a third protocol focused on reporting verification (ISO 14064-3:2019). All protocols are available in English, Spanish and a number of other languages.

The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard is a protocol that can be used for reporting on corporate greenhouse-gas emissions. The protocol was developed by the World Resources Institute (WRI), a not-for profit environmental advocacy group, and the World Business Council for Sustainable Development (WBCSD), a not-for-profit coalition of multinational companies. It was first launched in 2001 and last updated in 2018. In addition to the multi-sector protocol for reporting direct emissions (hereinafter, the WRI/WBCSD protocol), WRI and WBCSD have developed protocols to account for indirect and supply-side emissions. The protocols is available in English, Spanish and a number of other languages.

3.1.1 Determining the boundaries of the reporting process

Only the WRI/WBCSD protocol provides guidance for determining the boundaries of the reporting process. Two types of boundaries can be distinguished: organizational boundaries and operational boundaries.

Organizational boundaries refers to the specific emission sources that will be subject to reporting. On this matter, the WRI/WBCSD protocol proposes two approaches: the “equity share” approach and the “control” approach. Under the equity share approach, a company accounts for the greenhouse-gas emissions from a given emission source according to its share of equity in the business, a procedure that is consistent with international financing reporting standards. Under the control approach, a company accounts fully for the greenhouse-gas emissions from any emission sources over which it has financial or operational control.

Operational boundaries refers to what constitutes direct, indirect and supply-chain emissions. On this topic, the WRI/WBCSD protocol provides definitions and examples, but does not provide guidance. Instead, the protocol suggests that the definition of operational boundaries is of a managerial nature, as opposed to a choice driven by some kind of objective analysis. It is worth noting that, even though the GRI and ISO protocols do not provide guidance for defining operational boundaries, they do provide guidance for reporting on indirect emissions (both protocols) and

supply-chain emissions (the GRI protocol). Table 3.A gives an overview of the guidance provided by each protocol with regard to direct, indirect and supply-chain emissions.

Table 3.A: guidance regarding operational boundaries

Protocol	Guidance on defining direct, indirect and supply-chain emissions	Guidance on reporting direct, indirect and supply-chain emissions
GRI protocol	None	Direct and indirect emissions (and limited guidance about supply-chain emissions)
ISO protocol	None	Direct and indirect emissions
WRI/WBCSD protocol	Some definitions and examples	Direct emissions (and separate protocols for indirect and supply-chain emissions)

3.1.2 Defining base years and calculating base-year emissions

The WRI/WBCSD protocol provides guidance on defining and calculating base years. Conversely, the GRI and ISO protocols only provide limited guidance on this topic.

The WRI/WBCSD protocol outlines the stakes associated with choosing a base year. Further, it discusses the appeal of choosing an average of annual emissions over several consecutive years, instead of using a single year.

In addition, the WRI/WBCSD protocol describes why base-year emissions may need to be recalculated. On this issue, the protocol refers to two common situations: structural changes that involve the transfer of emissions from one company to another, and methodological changes and/or improvements in data accuracy. Instances in which re-calculations are not warranted are also discussed.

3.1.3 Collecting activity data and developing emission factors

None of the three primary protocols reviewed offers guidance on how to collect activity data. Although understandable, because these protocols cater to potentially many sectors, this gap contrasts with the detailed guidance offered in many sector-specific protocols (Section 3.2), which list all potential emission sources and the associated activity data. From this point of view, sector-specific protocols can complement the guidance provided by the three primary protocols.

None of the three primary protocols reviewed provides a set of emission factors, because the protocols cater to a potentially diverse audience, made up of different types of companies in different countries: simply stated, no single set of emission factors can serve the needs of such an audience. For this reason, the protocols only provide generic guidance on this issue. The WRI/WBCSD protocol refers to its own compilation of emission factors. Some of these are generic, such as the list of carbon-dioxide emission factors by fuel, and some are country-specific, such as the lists of emission factors for carbon dioxide, methane and nitrous oxide associated with electricity-production in the United States and in China. Here too, national-level sector-specific protocols

(Section 3.2), which provide country-specific emission factors, can complement the guidance provided by the three primary protocols.²

3.1.4 Engaging a third party to verify the reporting process

A companion protocol to the ISO protocol provides guidance exclusively on verification. This companion protocol, which is not analysed here, is fully compatible with the ISO protocol. It covers issues such as validation or verification planning, assessment procedures, and the evaluation of data reported.

The GRI protocol does not provide guidance on verification. Nonetheless, the Global Reporting Initiative has prepared a guidance document that outlines the importance of verification, and the issues that a company seeking to have its report verified may wish to consider before engaging in verification.

The WRI/WBCSD protocol provides guidance on verification. This guidance includes two main sets of recommendations. First, the rationale for verification and the boundary conditions of the verification process. The latter includes issues such as the possible objectives associated with engaging in verification and the type of verifier (internal to the company versus external). Second, the types of issues that a verification process might include. Examples of these issues are the verification parameters that will be considered (from how the company's emissions inventory was prepared, to how the reporting process was managed), whether or not site visits will be included in the verification process, and the timing of the verification process. The use of the findings resulting from the verification process are also discussed.

3.1.5 Benchmarking performance and communicating results to stakeholders

None of the three primary protocols reviewed offer guidance on how to benchmark performance. This gap contrasts with the following observations:

- the WRI/WBCSD protocol and a companion protocol to the ISO protocol offer guidance on how to calculate baselines;
- the WRI/WBCSD protocol offers guidance on how to set emission-reduction targets;
- both the ISO and the WRI/WBCSD protocols offer limited guidance on uncertainty management (a companion protocol to the ISO protocol offers detailed guidance on this issue).

Presumably, the lack of guidance on how to benchmark performance may be linked, once more, to the scope of the three protocols, which cater to a potentially large and diverse set of companies, which makes it difficult to issue guidance that applies to all companies. Indeed, only the sector-specific protocols provide guidance on how to benchmark performance.³

Only the WRI/WBCSD protocol provides guidance on how to communicate the results of the reporting process. The guidance offered focuses on the types of issues that a reporter may want to include. Examples of these issues are (i) a description of the organizational and operational boundaries, (ii) the reporting period covered, (iii) the types of emissions – direct, indirect and supply-chain – included, and (iv) information on offsets, as relevant. In addition, the WRI/WBCSD protocol reflects on the need to communicate about the measures taken to avoid double-counting, and the

² Only to the extent that the emission factors applicable in the country where the protocol originates are applicable in the country where those emission factors would be used.

³ Only a small number of the sector-specific protocols do so.

importance of measuring the significance of the companies emissions. The latter can be achieved through various types of indicators, from overall emission volumes, to emissions by unit of output, among others.

3.2 Secondary protocols

Annex 3 provides a list of all secondary protocols. This section presents a review of the secondary protocols. The review is structured around four issues:

- scope of the protocols (multi-sector versus sector-specific);
- types of emissions covered (direct, indirect and supply-chain emissions);
- guidance on emission factors;
- reporting frameworks (voluntary versus regulatory).

3.2.1 Scope of the protocols

Out of sixty-five secondary protocols, twenty-one are multi-sector protocols and forty-four are sector-specific protocols. Multi-sector protocols are developed by governmental agencies (eighteen protocols) and not-for-profit organisations (three protocols). Stated differently, no businesses have been involved in the preparation of multi-sector protocols.⁴

The forty-four sector-specific protocols have been developed by different types of actors: government agencies (twenty-six protocols), businesses (fifteen protocols), not-for-profit organisations (two protocols), and a coalition formed by government agencies, businesses and not-for-profit organisations (one protocol). It is worth noting that two governments alone account for most of the twenty-six government-driven protocols: the French government (fifteen protocols) and the Canadian government (eight protocols). Stated differently, compared to governments, there is a greater diversity of businesses active in developing sector-specific protocols.

National and international industry associations have developed the fifteen business-driven protocols referred to above. That is to say, although some multinational companies develop their own reporting protocols, these protocols are not publicly available.

[GRAPHS TO BE ADDED]

3.2.2 Types of emissions covered

Protocols focus on three types of emissions: direct emissions linked to a company's own operations; indirect emissions, associated with the electricity, heat or steam sourced externally by a company; and emissions attributable to the activities of a company's suppliers. Out of sixty-five secondary protocols, twenty-four focus on direct emissions, three focus on indirect emissions, four focus on supply-chain emissions, thirteen focus on both direct and indirect emissions, and nineteen focus on all three types of emissions.⁵

⁴ The World Business Council for Sustainable Development, a not-for profit coalition of multi-national companies, has been involved in the preparation of two multi-sector protocols. This work has been carried out in cooperation with the World Resources Institute, a not-for-profit environmental advocacy group.

⁵ Two protocols provide guidance on direct emissions. In addition, they also provide limited guidance on indirect emissions. Classifying these protocols in one group (guidance on direct emissions only) or another (guidance on both direct and indirect emissions) becomes judgemental.

Among the nineteen protocols focused on all three types of emissions, eighteen are sector-specific protocols and only one caters to multiples sectors. This imbalance highlights that the life-cycle approach to reporting inherent to considering all three types of emissions is of most use when applied to a specific sector, because this makes it possible to identify concrete emission sources.

Government-driven protocols focus on direct emissions (twenty-one protocols), all three types of emissions (twelve protocols), direct and indirect emissions (seven protocols), and indirect emissions only (two protocols). Stated differently, none of the four protocols that focus on supply-chain emissions have been developed by governments: they have been developed by the private sector (three protocols) and not-for-profit organisations (one protocol).

3.2.3 Guidance on emission factors

Out of sixty-five secondary protocols, forty-five include specific emission factors. One of these protocols (prepared by the Brazilian government) includes emission factors drawn from the Intergovernmental Panel on Climate Change, which are not country-specific.

The remaining forty-four protocols provide emission factors developed nationally. The most recent among these protocols rely on emission factors developed in the country where the protocol originates. Conversely, protocols created in 2010 or earlier rely on a combination of domestically developed emission factors and emission factors used in countries with similar levels of development. In one instance (a protocol by the United Nations Environment Programme), national-level emission factors are complemented with emission factors drawn from the Intergovernmental Panel on Climate Change.

National governments or national-level industry organisations stand behind all protocols that include domestically developed emission factors. Stated differently, protocols developed by international industry organisations include no emission factors, because the potential audience of these protocols spans many countries, and no single set of emission factors would apply in all countries. In the case of government-driven protocols that include no emission-factors, the absence of emission factors is due to the multiplicity of activities included in the protocol.

3.2.4 Reporting schemes

A number of non-governmental organisations, such as the Climate Registry, run voluntary reporting schemes. Similarly, in the context of national legislation, governments may set up voluntary or compulsory reporting schemes. A reporting protocol nearly always supports the implementation of such a scheme, irrespective of whether the scheme is driven by government or by a non-governmental entity.

Out of sixty-five secondary reporting protocols, eleven support a government-driven reporting scheme and two support a reporting scheme driven by a not-for-profit organisation. In one instance (a protocol developed by the Brazilian government), it is unclear if the reporting scheme remains in use. The remaining fifty-one secondary protocols are not attached to any reporting scheme.

Among all thirteen protocols that support a reporting scheme, only three are sector-specific protocols: the remaining ten protocols are multi-sector protocols. Stated differently, nearly half of all the multi-sector protocols reviewed are attached to a reporting scheme, compared to a tiny fraction of all the sector-specific schemes reviewed.

Chapter 4: concluding remarks

Companies wishing to report on their emissions of greenhouse gases can obtain guidance from a wide range of existing protocols. A first decision entails whether to adopt an existing protocol “as is”, or develop a company’s own approach, drawing on several of the existing protocols. The choice is far from trivial. Existing protocols are tried-and-tested, and most carry a certain amount of recognition. In some instances, existing protocols even offer “seals of approval” from the protocol’s developer. Building a company’s own protocol, on the other hand, is likely to result in a more targeted approach. Not least, the process to develop a company-specific protocol helps the company increase its understanding of the reporting process. Ambitious companies could even consider a dual approach: using one of the three primary protocols for certain audiences (notably, in a communications context), and using a secondary sector-specific protocol, or a self-developed one, for other audiences (notably, in a policy-related context).

Emission factors deserve special attention, given their importance to the reporting process. None of the primary protocols provides emission factors, and only few of the secondary protocols do. Simply stated, most companies will face the challenge of developing emission factors that reflect all of the company’s industrial processes. (Note that, even for the same industrial process, technologies may vary across plants and, especially, from one regulatory area to another.) Industry organisations typically gather technology-specific data that provides a starting point for developing emission factors. To the extent that other companies in the same sector have disclosed information on their greenhouse-gas emissions, a company may draw from their reports substantial information about emission factors (and other issues). Indeed, it is no secret that the reports produced by front-runner companies have inspired reporting efforts by other companies in the same sector, as much as protocols have, if not more.

There is little documented evidence of voluntary reporting by Latin American companies. Such lack of evidence suggests that reporting rates may be low. In such a situation, a company envisaging to voluntarily disclose information on its greenhouse-gas emissions will face decisions that go beyond the predominantly technical considerations associated with the development of a report. Key among these decisions is the use of the report vis-à-vis external stakeholders, notably government and civil society, which presumably (see above) lack experience with such reporting efforts. Disclosure may attract undue criticism from civil society. Criticism can be countered by including emission-reduction targets in the report, and establishing benchmarks, showing the reporter’s performance vis-à-vis a counterfactual, and how that performance compares to the sector’s average. As for governmental stakeholders, the extent to which a report may strengthen a company’s ability to influence policy is unclear, as it depends on subjective factors (notably, the perceived robustness of the report) and policy-making traditions (specifically, the balances of power between government and industry, and between the company reporting and its non-reporting peers).

As evidenced by the introductory statements in voluntary company reports, at the very least reporting has helped increase the knowledge that companies have about their own operations. In turn, this has given company managers information about current and potential future liabilities. Wasteful energy use is among the most cited current liabilities; when it comes to potential future liabilities, companies point to the slow but steady shift toward less energy-intensive businesses.

Annex 1: parameters used to screen the primary protocols

Origin

Country of origin (“international”, if developed by a supranational entity).

Launch

Year in which the protocol’s first version was released.

Latest update

Year in which the latest update of the protocol was released.

Developers

Organisations that developed and update the protocol.

Language

Languages in which full versions of the protocol are available.

Multi-sector or sector-specific?

Protocol that caters to most type of industries versus protocol that caters to a specific industry sector.

Types of emissions covered

Emissions associated with the company’s own operations, versus emissions associated with the electricity, heat or steam sourced externally by the company, versus emissions attributable to the activities of the company’s suppliers.

Gases considered

List of all the greenhouse gases considered by the protocol.

Guidance on emission factors?

Emission factors (or guidance on how to calculate them) is provided.

Guidance on materiality?

Guidance on how to delimit the boundaries of the analysis is provided.

Guidance on setting baselines?

Guidance on how to establish counterfactual emission scenarios is provided.

Guidance on setting emission-reduction targets?

Guidance on how to set emission-reduction targets is provided.

Guidance on defining base years?

Guidance on how to identify a suitable base year is provided.

Guidance on recalculating base-year emissions?

Guidance on how to recalculate base-year emissions is provided.

Guidance on managing uncertainty?

Guidance on how to manage uncertainty is provided.

Guidance on managing double-counting?

Guidance on how to manage double counting is provided.

Guidance on establishing projections?

Guidance on how to establish projections is provided.

Guidance on verification?

Guidance on how to set up verification procedures is provided.

Guidance on benchmarking performance?

Guidance on how to identify performance benchmarks is provided.

Guidance on communicating results to stakeholders?

Guidance on how to communicate with non-technical stakeholders is provided.

User-friendly reporting software?

In addition to the protocol itself, user-friendly computer-based aids to the reporting are provided.

Annex 2: parameters used to screen the secondary protocols

Origin

Country of origin (“international”, if developed by a supranational entity).

Latest update

Year in which the latest update of the protocol was released.

Public or private?

Type of entity responsible for the protocol.

Multi-sector or sector-specific?

Protocol that caters to most type of industries versus protocol that caters to a specific industry sector.

Step-by-step guidance?

Extent to which an inexperienced user may be able to follow the indications in the protocol.

Types of emissions covered?

Emissions associated with the company’s own operations, versus emissions associated with the electricity, heat or steam sourced externally by the company, versus emissions attributable to the activities of the company’s suppliers.

Associated with a specific reporting framework?

The protocol exists as a stand-alone product, or is associated with a (voluntary or regulation-based) reporting framework.

Guidance on emission factors?

Emission factors (or guidance on how to calculate them) is provided.

English or Spanish available?

Languages in which the protocol is available.

Based on another protocol or framework?

Which (if any) of the three primary protocols was used to develop the protocol.

Electronic tools available?

In addition to the protocol itself, user-friendly computer-based aids to the reporting are provided.

Membership required?

Use of the protocol requires payment of a membership fee.