

## Research Project

# "Indirect GHG emissions calculation in Switzerland"

- Executive Summary of the Final Report -

*On behalf of the Swiss Federal Office for the Environment (FOEN)*

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## Executive Summary

Both globally and in Switzerland, the number of companies measuring indirect greenhouse gas (GHG) emissions from their value chain activities has increased in recent years. Prior to this evolution in emissions measurement, most companies reported only on the GHG emissions originating from within their premises (Scope 1) and from their electricity and district heat consumption (Scope 2). Inclusion of the emissions originating from upstream and downstream business processes – called indirect emissions (Scope 3) is relatively new. This study, mandated by the Swiss Federal Office for the Environment (FOEN), was completed to deliver a clear understanding of the current status and possible gaps in the reporting of indirect emissions throughout the value chain of Swiss companies.

### *How companies report*

This study investigated whether Swiss companies report on indirect GHG emissions, and if so, how they are reporting. In the consolidation process, 126 companies were identified for which Scope 3 reporting is likely. From this sample, 72 companies (57%) calculated indirect emissions. Most reported in accordance with the internationally recognized standard for the assessment of indirect emissions, the *GHG Protocol*, which suggests 15 Scope 3 categories (see Figure I). The study revealed that no company reports on all categories and that potentially relevant categories are omitted. These omissions are due to the fact that consolidated methods for data collection and calculation of emissions for the 15 categories, and for Scope 3 assessment in general, are lacking or are insufficient. Hence, emissions in upstream and downstream stages of companies still cannot be fully accounted for and assessed despite substantial efforts.

In addition, the study revealed that the different sectors of activity are not equally represented within the sample and those that report indirect emissions do so in varying degrees of detail. The pioneers of Scope 3 reporting are especially large, publicly traded firms – primarily from the financial and chemical sectors – and are disproportionately represented in the SMI (Swiss Market Index). It is strikingly notable that even these pioneers report primarily on upstream processes, but not on downstream emissions, which are for example triggered by investments in other companies.

| Scope 3 categories                         | Sectors | Insurance/Banking | Chemicals | Machinery | Food and Beverage Products | Other (Research & Consulting) | Other (miscellaneous) | Construction | IT and Telecom | Transportation | Retail | Textile and Leather | Other (Packaging) | Energy & water utilities | Other (Non-Profit) | Tourism and Leisure | Total |
|--|---------|-------------------|-----------|-----------|----------------------------|-------------------------------|-----------------------|--------------|----------------|----------------|--------|---------------------|-------------------|--------------------------|--------------------|---------------------|-------|
| Purchased goods and services               | 11      | 5                 | 2         | 2         | 1                          | 1                             | 2                     | 1            |                |                |        | 1                   |                   |                          |                    |                     | 26    |
| Capital goods                              | 1       | 2                 |           | 1         |                            |                               |                       | 1            |                |                |        |                     |                   |                          |                    |                     | 5     |
| Fuel- and energy-related activities        | 8       | 1                 | 3         | 2         |                            | 1                             | 1                     | 1            | 1              | 1              |        | 1                   | 1                 |                          |                    |                     | 21    |
| Upstream transportation and distribution   |         | 3                 | 1         | 1         |                            |                               |                       | 1            | 2              | 2              | 2      | 1                   | 1                 |                          |                    |                     | 14    |
| Waste generated in operations              | 11      | 5                 | 3         | 2         | 1                          |                               |                       | 1            |                | 1              |        |                     |                   |                          |                    |                     | 24    |
| Business travel                            | 14      | 8                 | 6         | 4         | 4                          | 3                             | 2                     | 2            | 2              | 2              | 2      | 1                   | 1                 | 1                        |                    |                     | 50    |
| Employee commuting                         | 4       | 4                 | 2         | 2         | 1                          |                               |                       | 1            | 2              |                |        |                     | 1                 |                          |                    |                     | 17    |
| Upstream leased assets                     |         |                   |           |           |                            |                               |                       |              |                | 1              |        |                     |                   |                          |                    |                     | 1     |
| Downstream transportation and distribution | 3       | 5                 | 2         | 2         |                            |                               |                       | 2            | 1              | 1              |        | 1                   |                   |                          |                    |                     | 17    |
| Processing of sold products                |         |                   |           |           |                            |                               |                       |              |                |                |        |                     |                   |                          |                    |                     |       |
| End-of-life treatment of sold products     |         |                   | 1         | 1         |                            |                               |                       | 1            | 1              |                |        |                     |                   |                          |                    |                     | 4     |
| Use of sold products                       |         | 1                 | 1         | 2         |                            |                               |                       | 1            | 1              |                |        |                     |                   |                          |                    |                     | 6     |
| Downstream leased assets                   |         |                   |           | 1         |                            |                               |                       |              |                | 1              |        | 1                   |                   |                          |                    |                     | 3     |
| Franchises                                 |         |                   |           |           |                            |                               |                       |              |                |                |        |                     |                   |                          |                    |                     |       |
| Investments                                |         |                   |           | 1         |                            |                               |                       | 1            |                |                |        |                     |                   |                          |                    |                     | 2     |

Figure I. The number of companies that report a Scope 3 category, by industry.

### Why companies report

In addition to the quantitative assessment of the current status of reporting, the study compiles various arguments as to why companies report on indirect GHG emissions. Upcoming regulatory requirements are assumed to have a significant impact. Relevant regulations already exist in Great Britain and France and are in preparation at the EU level. Strong incentives also derive from investors, who may request companies to report to CDP, or from major customers, which involve their suppliers in the CDP Supply Chain Programme. There are also internal incentives for reporting indirect GHG emissions. With Scope 3 reporting, climate hotspots in the supply chain (i.e., processes that emit substantial amounts of GHG emissions) can be identified. Not only regulatory risks (for example, through a future *Carbon Pricing*, by which particular energy-intensive suppliers could be affected), but even efficiency measures in the supply chain can be specifically targeted. Last but not least, due to the strong public debate on climate protection companies are motivated by mitigating risk to their brand or corporate reputation and are looking to be transparent regarding GHG emissions. This is particularly relevant for companies that are positioned as environmental leaders.

### Calculation of total emissions

To more effectively estimate of the overall impact on climate, the reported emissions for selected firms in five sectors were supplemented with calculations of the missing emission categories (see

Figure II). In most of the sectors studied, Scope 3 emissions dominate total GHG emissions. For the *Energy & Utilities* sector, however, Scope 1 & 2 emissions dominate, as is to be expected.

At the same time there are significant differences among the companies studied within a sector. Possible factors for the significant gap may be the position of the company in the value chain as well as the depth of production. For example, chemical company C (see Figure II) refers to intermediate products from suppliers, which, in comparison to chemical firms A and B, which produce the preliminary products in-house, leads to massively reduced Scope 1 & 2 emissions in percentage terms. This example illustrates that only a full reporting of all direct and indirect GHG emissions leads to results that enable a comparison of different firms.

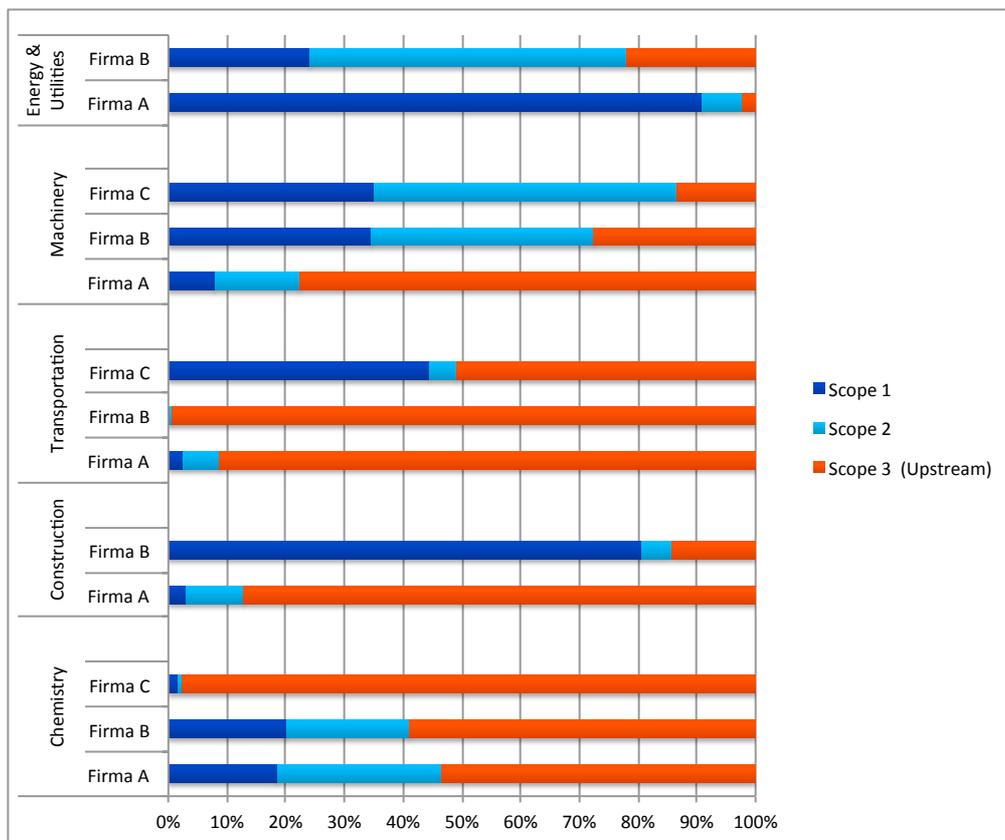


Figure II. Emissions within the firm (Scope 1 and 2) and upstream emissions (Scope 3) of selected firms in five sectors.

**Wide variety of reporting requirements**

Interest in Scope 3 is steadily rising. The multitude of new reporting standards that have emerged in the last two years has impacted this evolution. Figure III provides an overview of the approaches used for the reporting of indirect emissions. Numerous reporting initiatives provide suggestions for Scope 3 reporting. These provide only a few specific calculation methods (highlighted in bold in Figure III). If a calculation methodology is recommended in a reporting initiative, it most often refers

to the GHG Protocol. However, in the calculation methods, no specific data sources have been prescribed, resulting in the use of many different emission factors. This leads to the wide range of initiatives graphically highlighted in Figure III, which relate to various emission factors in the context of the GHG Protocol. Because the GHG Protocol plays a key role, despite the supposed diversity of initiatives, the calculations of indirect emissions in principle remain comparable if the GHG Protocol is consistently applied and comparable emission factors are used.

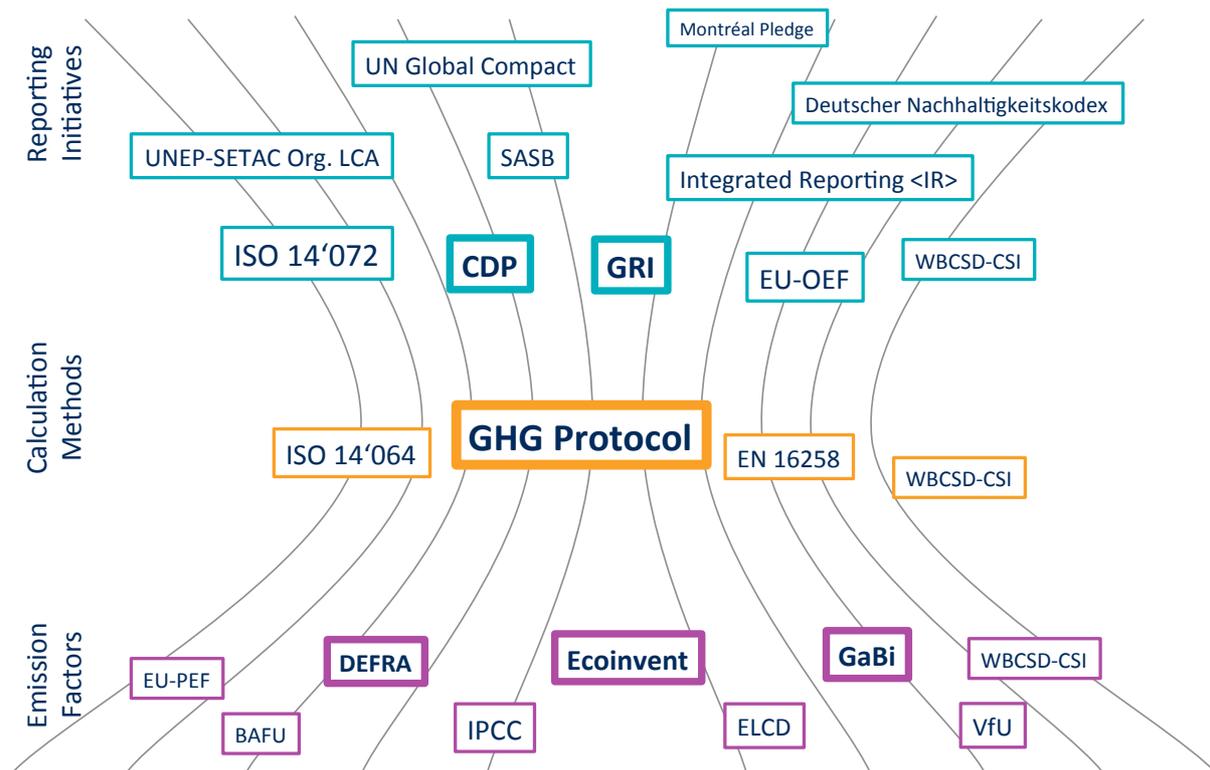


Figure III. Overview of reporting initiatives, calculations methods and emission factors. Highlighted are those initiatives, methods and factors that have been best established to date.

**Recommendations to the FOEN**

The study shows that indirect GHG emissions in many sectors are so significant that they should systematically be included in climate-protection measures (see also Figure II). Prerequisites for this include more comprehensive and reliable data. This requires both an increased uptake in reporting as well as a standardisation of reporting and calculation methods. While the GHG Protocol has become established as the internationally recognized methodical reference, there are still major differences in the implementation of the calculation methodology of the GHG Protocol: The selection of reported categories and the emission factors used for the calculation vary greatly. The FOEN can support companies in reporting Scope 3 emissions on three levels:

1. Foster existing benefits and incentives to make reporting visible and raising awareness among companies.
2. Using existing contacts within the private sector, e.g., the ETS/non-ETS system, in order to motivate these companies to report indirect GHG emissions.
3. Supporting systematic reporting:
  - A pragmatic guide can be developed for companies that will provide guidance to companies as to how the relevant Scope 3 categories can be identified and how a systematic management of Scope 3 emissions can be built through existing initiatives (e.g., GHG Protocol, CDP, industry initiatives of the WBCSD).
  - The creation of standardised calculation tools that follow the GHG Protocol and include appropriate emission factors applicable for Switzerland are recommended in order to support the data collection and calculation of emissions. These tools could, in a first phase, focus on the upstream Scope 3 categories and would further lower the obstacles for consistent and simple calculation of indirect GHG emissions.

Regulatory requirements must also be taken into account for a comprehensive reporting system. For this purpose, we recommend more detailed clarification as to the regulatory requirements of other countries in order to derive relevant success factors and proposals. Companies should use the opportunity to position themselves as pioneers, to exploit the internal benefits of Scope 3 reporting and thus to begin building an adequate reporting system. All 15 categories need not be reported in detail: Companies can focus on those categories in which potentially the highest emissions occur. So that comparability among companies can be achieved and data can be included by sectors or on a nationwide basis, it is important that companies comply with existing standards (esp. the GHG Protocol), use relevant tools, and document transparently. For standard initiatives, this means that seeking synergies with other initiatives and ensuring alignment with the GHG Protocol are crucial.

### **About Quantis**

Quantis is a global leader in sustainability and Life Cycle Assessment (LCA) expertise, services, consulting and tools. Quantis is specialized in supporting companies as they measure, understand and manage the environmental impacts of their products, services and operations. Fuelled by its close ties with the scientific community and its strong track record with clients, Quantis has proven experience in supporting clients as they transform LCA results into business strategies and operational action plans.

Quantis counts some of the world's sustainability leaders as its clients: Danone, Nestlé, Bayer, Unilever, Kraft, L'Oréal, Total, Michelin, Pfizer and the European Commission, for example. Quantis has offices in Switzerland, Germany, France, and the US and counts some internationally renowned LCA and sustainability experts as part of its team.

To learn more about Quantis, visit [www.quantis-intl.com](http://www.quantis-intl.com)

### **About BSD Consulting**

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BSD offers solutions for management, innovation and sustainable value creation by integrating sustainability in strategy, processes and company culture. The core skills of BSD are in the areas of sustainability strategy and communication, stakeholder engagement, non-financial reporting (e.g. according to GRI, IIRC, CDP, UNGC) and sustainable supply chain management (procurement processes and supplier development). BSD offers diverse trainings (e.g. largest certified training partner of the GRI) and fosters close links to research institutes, NGOs and public institutions.

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