



Inrate Climate Impact Update

Carbon Data Reflects Total Climate Impact

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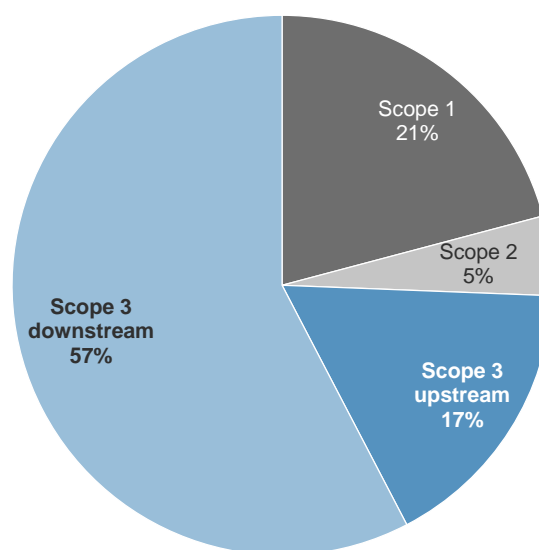
Inrate Climate Impact: Fully Updated Data

The Inrate Climate Impact product provides total carbon footprints and total carbon intensities¹ for approx. 3'200 companies² as well as climate impact analyses for investment portfolios. It is based on an impact model that was fully updated in Spring 2019 and provides science based, transparent, consistent and reliable data. It accounts for GHG (greenhouse gas) emissions along entire value chains, i.e. full scope 1, 2 and 3 emissions³, with full scope 3 upstream emissions covering supply chains and disposal as well as downstream emissions covering product usage. Inrate Climate Impact therefore allows for reliable assessments of the total climate impact of companies and investment portfolios.

Benefit of an Encompassing Climate Impact Metrics for Investors

More and more investors analyze the climate implications of their portfolios: In order to contribute to climate goals, investors need to assess the climate impact of their portfolios. Furthermore, an impact assessment is a necessary starting point to understand climate-related risks and opportunities linked to a portfolio. By accounting for climate-related risks, investors may reduce financial risks resulting from exposure, and reputational risks due to the climate impact of their assets under management. They can also profit from financial and reputational opportunities resulting from a transition to a low-carbon economy⁴.

The main drivers for this development are the 2015 Paris Agreement and civil society demanding investors' contributions. To achieve the 2°C respectively 1.5°C goal⁵ as set in the Paris Agreement, anthropogenic GHG emissions need to be reduced to net zero within the next three decades. This requires consumers, governments and businesses to substantially intensify their mitigation efforts. It will entail major structural transformations of today's economy that will have to be spurred by new regulatory environments and paradigm shifts for the economy that are currently being under way. This transformation also requires that "financial flows [are made] consistent with a pathway towards low greenhouse gas emissions and climate-resilient development"⁶.



¹ Carbon footprint is defined as the amount of annual GHG (greenhouse gas) emissions in tons of CO₂ equivalents per million USD invested (tCO₂e/mUSD), which can be allocated to the investor per million USD invested in a portfolio. Carbon intensity relates total GHG emissions attributed to an investor to the corresponding share of revenue. It is expressed in tons of CO₂ equivalents per million USD revenue (tCO₂e/mUSD). See Task Force on Climate-related Financial Disclosures (TCFD), 2017: Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures. The "total" carbon footprint resp. intensity accounts for GHG emissions along entire value chains, i.e. for full scope 1-3 emissions.

² The Inrate universe covers all listed Swiss equities and Swiss non-listed companies with outstanding debts as well as the MSCI World and MSCI Emerging Market indices.

³ Scope 1 emissions originate from sources owned and controlled by the company, such as furnaces or vehicles. Scope 2 emissions result from the generation of electricity purchased by a company. Scope 3 emissions are also caused by activities of the company but occur from sources not owned or controlled by the company.

⁴ See Zimmermann, Hurst, Schwegler, Füssler, 2019: Measuring climate related risks in investment portfolios, edited by Swiss Sustainable Finance.

⁵ The international community aims at "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels", UNFCCC, 2015: The Paris Agreement, p. 3

⁶ UNFCCC, 2015: The Paris Agreement, p. 3

A thorough climate impact analysis needs to consider economic interrelations. Therefore, it needs to include the total direct and indirect GHG emissions of for instance invested companies (scope 1, 2 and 3), as impacts and risks are being transmitted along entire product value chains – physically, technically, economically and legally. Regulatory measures such as carbon prices and emission standards can, for instance, affect car producers via higher electricity prices, loss in competitiveness of cars running with combustion engines, and legal risks when not adhering to emission standards. For the average company in the Inrate universe, upstream GHG emissions account for approx. 17% of GHG emissions, and downstream GHG emissions for approx. 57% (see Figure 1). Therefore, a complete picture necessarily comprises full scope 3 GHG emissions.

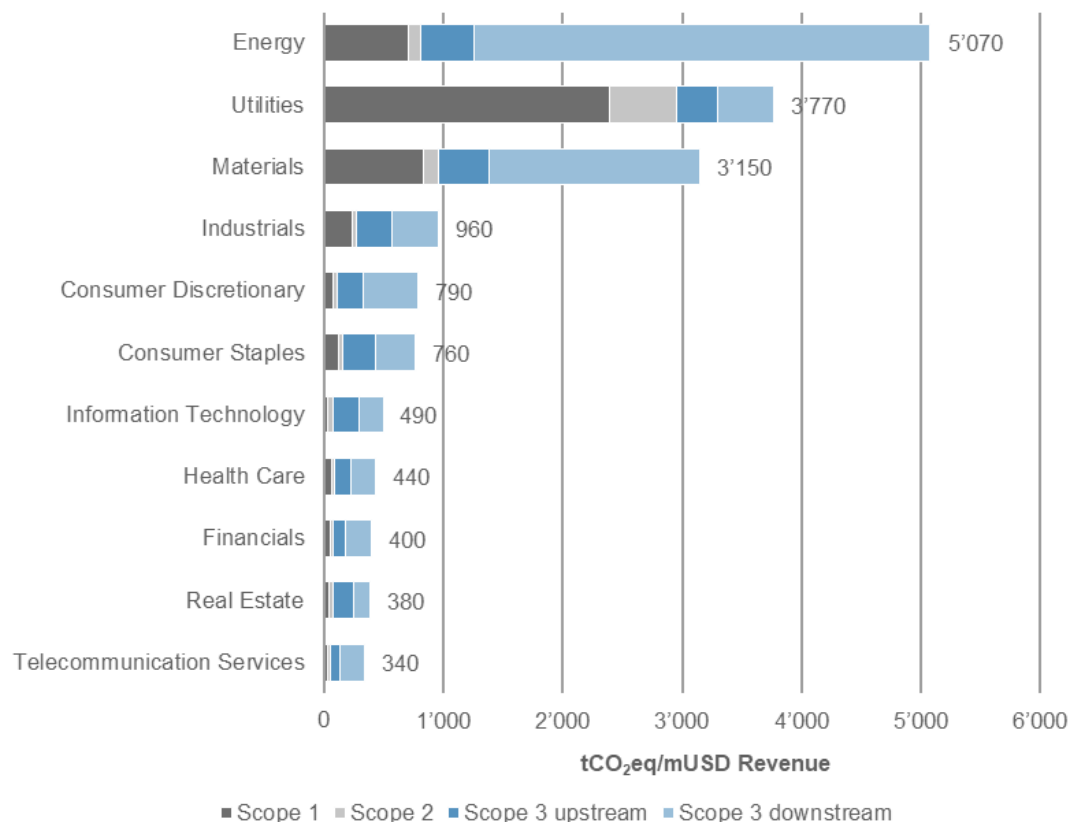


Figure 1: Contribution of different scopes to total carbon intensities for different sectors and to total GHG emission. Source: Inrate 2019: Inrate Carbon Impact Model, based on the approx. 3'200 companies in the Inrate universe.

Inrate Climate Impact Method

Inrate uses model-based estimations to calculate scope 1, 2 and 3 GHG footprints and intensities of companies. The model applies 119 GHG intensities in tonnes of CO₂ equivalents per revenue in USD for approximately 330 economic activities of the Inrate Business Activity Classification (IBAC). These GHG intensities are derived from an economic input-output life-cycle assessment. For companies in the two most GHG intensive sectors Energy and Utilities, the model values are supplemented with values based on bottom-up research on annual energy and fossil fuel production volumes as well as scientifically-based emission intensities⁷. This science-based approach allows to trace total GHG emissions embodied in goods and services used as direct or indirect input in a sector (“upstream emissions”, including supply chains and disposal) as well as GHG emissions linked to the use of direct and indirect outputs from that sector (“downstream emissions”). The resulting total carbon intensities and

⁷ The emission intensities are based on IPCC 2014: Assessment Report 5, etc.

footprints therefore account not only for direct emissions from a given economic activity but also for GHG emissions occurring along the entire supply, use and disposal chain related to that activity.

Inrate recently updated its total GHG intensities applied in the impact model based on the input-output-table “Exiobase V3”⁸, which has been developed within the EU-funded research project DESIRE (Development of a System of Indicators for a Resource Efficient Europe). The database covers 200 products as well as information on emissions of all relevant greenhouse gases (CO₂, methane, nitrous oxide, etc.). Updated intensities allow for a consistent assessment of total carbon intensities and footprints at company level.

Advantages of the Inrate Model-Based Data as Compared to Reported Data

The number of companies reporting their GHG emissions has increased in the last years. However, reported data mostly covers only scope 1 and 2 emissions and, thus, only around 26% of all GHG emissions (see Figure 1) for the average company. If scope 3 emissions are reported at all, they mostly cover small fractions of scope 3 (e.g. business travels), or they are inevitably based on inconsistent estimates by the reporting companies, as there is no global mandatory framework which defines how GHG emissions should be accounted for and no mandatory third-party verification.

Thus, a sound assessment of a portfolio’s climate implications relies on modelled data to calculate scope 3 GHG emissions accounting for important economic interrelations. Furthermore, modelled data ensures consistency and, if the model is science-based and allows for the necessary differentiation, delivers a high-quality data basis both for encompassing climate impact and risk assessments.

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⁸ www.exiobase.eu