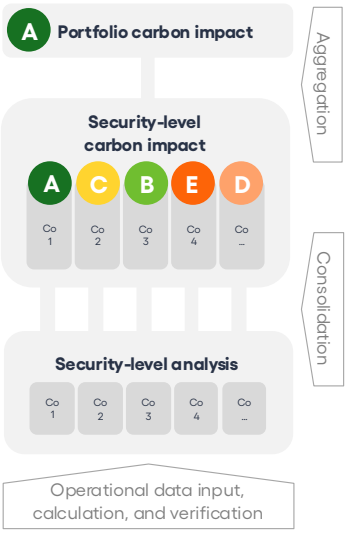
CARBON IMPACT ANALYTICS (CIA)

Assessing Transition Risks with Carbon Impact Analytics

Transition risks are financial risks associated with the process of adjusting to a low-carbon economy (e.g. regulatory changes, new technologies, new market trends). To address the need of understanding the transition risk of companies, Carbone 4 developed the Carbon Impact Analytics (CIA) methodology, which is used by Carbon4 Finance to measure the carbon footprint and assess the **exposure to transition risk of public and private companies, as well as sovereigns.** Following is a brief summary of the CIA principles and the indicators offered by Carbon4 Finance. For more details on the methodology, a complete guide is available .

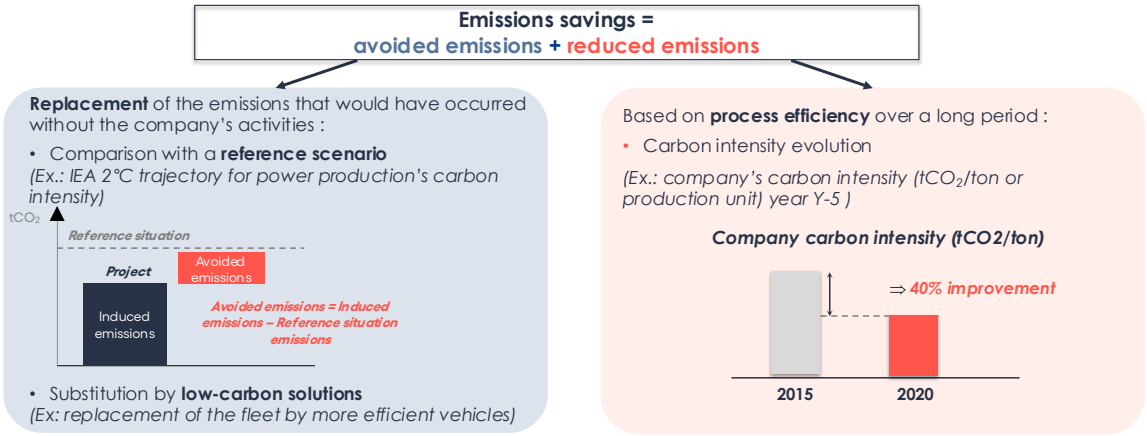
The Core Principles of Carbon Impact Analytics

Carbon Impact Analytics performs a **"bottom-up" analysis** of a portfolio's carbon performance, meaning that **each asset is analyzed individually before the results are consolidated at the portfolio level.** This approach allows for a comparison of the carbon performance of assets within the same sector, unlike methodologies that calculate the scope 3 carbon footprint based on sectoral ratios. Our bottom-up approach is based on **operational, company-specific data,** i.e. physical data, such as production volumes, production or sales locations, process energy efficiency, or supply sources. Operational data is collected from various reports published by the company. This data falls within the scope of the audit of the companies and, therefore, is considered reliable. In case physical data is not available, estimations based on financial data are used.



As **indirect emissions (categorized as scope 3) are significant for most business sectors,** it is essential to account for these to have an accurate picture of climate-related risks and opportunities. Measuring up- and downstream scope 3 emissions in a bottom-up manner, makes it possible not only to identify significant emissions, but also to differentiate between companies in the same sector. This allows to identify areas for improvement as part of a shareholder engagement strategy, or to select the best performing companies within a sector as part of an intra-sector allocation strategy.

Beyond the carbon footprint and induced emissions, it is necessary to account for a company's capacity to contribute to the climate transition. This is integrated in CIA via the calculation of emission savings. **Emission savings consist of the sum of reduced and avoided emissions:**

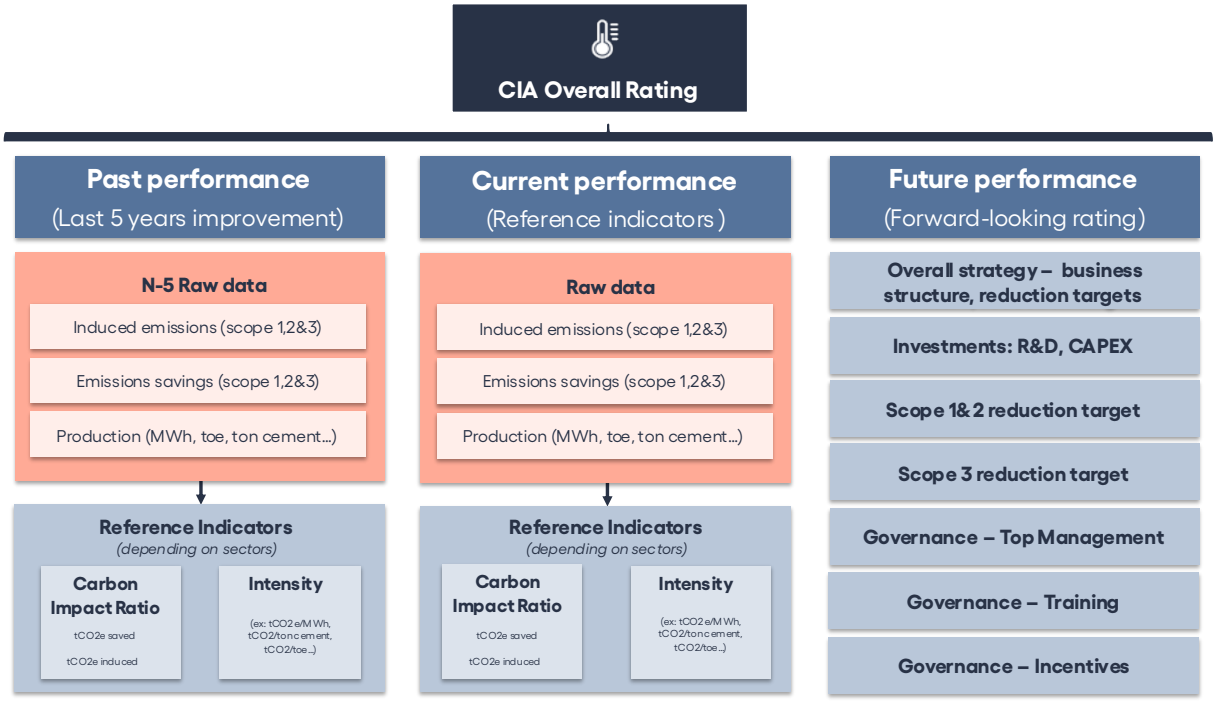


While induced emissions and emissions savings can be used to assess a company's past and current performance, CIA also reflects on the future climate related performance of analyzed companies. Therefore, a **qualitative, "forward-looking" analysis** is conducted, which asses on the decarbonization strategy and other forward-looking criteria (see figure on the overall rating).

<u>Climate indicators of Carbon Impact Analytics</u>
Besides **induced emissions** and **emission savings,** as well as the **forward-looking rating,** Carbon Impact Analytics offers additional climate indicators:

The **Carbon Impact Ratio** (CIR), the ratio of emission savings per induced emissions, allows to assess a company's relevance in relation to mitigating climate change. The higher the CIR, the more relevant the company is to the transition to a low-carbon economy.

The **Overall Rating,** ranging from A+ to E-, is **the average of the sectoral ratings** for each of a company's activity, weighted by the corresponding revenue share. It provides a comprehensive measure of a company's carbon performance and its transition risk exposure. The rating criteria are specific to each sector or sub-sector and are provided for each company. The following figure shows the general composition of the overall rating:



Depending on the sector of an analyzed company, the **Green and Brown Share aligned with the EU taxonomy** is calculated (e.g. for the power generation sector, the green share is the revenue share related to the production of electricity from renewable sources; for the mining sector, the brown share is the revenue share related to coal sales).

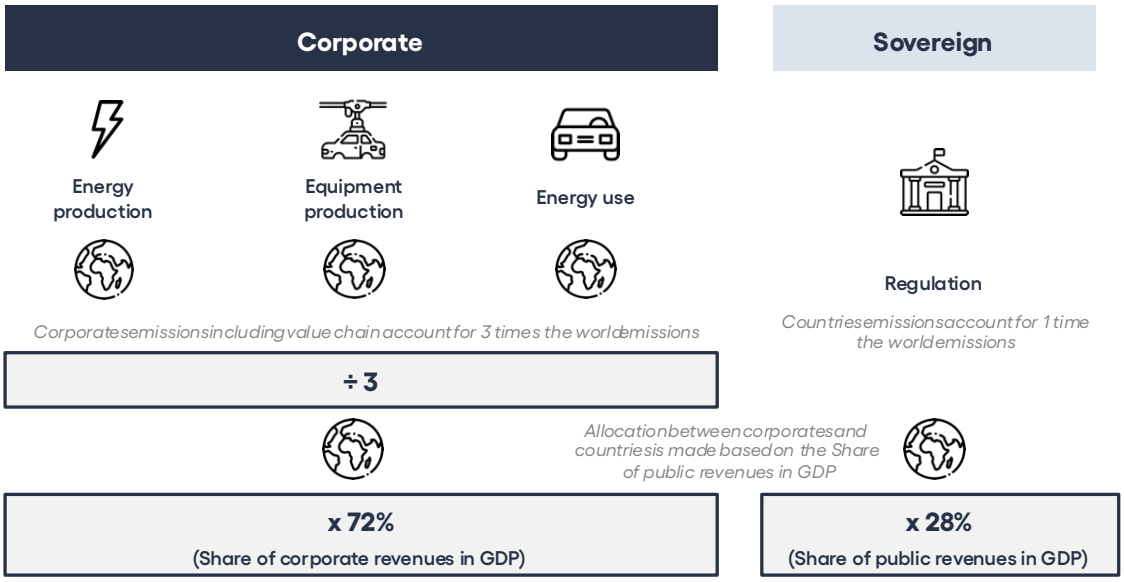
Additional sector-specific indicators include proven reserves and the downstream carbon intensity of sold products for oil & gas companies, or the Scope 1 intensity of sold electricity for power generation companies. Furthermore, **emission intensities related to financial data** (e.g. revenue, Enterprise Value, or debt in case of sovereigns) are calculated.

<u>Carbon Impact Analytics on the portfolio level</u>

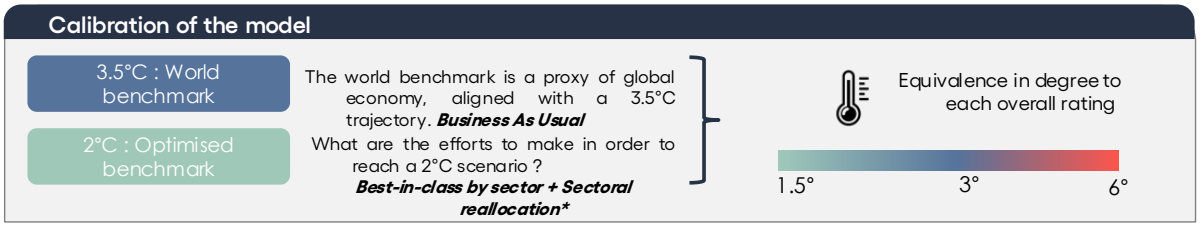
During **consolidation at the portfolio level, emissions are reprocessed to limit double counting** as much as possible, as by definition, emissions are counted three times when multiple companies are involved in the same value chain:

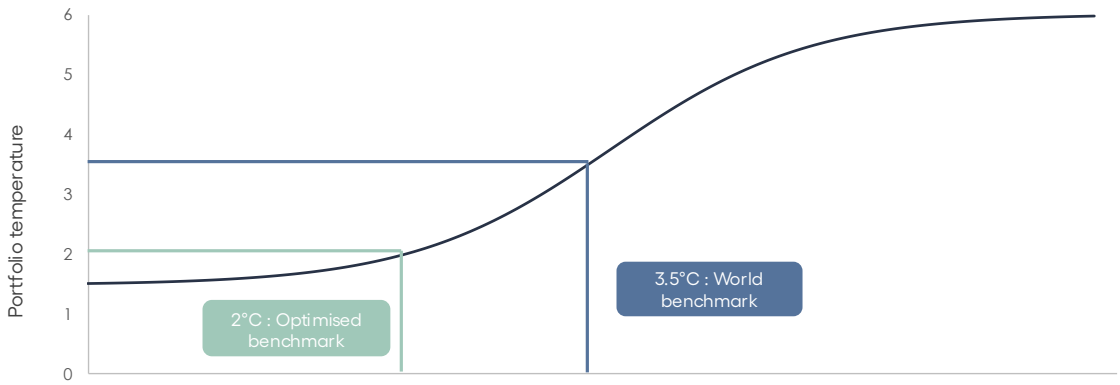
- Once at the energy production company (e.g. fuel produced by Total)
- Once at the manufacturer of energy consuming equipment (e.g. cars from PSA)
- Once at the equipment operator (e.g. fleet of cars operated by Hertz)

Corporate emissions will therefore be divided by 3 when the portfolio is consolidated to limit double counting. Additionally, we reprocess emissions to avoid double counting between corporates and sovereigns by multiplying emissions by the share of public/private revenues in GDP.



Based on the weighted average overall rating of a portfolio, the **2°C alignment of a portfolio** is assessed. This indicator enables to position the portfolio's performance between the benchmarks of 1.5°C and 6°C set by Carbone 4. The "business as usual" scenario is set in line with an average temperature increase of 3.5°C based ont the IPCC RCP6.0 scenario and will be represented by a World Large Cap Equity Index, a proxy for the global economy. The + 2 ° C trajectory will be represented by the "Euronext Low Carbon 100" index, a "CIA optimized" low-carbon index (including low-carbon pure players).





Carbon4 Finance does not currently provide an implied temperature rise (ITR) metric at entity-level, nor does it advise for the use of such metric in carbon impact or climate transition risk assessment.
Reasons are the following:

- **Proxying the world's GHG emissions trajectory with a single company is too far-fetched.** The ITR metric at entity-level implies that if the global economy follows the same GHG emissions trajectory as the entity, then the resulting temperature rise will occur. We believe that even a well-diversified company cannot proxy the complexity of the global economy, hence proxying the world's GHG emissions trajectory with the one of a single company is too far-fetched. On the other hand, albeit with numerous limitations, a well-diversified portfolio can replicate the world economy, hence why an ITR metric at portfolio-level is provided by the CIA methodology.

- **Existing scenarios prevent us from considering all corporate activities.** Computing an ITR at entity-level implies estimating its GHG emissions trajectory and comparing it to GHG emissions pathways sourced from existing climate scenarios. The current sectoral granularity of these pathways (i.e., the degree to which a GHG emissions pathway is available for each sector) does not allow us to consider all activities of a corporate.

- **An ITR metric does not give indication on the actual efforts implemented by the company to reduce its emissions.** By only considering a corporate's claims to build its GHG emissions trajectory, an ITR at entity-level does not consider past efforts made by the company, nor its actual carbon performance related to industry peers. The CIA score addresses these flaws by considering past, current and forward-looking performance. It is then used to build the ITR metric at portfolio-level.