

ADI's Product Carbon Footprint Methodology



Methodology Overview

ADI recognizes that accurate product carbon footprint (PCF) data is critical to our customers' value chains, as emissions associated with ADI products are reflected directly in customers' upstream Scope 3 emissions, reporting obligations, and decarbonization efforts. Given the current limitations in existing third-party databases that provide estimates of embodied carbon for a wide array of materials and parts, as well as the absence of a standardized semiconductor PCF methodology, ADI has developed an internal PCF approach.

ADI's PCF model applies a cradle-to-gate system boundary, inclusive of emissions from raw material extraction through manufacturing, assembly, testing, and upstream logistics, up to the point at which the finished product leaves ADI's operational boundary. Downstream use-phase and end-of-life emissions are excluded due to the intermediary nature of ADI products and the significant variability in downstream applications.

ADI applies a process-based model to calculate embodied carbon emissions. This approach is well-suited to ADI's hybrid manufacturing model, as it is designed to account for potential shifts between internal and external manufacturing while providing customers with a single, consistent product carbon footprint value. The PCF model leverages ADI's third-party-verified Scope 1, Scope 2, and upstream Scope 3 emissions, including Scope 3 Categories 1 through 8, in alignment with the Greenhouse Gas Protocol: Corporate Accounting and Reporting Standard (Revised Edition), developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). The process-based approach aligns verified corporate-level emissions to process steps, including fabrication, assembly, test, upstream logistics, and non-manufacturing activities. Rather than applying a uniform average, ADI categorizes emissions by activity type and allocates them to individual process steps using allocation drivers built on actual manufacturing data. These drivers are refreshed annually to reflect year-specific process intensity and operational conditions.

ADI's PCF model utilizes a combination of primary and secondary data sources. Supplier-specific primary data, when available, is sourced from the Carbon Disclosure Project (CDP) and undergoes a defined quality assurance and quality control process before use. If supplier data does not meet defined quality thresholds, conservative alternatives, such as regional industry-average data, are applied. Non-manufacturing emissions are included to reflect the broader operational activities that support product development and production, providing a more holistic view of emissions associated with delivering ADI products. Emissions are allocated to products using bill-of-materials data and reported in grams of CO₂e per package unit.

ADI refreshes PCF calculations annually as updated emissions inventories become available and shares product-level PCF information with select customers under NDA. While recognizing current data limitations and the evolving state of semiconductor PCF methodologies, ADI is committed to transparency, consistency, and continuous improvement of its product carbon footprint modeling over time.