



Automated Carbon Accounting for Manufacturers

Atomiton's Agentic AI Revolutionizes Carbon Tracking



Revolutionize Manufacturing Carbon Accounting with AI

As manufacturers face growing regulatory pressure, investor scrutiny, and customer expectations, accurate and scalable carbon accounting is no longer optional—it's foundational. Yet operationalizing carbon measurement across complex supply chains, multiple plants, and diverse product lines remains a major hurdle. The core challenge isn't just collecting data—it's harmonizing it across formats, systems, and methodologies while maintaining consistency and rigor.

For many, what began as a reasonable spreadsheet-based solution has evolved into a source of mounting complexity—placing an unsustainable burden on already stretched teams.

That's why Atomiton created **Carbon BOTs**: AI-powered agents that automate carbon data processing using real-world operational data from manufacturing environments. They bring structure, speed, and intelligence to carbon accounting—turning it into a reliable, auditable business function..

Carbon BOTs - A Disruptive Technology

Carbon BOTs are AI-powered agents —modular, intelligent building blocks that automate every step of carbon accounting. Each BOT is pre-configured for a specific emissions source or use case, and can operate independently or as part of a larger system. BOTs are adaptable: they accept diverse data inputs, recognize formats and units, apply the correct methodology, and generate traceable, auditable results.

With Carbon BOTs you can:



Avoid Manual Data Processing – No more wrestling with mismatched units, irregular time intervals, disparate terminologies or different data types. BOTs intelligently recognize and standardize them.



Use the Input Data You Have – Built-in conversion logic enables multiple input types to work with the same BOT, without manual restructuring.



Standardize Emission Activity Data – When multiple facilities or suppliers provide inconsistent data in various formats, units and terms, you will get consolidated and standardized emission activity data.



Adapt Methodologies to Available Data – No more hidden logic via spreadsheet formulas. Choose BOTs with pre-packaged methodologies and automated calculation.



Automate Emission Factors - No more looking up documents and tables to find the emission factors for each variation of your emission activities in each year. BOTs have the smart algorithms to do it for you.



Streamline Auditing - Every step is traceable, from raw data to output tables, with methodology documentation included.



Simplify Supplier Engagement - Suppliers can upload data via secure, simplified interfaces with minimal training required.

Emission Data Automation

Spreadsheets Are Failing Carbon Accounting

Manufacturers operate across regions with multiple factories, each using different systems and data conventions. Collecting emissions data becomes a burdensome, manual task—spreadsheet-driven, error-prone, and impossible to audit at scale. Regional formats, naming conventions, and inconsistent units make it hard to consolidate data, often forcing teams into long back-and-forth cycles with facilities or IT.

Carbon BOT-Based Solution

- ▶ **Multi-format Input Flexibility** – Each Carbon BOT can ingest data from spreadsheets, CSVs, system exports, APIs, or manual entry—without forcing a fixed structure.
- ▶ **Automatic Data Normalization** – Units, date formats, and terminology are standardized automatically, enabling seamless consolidation across plants and regions.
- ▶ **Plug-and-Play Setup for Each Site** – A BOT can be deployed per facility or region and starts working out-of-the-box with minimal configuration, adapting to local data realities.
- ▶ **Audit-Ready Documentation** – All transformations, sources, and calculations are traceable—ensuring confidence in verification or assurance audits.





Benefits

- ✓ Saves months of manual effort in data gathering and cleaning
- ✓ Improves data accuracy and consistency across sites
- ✓ Cut total operational costs by over 50%
- ✓ Free up teams to focus on strategy and core activities



Product Carbon Modeling

Product Complexity Makes Carbon Footprinting Unsustainable

Manufacturers manage thousands of parts and product configurations, with frequent design updates and engineering changes. Trying to manually calculate and maintain product-level carbon footprints across this dynamic environment is unscalable—especially when each change could alter the total emissions profile.

Carbon BOT-Based Solution



Dedicated BOT per Product Line – Each BOT is assigned to a product or product family and maintains a live model of its emissions, ready for real-time updates.



Dynamic BOM Matching – As designs change, the BOT automatically adjusts the footprint by re-mapping components and re-running calculations using the latest configuration.



Flexible Assumptions and Scenarios – Users can model different design, material, or usage scenarios—without changing code—using BOT's configurable assumptions.



Integrated Use-Phase Modeling – BOTs can calculate emissions from downstream product usage, such as energy consumption over lifespan, tied to regional energy grids.



APIs and Engineering Workflow Integration – Engineers can push updated specs or BOMs directly to the BOT through APIs or internal tools, enabling seamless collaboration.



Decision Support for Design Teams – Teams can use product-level carbon data during R&D, material sourcing, and customer negotiations—turning emissions data into an innovation tool.

Benefits

- ✓ Enhance competitiveness of product offerings
- ✓ Scales product carbon footprinting without added headcount
- ✓ Empowers design teams to make lower-carbon decisions early
- ✓ Enables faster product iterations with carbon data built-in



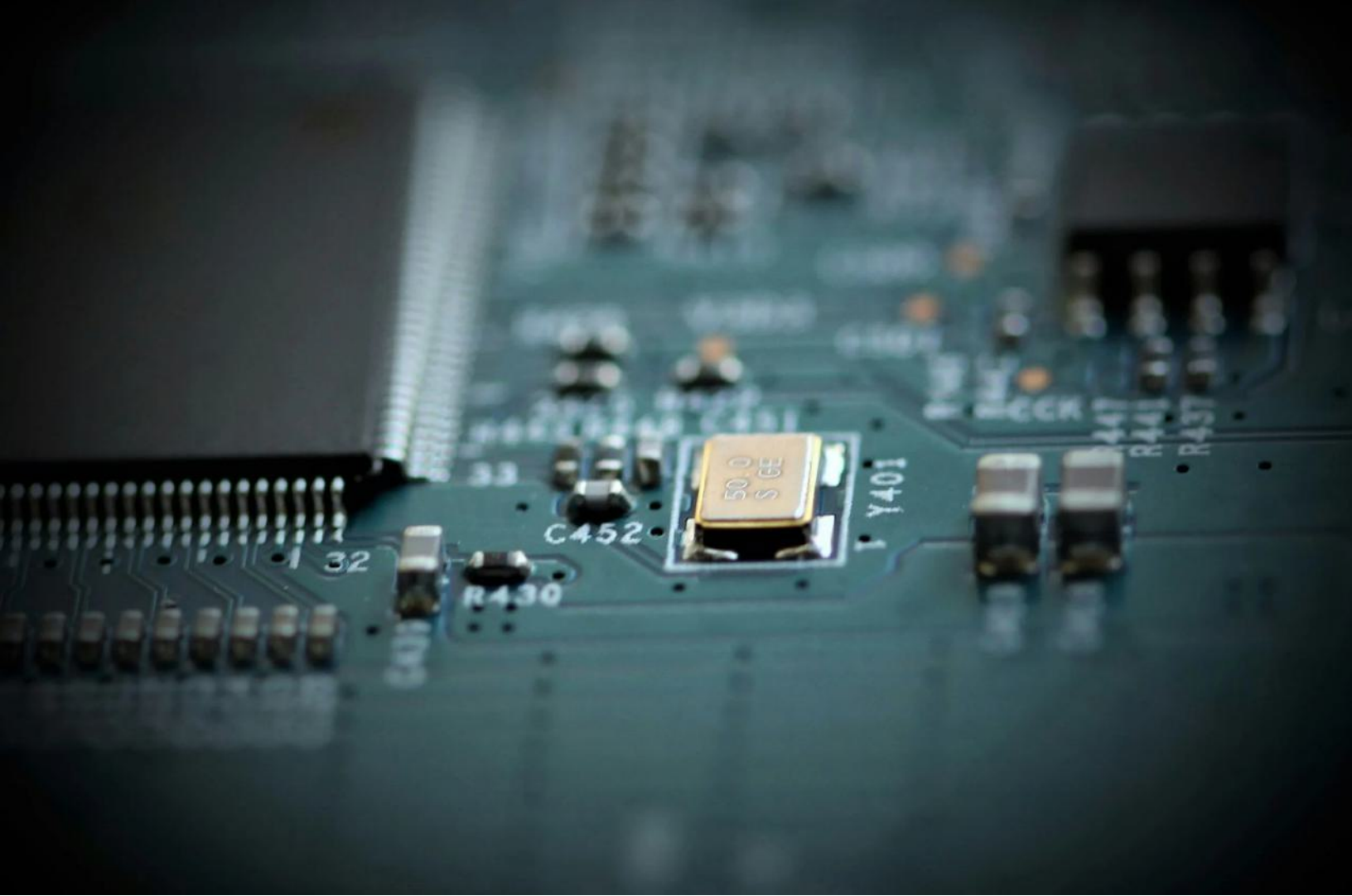
Scope 3 Data Harmonization

Rigid Methods Fail in the Real World of Supplier Data

Scope 3 reporting often relies on a mix of internal data, supplier surveys, and industry averages—each with different formats, timeframes, and levels of quality. Companies get stuck reconciling inconsistent inputs, discarding usable data, or delaying reporting due to formatting gaps. Worse, supplier participation is often low due to unclear expectations or burdensome templates..

Carbon BOT-Based Solution

- ▶ **Multiple Data Pathways Supported** – BOTs accept activity data, supplier-declared footprints, product intensities, or aggregated emissions estimates—whichever is available.
- ▶ **Supplier-Facing Portal and Templates** – Suppliers can securely upload data in whatever form they have; BOTs handle formatting, validation, and normalization automatically.
- ▶ **Data Evolution Without Rework** – As data quality improves (e.g. averages replaced with primary data), BOTs upgrade your Scope 3 inventory without disconnects.
- ▶ **Standardization Across Diverse Inputs** – Units, time periods, and terminology are harmonized automatically, making different data sources compatible in a single reporting framework.
- ▶ **Simplified Supplier Engagement** – With flexible input options and low-friction portals, more suppliers can participate.



Benefits

- ✓ Boosts supplier participation by lowering data submission barriers
- ✓ Increases completeness of Scope 3 inventory without sacrificing quality
- ✓ Eliminates rework and lower costs as data quality improves
- ✓ Enables faster progress toward Scope 3 targets



Regulatory Compliance & Customer Carbon Disclosures

Disjointed Reporting Requirements Undermine Data Confidence

Manufacturers now face multiple and evolving reporting frameworks—CSRD, SECR, CDP, customer questionnaires—all requiring overlapping but slightly different data structures. Creating multiple reports from scratch is time-consuming and increases the risk of inconsistency or audit issues..

Carbon BOT-Based Solution



Unified Data Backbone – All data generated by BOTs is stored in a structured, traceable model—enabling reuse across compliance and voluntary frameworks.



Granular Traceability – Each report can trace values back to the original source data and calculation method—ensuring audit-readiness at every level.



Data Refresh with Zero Rework – When you update a factory’s energy bill or a product BOM, the related reports are automatically recalculated and updated.



Consistent Numbers Across All Channels – Because all reports draw from the same system, numbers stay consistent—eliminating embarrassing discrepancies between reports.



Customizable Report Outputs – Format your disclosures for CSRD, CDP, or customer requests—without duplicating work.

Benefits

- ✓ Streamlined reporting for multiple frameworks and regulations
- ✓ Cut cost of reporting by over 50%
- ✓ Prevents inconsistencies across customer and investor disclosures
- ✓ Strengthens audit readiness with traceable, source-linked data

Why Manufacturers Choose Atomiton



Structured, scalable carbon accounting – Replace spreadsheets with AI-powered BOTs that bring rigor, consistency, and audit readiness across all sites and systems.



Fast deployment, minimal disruption – Go live in weeks, not months, with BOTs that adapt to your existing plant data, formats, and workflows.



Built for product and operational complexity – Model carbon footprints for dynamic product lines and distributed operations—without adding manual work.



Ready for evolving regulations – Meet CSRD, CDP, and customer disclosure requirements from a single, traceable data foundation.

[Contact Us to Learn More](#)

