

# DECONSTRUCTING ESG ANALYTICS



## WHAT DO ESG STATISTICS REALLY MEAN, AND HOW IS CO<sub>2</sub> REDUCTION CALCULATED?

Because e-waste is a growing problem around the world,<sup>1</sup> organizations are finding ways to demonstrate its growing environmental impact. Carbon calculators are tools to translate e-waste into equivalent carbon emissions impact, but understanding these calculators can be difficult, especially because many are proprietary. To understand how they are deconstructing ESG analytics, you must first understand the history of carbon tracking.



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## HISTORY OF CARBON REDUCTION TRACKING

The tracking of carbon reduction traces back to 1990s. As concerns about climate change and environmental degradation grew, governments, businesses and advocacy groups began to recognize the need for standardized metrics to measure and monitor environmental performance. Initiatives such as the Kyoto Protocol introduced international agreements aimed at reducing greenhouse gas emissions, laying the foundation for carbon reduction tracking on a global scale. Subsequently, additional frameworks, including the Greenhouse Gas Protocol, provided guidelines for calculating and reporting emissions across various sectors, including manufacturing and IT.

Over the years, advancements in technology and methods have enhanced the accuracy and reliability of carbon reduction tracking. Today, organizations leverage sophisticated tools and software platforms to monitor their carbon footprint in real time, enabling them to identify opportunities for improvement.

## UNDERSTANDING CARBON REDUCTION IN IT EQUIPMENT RECYCLING

When carbon reduction is referenced in IT equipment recycling, it pertains to the reduction of carbon dioxide (CO<sub>2</sub>) emissions associated with the manufacturing, use, and disposal of IT hardware. These emissions can arise from various stages of the product lifecycle, including raw material extraction, manufacturing processes, transportation, and end-of-life disposal.

## COMMONLY CALCULATED ESG ANALYTICS



ENERGY SAVED



EMISSIONS REDUCTION



WATER CONSUMPTION



MATERIAL RECOVERY

## TOOLS AND METHODS USED TO TRACK CARBON EMISSIONS

The EPA has developed several tools for the measuring and tracking of carbon emissions and Greenhouse Gas Equivalencies, including the Greenhouse Gas Equivalencies Calculator.<sup>2</sup> These equivalencies calculate emissions or energy data to the equivalent amount of CO<sub>2</sub>. It uses global warming potentials (GWPs) calculated from the Intergovernmental Panel of Climate Change's Fifth Assessment Report (AR5) and equivalencies calculated with the Waste Reduction Model (WARM). The calculator can convert electricity reductions, electricity consumed, gallons of diesel consumed, cars driven annually, miles driven, barrels of oil consumed, home energy use, number of seedlings grown for 10 years, land preservation, pounds of coal burned, and tons of waste recycled instead of landfilled, among others.<sup>3</sup>

The WARM tool, created by the EPA compares potential greenhouse gas emissions reductions, energy savings, and economic impacts of various materials management practices—such as source reduction, recycling, and landfilling. It does not account for air, water and sound production.

The Electronics Benefits Calculators, sponsored by the Global Electronics Council, measure the environmental impact of computer product lifecycles, from manufacturing to disposal. They consider the ecological cost of production, energy use, and end-of-life management. Proprietary e-waste carbon calculators often use elements from these tools to ensure accuracy, making detailed adjustments based on the equipment being recycled.

<sup>1</sup> United Nations Institute for Training and Research. "Global e-Waste Monitor 2024: Electronic Waste Rising Five Times Faster than Documented E-waste Recycling." Unitar.org. <https://unitar.org/about/news-stories/press/global-e-waste-monitor-2024-electronic-waste-rising-five-times-faster-documented-e-waste-recycling>

<sup>2</sup> Environmental Protection Agency. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

<sup>3</sup> Environmental Protection Agency. "Greenhouse Gas Equivalencies Calculator—Calculations and References," EPA.gov. <https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references>

## SECURE SUSTAINABILITY

## SUPPORT A CIRCULAR ECONOMY WITH CENTRICSIIT

As carbon calculation suggests, EOL is not the end for IT equipment and its component parts. By establishing ITAD programs, businesses have a secure and sustainable way to dispose of assets while getting a return on their IT investments. **For more information about our ITAD programs, contact our experts today.**