

CERius™

CARBON EMISSIONS
MANAGEMENT SOFTWARE

Stronger carbon emissions management and reporting linked to your net zero emissions strategy

CERius is an intuitive system of record to measure, manage, and operationalize insights to help energy companies with carbon emission reduction. To support organizations through the energy transition, CERius is designed to automate Greenhouse Gas Emissions (GHG) data collection, provide insights, and make suggestions to help forward carbon abatement plans.

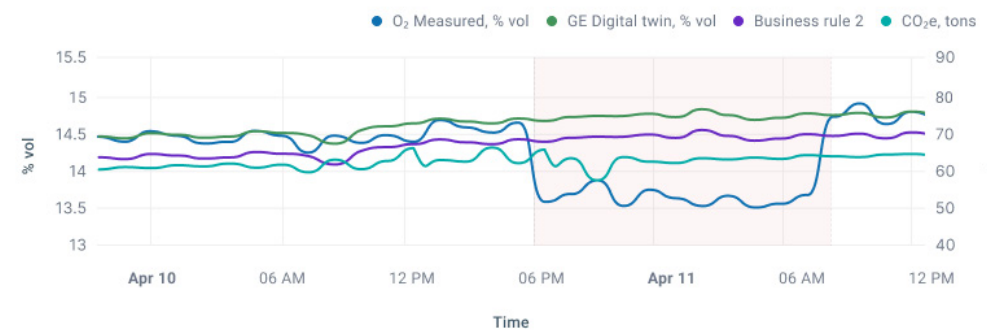
Get started



MODULES & FUNCTIONALITY

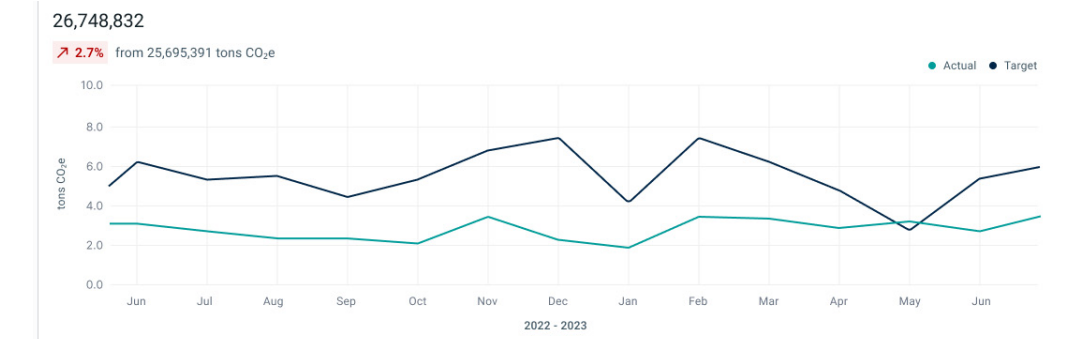
CERius software design consists of four core modules allowing users to engage with emissions data management, reporting and strategic planning. Additional analytics provide insights directly drawn from historical, current plant, and enterprise-level processes.

COLLECTION



- **Configure asset models for scope 1, 2, and 3 data** – Leverage a robust and scalable data architecture.
- **Data normalization** – Through established asset types, data visualization and reporting are aligned with standard GHG reporting frameworks.
- **Data reconciliation and analysis** – Near real-time evaluation of relevant emissions data sources using GE Vernova's digital twins – Artificial Intelligence/Machine Learning (AI/ML) based off data models, emission factors, and established business rules.
- **Automated asset alerts** – Gain situational awareness on current data quality and calculation methods. Users can sort, prioritize, and link into data collection sub-module for deeper exploration on alert drivers and exceptions to apply actionable workflows.
- **Pre-defined data collection process** – Help manage business rules, environmental factors, and data integrity. Further identify emission totals using calculation options; method, modeled, or carbon factor.
- **Carbon ledger** – Maintain a single record of emissions data changes and calculations to help improve transparency and accountability to perform flexible periodic audits – annually, quarterly, or monthly.

MONITOR



- **Dashboards and visualizations** – Get a clearer view of carbon emissions data and track progress towards goals, carbon projects and abatement targets.
- **Flexible views and timelines** – User interface provides a variety of views by user including executive high-level dashboard for annual reporting to government entities, plant level status for quarterly checkpoints, and operator views to drill down into tactical needs monthly or daily.
- **Predictive analytics and insights** – Analytics library is purpose built for energy industrials to monitor energy usage, fuel consumption, and other emissions. Receive actionable insights through details to make informed decisions to manage, track, and measure carbon emissions.
- **GE Asset Performance Management (APM) Integration*** – Deeper understanding of emissions and operation health by asset. Further integrations into GE Vernova software based on use case.

MODULES & FUNCTIONALITY CONTINUED

REPORTING

Calculated emissions

Based off of currently collected data

24.6k

Metric tons CO₂e

Last year	25.6K	↘ 2.7%
Monthly avg.	27.6K	↘ 2.7%
Target	20.6K	↘ 2.7%

Tasks

Null	40
Discrepancy	40
Missing data	40



Collection progress

Scope 1 collection	80%
Scope 2 collection	40%
Annotation collection	80%

Quarterly

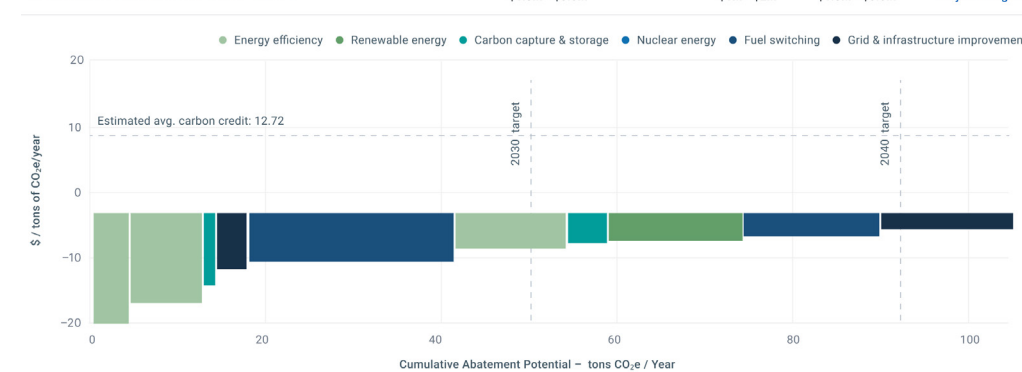
Year over year



- **Process view** – Initiate standard processes with detailed understanding of alerts and exceptions by site, unit, and asset type.
- **Data sources, projects and events** – Manage to a reporting schedule, track progress to reporting events.
- **Emissions and compliance** – Generate reports to meet compliance (including GHG Protocol) requirements, engage stakeholders, and manage internal projects and operations.
- **Benchmarking and trends** – Compare projects and locations to identify areas to improve efficiencies and reduction efforts.
- **Team collaboration** – Unify team members on processes to effectively manage emission reductions, improve efficiencies, and deploy mediation if needed.

STRATEGY*

Marginal Abatement Cost Curve



- **Decarbonization planning and projections** – Model scenarios to evaluate the effectiveness strategies and impact to help define net-zero strategy and impact.
- **Define reduction goals** - Set and track progress on annual or multi-year targets at the overall enterprise, fleet and plant levels using historical data.
- **Project risk management** - Define risk mitigating actions to ensure emissions goals are met and implement abatement projects to get back on track.
- **Baselines** – View historical collected data to compare baseline scope emissions with current year.
- **Digital Twins** – Use ML algorithms to analyze historical emissions data and identify patterns and trends to help predict future emissions.
- **Carbon reduction optimization** – Leverage AI to optimize reduction strategies using historical data, modeling, and scenario analysis.

EXPERIENCED BENEFITS



Scenario Analysis & Roadmap Decarbonization



Multi-Team Collaboration



Improved Reporting & Compliance



Accurate & Automated Data

Technical Overview

Software Deployment

CERius is delivered as a SaaS application hosted within GE Vernova's virtual private cloud partnered with AWS.

Compute and Connectivity

Existing IT infrastructure and computing devices. No additional hardware needed.

Data Collection

Data collectors are OT agnostic extracting from existing site infrastructure including Historians, data loggers supporting emission measurement devices, and maintenance management systems (SAP, Maximo, and others).

IoT Platforms and Data Lakes

Secure communication protocols (HTTPS, SFTP, MQTT with TLS) for IT data transmission seamlessly integrates with Scope 1 IoT devices and existing data lakes for scope 2 & 3 data.

Advanced Analytics

Purpose built analytics for energy companies including data quality, data reconciliation, scope 1, 2 and 3 data, exceptions and strategic.

Cybersecurity

Strong encryption SSL and TLS mechanisms are used for inbound and outbound data streams. Incorporates strong authentication access controls by user is implemented at application and data layer. This method helps monitor system access, network traffic, and user activities to identify suspicious behavior or unauthorized access attempts.

Business Applications and Systems Integration

Business Intelligence (BI) tools, DMRV systems, and existing carbon EHS platforms are possible through CERius API endpoints.

**DO MORE THAN SET TARGETS. MANAGE TO THEM.
GET STARTED. GET CERius.™**

Start now

