DATA SHEET

C3 AI Energy Management

Reduce Energy Costs and Improve Energy Efficiency

15 – 35%
decrease in energy costs through predictive analytics, optimization, and asset benchmarking

10 – 25%
reduction in GHG emissions via AI recommendations and granular visibility into scope 1 and 2 emissions

100%
end-to-end auditability of scope 1 and 2 GHG emissions via automated emission factor mapping

20,000+
facilities and 11 million smart meters monitored across customer deployments

C3 AI® Energy Management helps utilities managers reduce energy costs and emissions by identifying opportunities to improve energy efficiency. The application unifies disparate data such as energy, emissions, and sensor data, applies AI models to predict and identify efficiency opportunities and gaps, and provides equipment-level recommendations to improve energy efficiency.

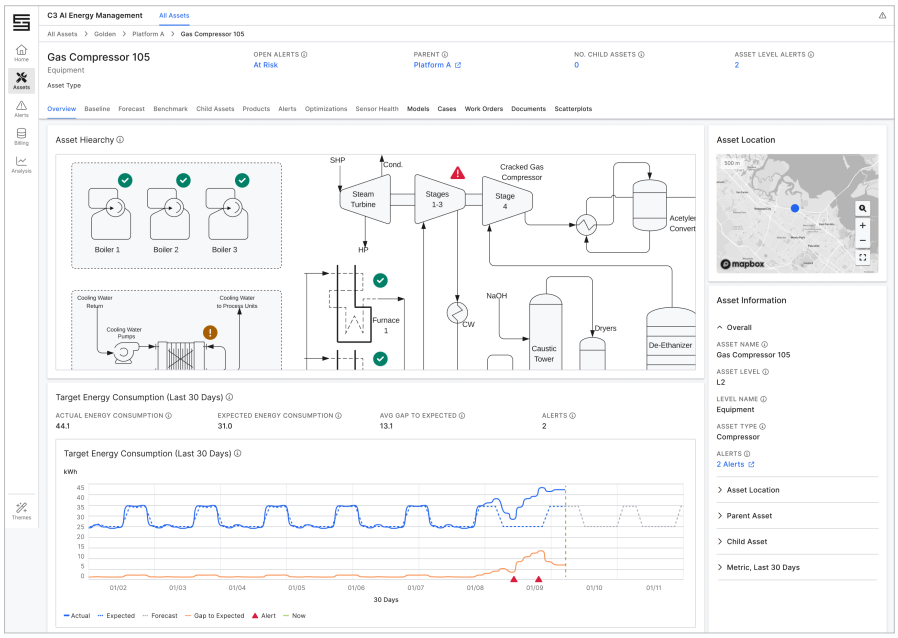

Figure 1. *C3 AI Energy Management provides energy, emissions, waste, and water analytics and optimization within and across facilities.*

Feature Summary

- **Comprehensive energy, emissions, and resource analytics** – Analyze and predict all energy, water, and waste data in near real-time at the levels of equipment, equipment lines, facilities, and products.
- **AI baselines and forecasting** – Generate baselines and forecast energy use and emissions for equipment, lines, configurations, and products, within and across plants and facilities.
- **Gap to potential analysis** – Compare individual asset performance to potential performance to uncover anomalies and prioritize opportunities for improvement.
- **Scope 1 and 2 emissions analysis** – Automatically calculate GHG emissions from fuel combustion and electricity in near real time at all levels of the business.
- **Automated emission factors** – Automatically identify appropriate emissions factors with out-of-the-box stoichiometric calculations.
- **Anomaly detection** – Utilize machine learning models to detect and address data issues, billing errors, and operational energy and emissions anomalies.

C3 AI Energy Management increases the return on investment of CapEx and OpEx projects by helping operations and sustainability teams identify and prioritize opportunities to reduce energy costs, GHG emissions, water use, and waste. The application applies machine learning on top of unified data to create forecasts, identify anomalous behavior, quantify degrading performance, and recommend repair or replace decisions to end users. Detailed evidence packages explain data drivers of AI forecasts and recommendations, visualizing predicted versus actual energy and emissions metrics and comparing to benchmarked similar assets.

The application provides integrated project management workflows that allow users to create energy cost and sustainability goals, review AI-recommended cost and emissions reduction opportunities, and track project progress toward those goals. By providing a unified application for collaboration between operators, facility managers, and corporate sustainability teams, C3 AI Energy Management creates alignment across the enterprise to reduce energy consumption, emissions, water use, and waste.

C3 AI Energy Management has been deployed across a wide range of industries including manufacturing, energy, chemicals, utilities, and facilities management for buildings, equipment, and energy infrastructure (e.g., solar generation, smart lighting, energy storage, EV charging, manufacturing lines) to optimize energy use, reduce expenditures, and lower emissions.

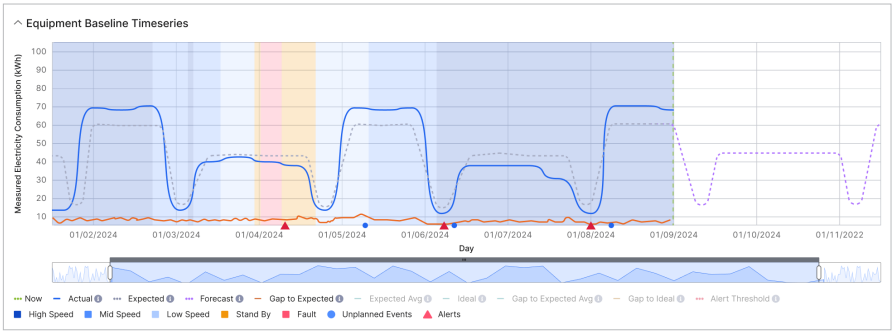

Figure 2. *With C3 AI Energy Management, utilities managers receive equipment-level recommendations to improve energy efficiency.*

Feature Summary (cont.)

- **Project measurement and verification** – Automatically track and report project impact using ML algorithms, consistent with IPMVP standards.
- **Project management and planning** – Identify, prioritize, track, and collaboratively execute a portfolio of projects and sustainability measures in accordance with ISO-50001.
- **Product carbon footprint** – Automatically calculate embedded/ embodied carbon at the individual product level.
- **Peak energy demand forecasting** – Predict peak energy loads and improve energy demand forecast accuracy, reducing demand charges and coincident peaks.
- **Line and process visualization** – Visualize manufacturing operations within and across plants with a digital twin, modeling relationships between equipment, lines, configurations, processes, and products.
- **Near real-time alerts** – Use pre-built alerts or easily configure custom alerts to respond to degraded energy efficiency.
- **Setpoint optimization** – Configure, run, and manage optimization models to find optimal setpoint handles for equipment (e.g., HVAC) to maximize energy efficiency.

Proven Results in 6-Month Pilot

Visit C3.ai/get-started