

C3 Energy Management

AI-Enabled Energy Management and Optimization to Reduce Energy Costs and Improve Building Operations

C3 Energy Management™ utilizes a machine-learning based approach to help enterprises gain visibility into their energy expenditure and prioritize actions to reduce their operational costs. The application leverages advanced AI and optimization algorithms to model building operations, detect anomalies, predict energy savings opportunities, and help facility managers take action in near real-time. C3 Energy Management is a self-service application that can be easily configured to address specific business user requirements such as alerts to building managers about energy use during non-operating hours.

C3 Energy Management creates a unified federated cloud image of data from all key sources, including energy data (e.g., meter readings, utility bills), site operational data (e.g., schedules, occupancy), telemetry signals from building systems (e.g., lighting, HVAC), and third-party data (e.g., building audits and weather). This unified data set enables multi-dimensional energy analysis, predictive analytics, building optimization, and anomalous performance monitoring. C3 Energy Management processes data in near real-time, performing continuous analyses, generating insights, and delivering recommendations through multi-channel solutions such as mobile alerts, email reports, and control signals directly to building equipment.

With a comprehensive view of data across many systems and AI-based algorithms running continuously at scale, C3 Energy Management empowers facility managers to optimize building operations, reduce utilities expenditure, and achieve sustainability objectives.

Feature Summary

- **Streaming Energy Analysis** – Develop high-level and granular insights into energy trends using configurable KPIs, benchmarking, and time series visualizations
- **Peak Demand Forecasting** – Predict peak loads with advanced AI algorithms that use streaming energy data, building data (e.g., lighting sensors, audits, operating schedules), and weather data
- **End-Use Disaggregation** – Conduct granular energy analysis with AI-based algorithms that disaggregate consumption to identify constituent end-use loads such as heating, cooling, and lighting
- **Whole Building Optimization** – Optimize energy costs, maintain comfort, and effectively utilize on-site power supply (e.g., solar) using AI-enabled techniques
- **Anomaly Detection** – Utilize AI algorithms to detect operational anomalies, data issues, and billing errors
- **Operator Engagement** - Utilize alerts, AI-enabled segmentation and targeting, energy analytics, and savings recommendations to spur action on energy efficiency and operational improvement measures
- **Measurement & Verification** – Track and report energy savings using machine-learning algorithms
- **Project Analyzer** – Assemble, prioritize, and manage a portfolio of energy capital projects that maximize financial objectives
- **Virtual Building Audit** – Enhance accuracy of building AI models and enable new analytics by collecting behavioral, operational, and building characteristic data from users



Figure 1. C3 Energy Management provides facility managers with a real-time dashboard to monitor portfolio energy usage and expenditure

Feature Summary (continued)

- **Power Purchase Analysis** – Evaluate real-time demand, on-site supply, utility tariffs, and market pricing for actionable insights participation and cost reductions
- **Self-Service Data Science** – Configure advanced analytics using self-service tools including C3 Ex-Machina
- **Interoperability** - Integrate and normalize data from any enterprise system, third-party source (e.g., weather, industry benchmarks), building system, and on-site generation source (e.g., solar, storage) using industry-standard data templates, self-service tools, and pre-built integrations. Visualize or embed insights from C3 Energy Management in existing applications or workflows through APIs.



Figure 2. With C3 Energy Management, portfolio managers can engage their occupants in energy efficiency efforts to drive behavior changes

Powerful Analytics to Enable Operational Insight, Demand Management and Cost Reductions

Benefits of C3 Energy Management include:

- **Achieve energy cost reductions of 15-30%** using predictive analytics and optimization
- **Generate more accurate demand forecasts** with tailored machine learning analytics that achieve greater than 80% accuracy
- **Increase CapEx investment ROI** by optimizing investment in building and energy infrastructure (e.g., solar, smart lighting, storage, EVs).
- **Automate facility management** with streaming analytics and AI-algorithms that predict loads to dynamically optimize building operations
- **Improve reliability** by integrating on-site power, predicting peak and outage events, and optimizing demand across buildings
- **Streamline reporting** for quarterly/annual reviews and financial audits
- **Rapidly deploy and configure solutions** using self-service tools for AI, analytics, dashboards, and data integrations

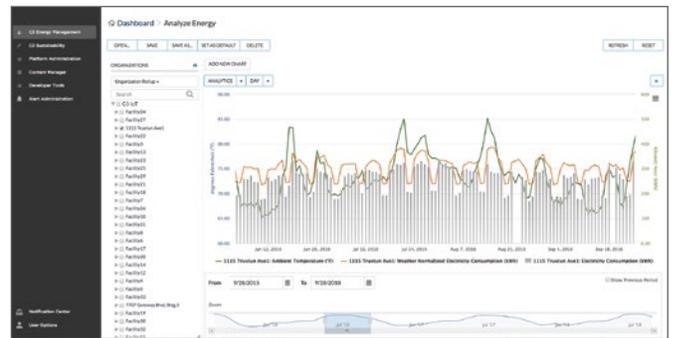


Figure 3. With C3 Energy Management, energy managers can perform ad hoc analysis of energy and operational data to identify anomalies and energy savings opportunities

Proven Results in Weeks, Not Years

Complete a low-cost, low-risk production trial of the C3 Energy Management™ in just 8–12 weeks. Validate the economic value before expanding into full production use. Learn more at www.C3.ai.