



In today's environment, facilities face the constant pressure to reduce energy consumption and costs.

The challenge is how to quickly start collecting, reporting and analyzing energy consumption data from often multiple sources and buildings to identify immediate energy saving opportunities and drive your long-term master plan.

Identify Energy Saving Opportunities

Ameresco's Building Dynamics Energy Management Software is an opportunity identification and performance tracking platform that provides a multi-dimensional analysis of building consumption data aiming to expose new energy saving opportunities. Building Dynamics offers a tiered system of software including [Tier 1: Monitoring and Reporting](#), which provides initial visibility and accountability to identify low cost/no cost solutions and [Tier 2: EMS Optimization](#), which automates analysis and supervision of Energy Management System set points and data to identify faults and other savings opportunities.

Tier 1: Monitoring and Reporting gives users the initial data critical to identify low/no cost savings and guide large, comprehensive ECM projects to reach both cost saving and sustainability goals. It provides customers with a portfolio of buildings the ability to consolidate all their commodities consumption (monthly billing and interval data) into a central repository, reducing time aggregating and analyzing building data across the portfolio. The Monitoring and Reporting software can track the consumption of multiple commodities including electricity, gas, water, chilled and hot water, steam and others. It reveals building consumption patterns and identifies buildings that should be investigated further for energy saving opportunities. It tracks progress towards meeting cost reduction and energy efficiency goals. There is also a public dashboard option to promote energy efficiency actions and behavioral change across campuses.

Features

Online monitoring of utilities (electric, gas, water and others) on a monthly and 15 minute interval data level. The data of these utilities is gathered into a single repository from where it can be analyzed and reported in a variety of ways.

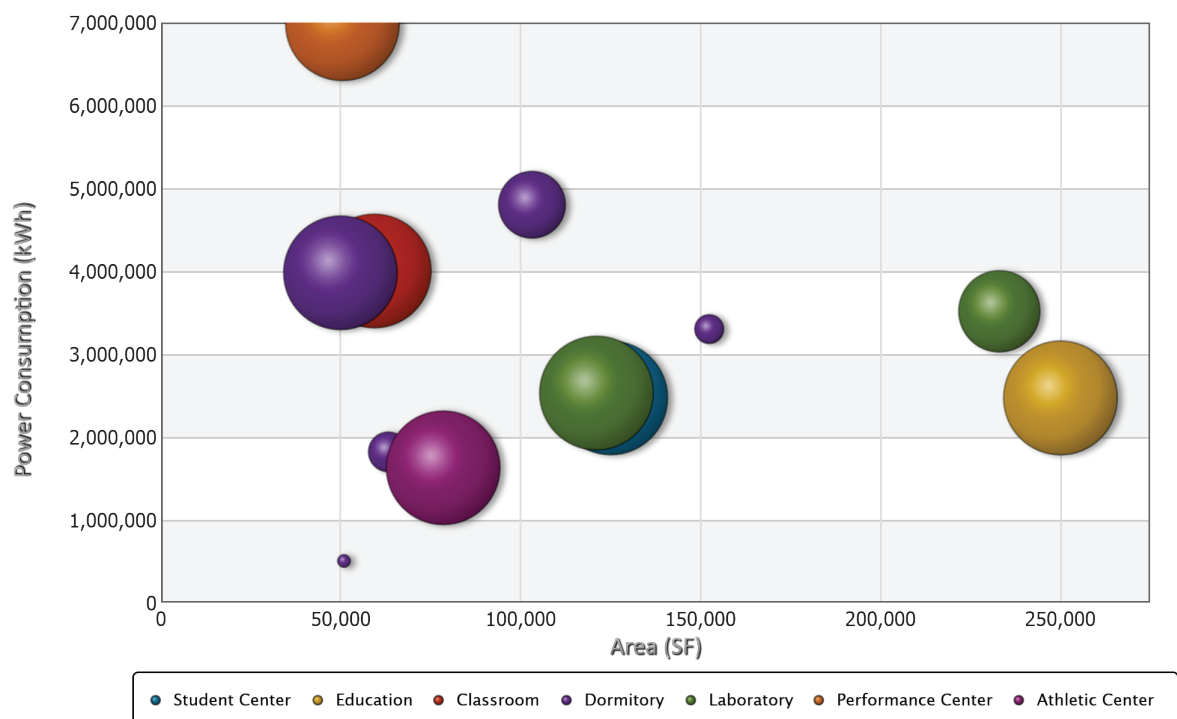
The analytics package offered with this service allows users to:

- Generate consumption reports across fiscal years
- Visualize and browse through real-time and historical data
- Import/Export data to Excel or extract as PDF
- Benchmark and compare buildings against other buildings in the portfolio and against the EPA Energy Star database
- Set and track goals
- Perform demand analysis
- Generate alerts for anomalies and changes in the building's consumption patterns
- Identify energy efficiency opportunities from interval data
- Create weather-normalized consumption reporting and comparisons

Monitoring and Reporting analyzes consumption at two levels: **Utility bill analysis** performs a high level assessment of building performance by computing a weather-normalized baseline and comparing the buildings to other buildings within the portfolio. This analysis can provide an initial estimate for the savings potential for each building using comparisons from other buildings together with a set of assumptions. **Interval data analysis** takes a closer look at 15 minute interval data to identify opportunities from schedules and configuration issues. This analysis is also used to qualify which buildings should be audited further.

Identify Low Cost Energy Saving Measures

The portal allows the normalized comparison of buildings together with an analysis of their performance with respect to changes in the weather, building size, occupancy and other independent variables. Energy intensity comparisons can be done across building types for the annualized performance before zooming into comparisons and the monthly and interval data levels.



Benefits

Discover high-level opportunities as a starting off point to achieve cost reduction and energy savings goals

Reduce time aggregating and analyzing building data across the portfolio

Identify buildings with energy saving opportunities

Track progress towards meeting cost reduction and energy efficiency goals

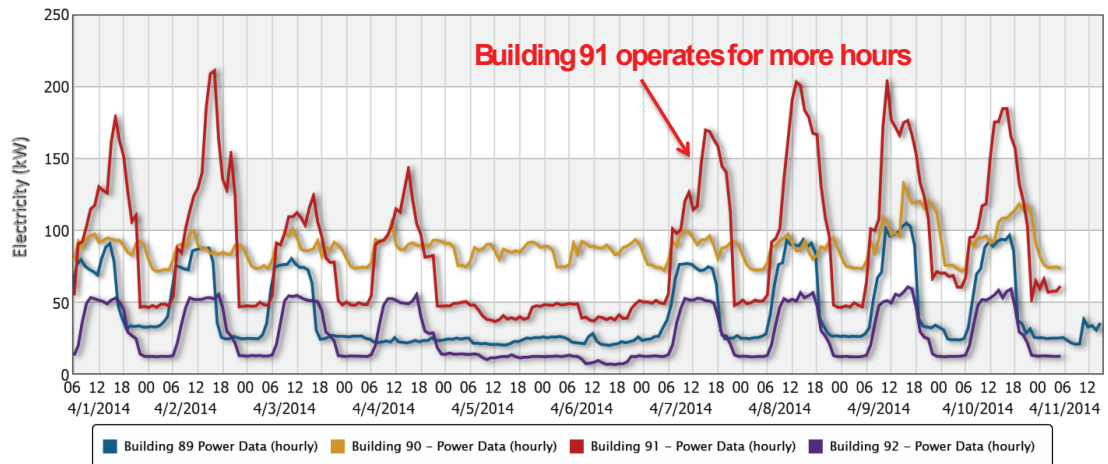
Understand building consumption patterns and answering key questions including:

- Are there anomalies in energy consumption within the building portfolio?

- When does peak demand occur?
- Which buildings should be looked at first for potential low cost/no cost energy saving solutions?
- Are building systems unnecessarily running 24/7?

Identify buildings with energy saving opportunities

The comparison of buildings at the interval data level can help identify low-cost measures such as differences in schedules, consumption anomalies and comparison inconsistencies that can trigger further investigation of a particular building.



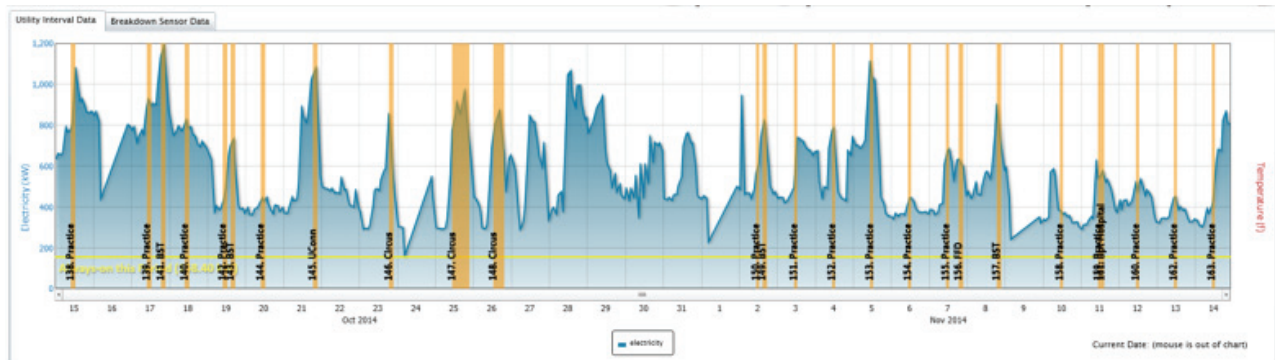
Track Commodity Usage

Commodity usage (electric, gas, water and others) is tracked on a dedicated view that also combines usage in to BTUs and provides a relative cost comparison with respect to commodity cost and demand charges.



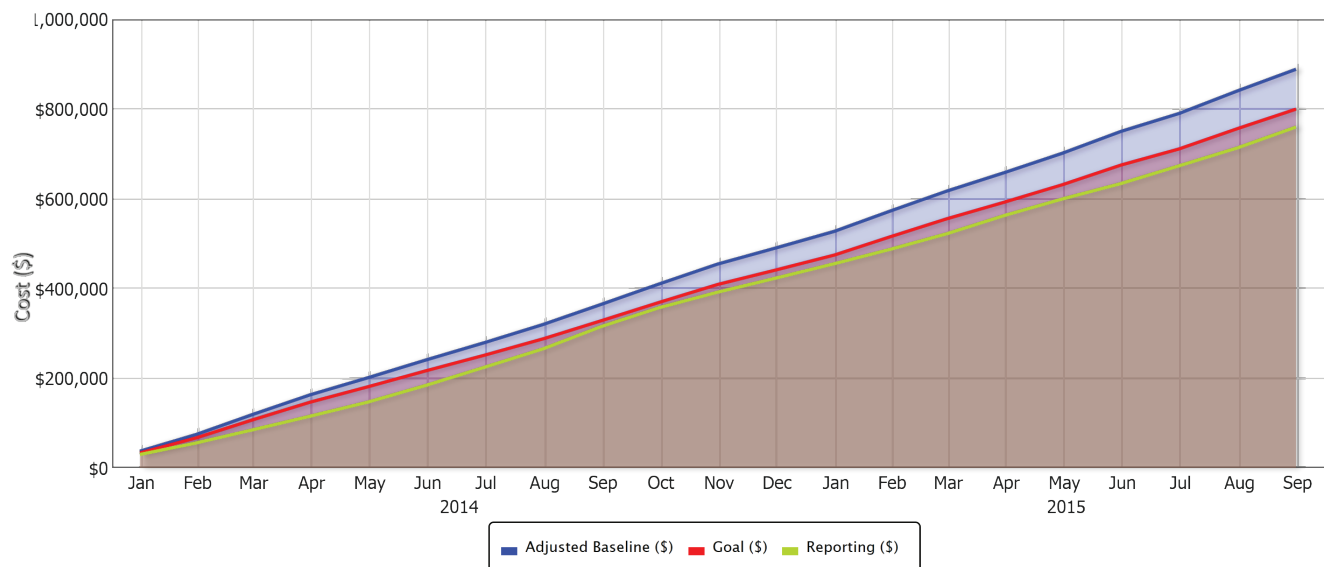
Log Measures, Actions and Events to Quantify Effects on Energy Consumption

Implemented measures, actions and other unusual events can be logged into the system so that their effects on consumption can be precisely quantified.



Track Progress Through Measurement and Verification

Progress with respect to goals and the actual savings achieved are tracked through the Measurement and Verification module. This provides an accurate comparison of the building's performance with respect to its weather-normalized baseline.



FAQs

What do I need to get started?

Building Dynamics provides an information-driven approach that allows you to start analyzing buildings at a high level with monthly and interval data.

In general analysis can happen at 3 levels:

- Billing information analysis
- Interval data analysis
- Customized sub-metering and sensing

Do I need to have all my buildings online before analysis can begin?

No, analysis can begin using the historical information available in the billing data and the interval data provided by your utility. Most utilities can provide 12 months of 15 minute interval data upon customer request. The first analysis of your buildings can start using this interval data.

What type of data do I need to start the analysis?

The key building data parameters needed to start the analysis include:

- Building name, square footage, and address
- Commodity consumption
- Occupancy schedule and primary usage description of the building
- Historical and billing data
- 15 minute interval data if available; this is typically provided by the utility as a custom CSV file.

The provided data is imported into the Building Dynamics portal where it is analyzed. The results are then provided on the portal.

How does Building Dynamics track the actions taking and the savings achieved?

Building Dynamics includes an online Measurement and Verification module that tracks goals and generates a weather-normalized analysis of consumption and achieved savings. Any actions or measure taken in the building can also be tagged in the interval data so any changes in consumption after a measure or action can be precisely quantified.

How does Building Dynamics collect data from my buildings?

There are multiple ways in which Building Dynamics can automatically acquire data related to building consumption.

- Data can be acquired directly from the customer's utility reporting systems (this is typically limited to monthly billing data and it is subject to the support of a specific utility company interface).
- Pulse meters can be installed to record utility consumption (electricity, gas and water). This requires KYZ pulse outputs on the utility meters that need to be provided by the customer's utility. CT-based meters can be also installed if the buildings are not metered or if KYZ pulse outputs are not available.
- Through the Building Automation System – if the meters are already tied into the building automation system the measurements can be retrieved using a software bridge to the BAS (Tier 2).
- Manual entry – the Building Dynamics portal provides interfaces for manually entering the data into the system.
- Import from CSV files – a custom service is provided for importing data files from CSV formats.

How does the system provide for role-based access to this data and functionality?

The user management interface features a set of predefined access levels (administrator, facilities manager, accounting personnel, guest user) as well as custom level permissions on a per building/group/feature basis.

How is the pricing structured?

The typical pricing model structure includes:

- Data import and portal setup fee
- One-time analysis and reporting fee (only applies if one-time static analysis is conducted)
- Monthly subscription fee (based on the number of buildings and points monitored)
- Analyst consulting fee (if analyst is dedicated to the project)

What other advanced software and services are available?

- Public facing dashboards and kiosks for occupant engagement and verification
- Customized sub-metering and sensing to provide further insights into a building's consumption
- EMS Optimization software (Tier 2)
- Dedicated analyst services



Contact us today.

Let us help you reach your energy saving goals.

For more information, please call 866-263-7372 or email info@ameresco.com