



Predictive Energy Optimization™

DATASHEET

What We Do

Put simply, we deliver free cash-flow to clients and we back that up 100%. We guarantee that our service will return more savings than our subscription costs. Speaking of service, we're not hardware suppliers or traditional consultants but an advanced technology platform backed by experienced operators dedicated to changing the way energy is managed in buildings.

Our complete service is perfect if you've already picked the low hanging fruit at your facility and looking for the next most compelling way to gain efficiencies in your building. It's also perfect for those who are looking for more than passive energy dashboards and reports or teams that find themselves too busy to respond to a never ending stream of alerts and alarms.

BuildingIQ is unique in its approach to delivering a service based on what we call active control. This sets us apart from passive services and new equipment that requires additional effort from your building management team. Our technology leverages the building control system that you already have in place, by helping it make better decisions. Whether the site has full time engineers, or only has staff visit periodically, BuildingIQ can improve comfort while significantly lowering your HVAC energy costs.

How It's Done

A trio of components come together to deliver savings at your site: Technology, People, and Transparency.

Technology: In an industry that has traditionally used control specifications, rules-of-thumb, and hard-coded strategies, our advanced Artificial Intelligence (AI) approach adds a layer of intelligence to your legacy hardware and software. Advanced machine learning and gradient descent optimization techniques are employed to allow your building to "look over the horizon" and navigate the complexities of varying efficiencies, weather, and costs with no impact to occupant comfort.

People: Our Network Operations Centers represent over 100 years of combined experience across facilities, controls, and energy. We're dedicated to monitoring your site and supporting your operations. Every site that we work with is monitored for energy leakage, maintenance of comfort, and a large variety of other issues so we can provide rapid response solutions.

Transparency: We're setting new industry standards for standardization, integration, and transparency for our customers with our 4th generation web portal. A critical tool for both our people and yours, this portal gives near-real-time access and control across your portfolio in one place. In addition, our automated savings reports are also built to international standards and verified by multiple third parties.

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The Specs

- **Building Modeling and Continuous Learning:** Machine learning is used to model your building based on the actual data coming from the site each and every day. This continuous machine learning is used to provide our advanced optimization algorithm with the best mathematical representation of your building. The industry has come to recognize that design modeling tools rarely survive their first encounter with real operations so we exclusively use the building's real data.
- **Gradient Descent Optimization:** A flexible "cost function" is used to rapidly integrate many disparate decision making dimensions and regularly converge on the optimal way to navigate through the day. Everything from free cooling to part load efficiency to maximum demand to weather patterns and, of course, comfort is considered in this search of 100's of 1000's of possible decisions for your facility each moment of each day.
- **Integration:** Our "light touch" integration means your existing, legacy hardware and software is left to do what it is best at and only a minimum number of monitoring and control points are interfaced. This reduces network load and reduces confusion about who is in control of what.
- **Measurement and Verification:** An algorithm library is utilized so that the best "fit" can be selected for your building and climate when creating a weather corrected baseline. Advanced least squares regression and support vector machine baselines are our most popular choices and, in the absence of historical metering data we can provide an innovative "day on/day off" approach to baseline creation. We're pushing the boundaries of traditional M&V with our use of a full tariff engine and hourly baselines as well as an automated business intelligence platform.
- **Portal:** Built using the latest design, security, and business intelligence technologies, our responsive platform gives the latest in web-style functionality across portfolios and down into individual buildings.
- **Software-as-a-Service:** Our SaaS approach allows continuous updates to be provided to our entire client base. No waiting for your vendor's technicians to apply patches or updates.
- **Security:** A range of features including VPN's, 256-bit AES keys and continuous threat monitoring and patching provide an unbeatable level of security
- **Redundancy:** Onsite and cloud-based features are combined with a range of redundancy measures to ensure that comfort and savings are maintained in the event of any outage.
- **Centralized Infrastructure Monitoring and Continuous, Managed Updates:** We manage all our field devices to ensure that they are kept up-to-date and safe from the constant stream of threats present in modern computing. This direct management ensures that no legacy devices are waiting in the field for a technician to apply a patch or other update.
- **Open Protocols:** As the Smart Building industry moves forward, it's critical to work with a service provider who can interface to both today's and tomorrow's open protocols whether they exist in the building or in the cloud. Today we connect to a variety of sources from legacy protocols such as BACNET and OPC as well as modern, web-style API's such as Green Button, OpenADR and some of the new, leading edge API's from the leaders in the controls industry.

3 Steps to Get Running

It's easy to get started with just 3 key connections: Web, Controls, and Metering

1. Web Connection:

BuildingIQ can work within a broad range of connectivity requirements from the simplest cable connection to the most advanced network security requirements. Let our infrastructure team start the conversation with your IT team.

2. Controls Connection:

Our platform provides for numerous ways to connect to almost any system out there — in most cases directly through our own drivers or through third party translation hardware. Let our operations team start the conversation with your BMS team.

3. Power Metering:

Maintaining our flexible approach, we can connect to your power metering in a variety of ways. Our preference is to connect directly to your utility through a "Green Button" or similar Cloud-to-Cloud (API) approach so as to ensure quality and timeliness of data. We can of course utilize any onsite metering whether that is through Zigbee, Modbus, BACNET or traditional pulse metering. Let our Technical Account Management team work with you to find the quickest path to quality metering information.

About BuildingIQ

BuildingIQ provides advanced, cloud-based software to reduce HVAC costs in commercial buildings. Customers save 10-25% of HVAC energy and can add 20 points to their LEED score. BuildingIQ software continuously monitors inputs including weather forecast, occupancy, energy prices and demand response events. It makes small changes in HVAC settings that result in large financial gains without impacting occupant comfort.



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1065 East Hillsdale Blvd., Suite 310
Foster City, CA 94404 USA
www.buildingiq.com
biq-sales@buildingiq.com

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