



Know your energy usage, achieve lasting energy savings

Arch Rock Energy Optimizer enables commercial and industrial facilities managers to rapidly zoom in on critical energy usage in buildings, to foresee and avoid costly demand peaks, and to implement an effective and measurable energy reduction plan. By developing a detailed understanding of how, when, and where energy is being consumed, facility managers can accurately manage energy consumption and demonstrate greenhouse gas reduction, as well as negotiate better utility rates, and evaluate potential investments in new energy-efficient infrastructure such as lighting, HVAC, and Data Center upgrades.

Arch Rock Energy Optimizer (AREO) is delivered as a hosted web portal, requiring no software installation by the customer and has near-zero impact on the customer's IT resources. The energy visibility portal integrates with Arch Rock's IPpower Node wireless AC power sub-meters, IPsensor environmental sensing nodes, and IP-based PhyNet™ Router to securely gather data over the Internet.

Applications

Office buildings

- Accurately measure baseline load prior to reduction programs
- Break out component loads, e.g. from IT equipment and HVAC units to focus mitigation and ROI
- Accurately measure demand peaks for possible time-shifting to avoid utility rate ratchets
- Take advantage of utility incentives associated with peak and base load reduction as well as Time-of-Use (TOU) and Demand Response (DR) programs

Data centers

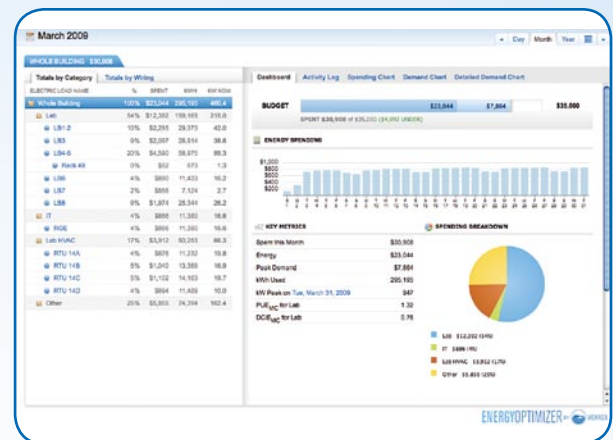
- Accurately break out facility power loads from IT equipment power loads
- Continuously track and improve data center efficiency metrics: PUE, DCIE
- Baseline electrical and thermal loads before and after implementing efficiency measures
- Continuously monitor critical processes during implementation of savings programs
- Get the data you need to enable server consolidation

Commercial / Industrial facilities

- Isolate process-specific loads from mandatory, discretionary and non-critical loads
- See process load components in real-time and historical graphs and find possible time shifting opportunities
- Measure effectiveness of savings programs and alternative energy sources

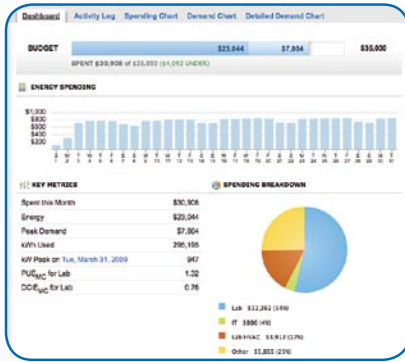
Government buildings

- Implement EISA07 and EPA05 sub-metering requirements
- Baseline and continuously track progress towards mandated GHG reduction goals



AREO displays energy usage data in a web-based dashboard, including unprecedented detailed views of the energy consumed by each load category, or user configurable circuit group.

FEATURES AND BENEFITS



At-a-glance display of spending

- **Summary display of spending by function/budget category**
 - Shows the biggest energy users in the building
- **Up-to-date summary of total spending vs budget**
 - Enables progress tracking of savings targets
- **Clear display of base rate spending vs demand billing surcharges**
 - Shows how much TOU pricing and demand rate ratchets are really costing you

WHOLE BUILDING \$30,906

Totals by Category | Totals by Wiring

ELECTRIC LOAD NAME	%	SPENT	KWH	KW NOW
Whole Building	100%	\$23,044	295,195	460.4
Lab	54%	\$12,392	159,169	215.0
LB1-2	10%	\$2,285	29,373	42.0
LB3	9%	\$2,097	26,914	38.6
LB4-5	20%	\$4,690	68,975	89.3
Rack 49	0%	\$52	673	1.3
LB6	4%	\$890	11,433	16.2
LB7	2%	\$566	7,124	2.7
LB8	9%	\$1,974	25,344	26.2
IT	4%	\$886	11,380	16.6
RGE	4%	\$886	11,380	16.6
Lab HVAC	17%	\$3,912	50,253	66.3
RTU 14A	4%	\$876	11,232	19.8
RTU 14B	5%	\$1,040	13,369	18.9
RTU 14C	5%	\$1,102	14,163	19.7
RTU 14D	4%	\$894	11,489	10.0
Other	25%	\$5,855	74,394	162.4

WHOLE BUILDING \$30,906

Totals by Category | Totals by Wiring

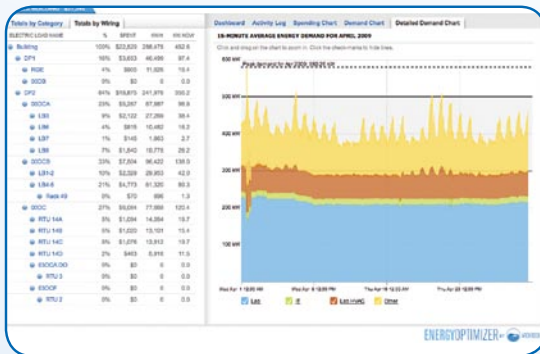
ELECTRIC LOAD NAME	%	SPENT	KWH	KW NOW
Building	100%	\$23,044	295,195	452.6
DP1	14%	\$3,211	40,926	97.4
RGE	4%	\$886	11,380	16.4
03DB	2%	\$408	5,176	0.0
DP2	86%	\$19,833	254,270	355.2
03DCA	27%	\$6,139	78,778	96.8
LB3	9%	\$2,097	26,914	38.4
LB6	4%	\$890	11,433	16.2
LB7	2%	\$566	7,124	2.7
LB8	9%	\$1,974	25,344	26.2
03DCB	32%	\$7,339	94,257	138.0
LB1-2	10%	\$2,285	29,373	42.0
LB4-5	20%	\$4,690	68,975	89.3
Rack 49	0%	\$52	673	1.3
03DC	28%	\$6,355	81,235	120.4
RTU 14A	4%	\$876	11,232	19.7
RTU 14B	5%	\$1,040	13,369	15.4

Detailed views of loads and spending

- Circuit (physical) view or budget category (functional) view
- Current power demand (kW)
- Up-to-date consumption (kWh) and spending
- Percent of total

User configurable load tree

- Configurable budget (functional) categories
 - Enables assignment of savings responsibilities
- Circuits assigned to budget categories
 - Incrementally add sub-meters as needed



Detailed demand graphs

- **Clear, color-coded separation of load categories**
 - Instantly distinguish the constant loads from the variable loads
- **Clear display of historical demand peaks for comparison to current demand**
 - Find the peak load processes in the building and identify possible time-shifting opportunities
 - Know your demand history before you negotiate a utility rate
- **15-min intervals, up to 1 year display**
 - Easily navigate the historical demand and peaks
 - Zoom in to any period to get detail



- Anticipated budget violation alert (visual and E-mail)
- Annotation of activities
- Multi-site support
- Data archive and export
- Energy use modeling and projection

ORDERING INFORMATION

Part Number	Product	Description
AREO-2000	AREO Starter Bundle	Portal 1 yr. subscription, 30 submeters license, 1 router, 6 submeters (18 circuits), 2 relay nodes
AREO-1010	Portal Submeters License	30 additional submeters (90 circuits) license, 1 yr. subscription

