



Powerlogic Users Group Toronto 2016

Power Monitoring Expert 8.1

What's new? & What's Coming?

Presented by: Juan Arias

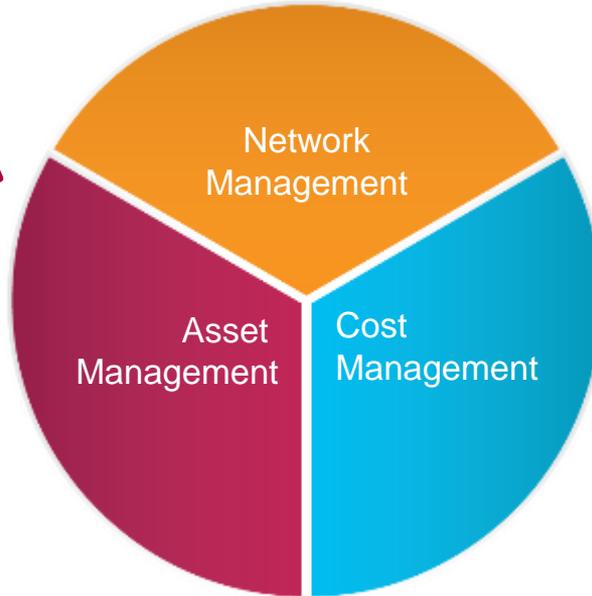
What We Do

Improve Electrical Reliability

“Help my facility run reliably”

Manage Electrical Assets

“Help me make my equipment run optimally”



Improve Financial Performance

“Help me save money on my utility costs”

How We Do It

MEASURE



Metering
& Gateways



Power Quality



Software

MITIGATE

MANAGE

PowerLogic Systems Software Range

Cost Performance

Network Performance

Asset Performance

Power Manager



Plug-in for SBO
Pull through PTMET
Future upsell



Support Services

Entry

Power Monitoring Expert



Premium price & consultative sales
Configured to order
Segment based differentiation



Software Modules



Support Services

Standard

PowerSCADA Expert + Advanced Reporting



Performance & customization
Premium price & consultative sales
Advanced Network Management



Software Modules



Support Services

Premium



What's New in PME 8.1?

Overview

Application Modules – Monitor->Manage-> Perform



Cost Management



Energy Analysis Module:

- Improve Operational Efficiency, Energy Performance and help achieve ISO50001 compliance

Energy Billing Module:

- Flexible rate engine and reports for cost allocation, bill verification and tenant billing.

IT Billing Module

- Flexible rate engine and reports for datacenter applications

Power Efficiency Module

- Track and analyze PUE, losses and overall system efficiency.

Network Management



Power Quality Advisor Module (coming soon):

- Simple, global overview of the impact of power quality on your facility's operations

Generator Test/EPSS Module:

- Automated generator and ATS testing and reporting for maintenance and regulatory compliance

Power Capacity Module:

- Monitor the capacity loading of electrical equipment (UPS, Generators, multicircuits)

Event Notification Module:

- Receive text or email notifications when power system events occur.

Asset Management



UPS Performance Module:

- Global overview UPS status, battery health, auto test report etc.

Breaker Performance Module:

- Breaker status diagrams and reports including electrical ageing and mechanical wear, for proactive maintenance

Generator Performance Module:

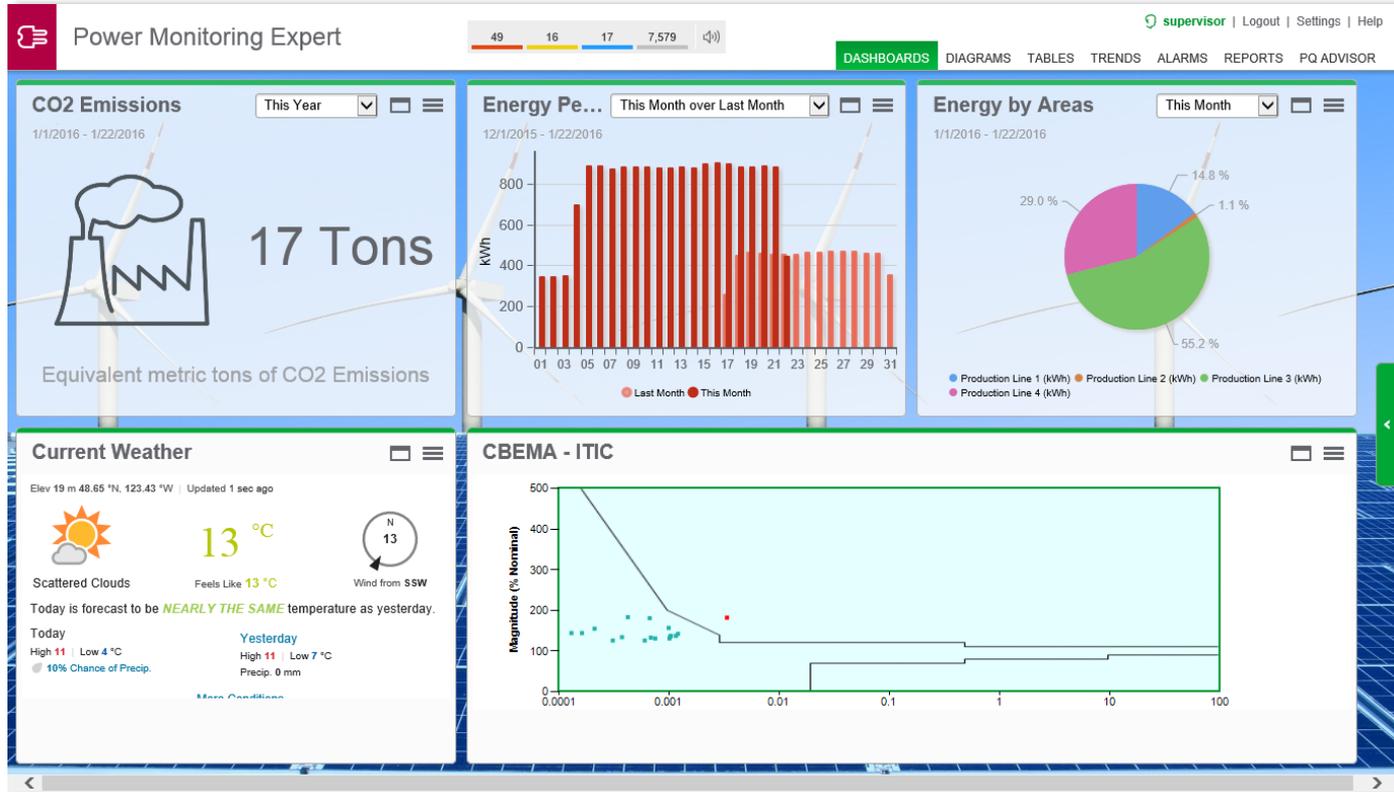
- Monitor the parameters of your generator

Updated! HTML5 Dashboard Support

Everywhere

Web Client

New look and feel and HTML 5 Web Client Frame



Web Client

Multi browser enablement and customization

Silverlight removal (almost, not quite!)

- The PME Web frame and the **Dashboards** application are now **HTML5** and will work in all major browsers (including mobile devices).
- The **Alarms** and **Tables** applications are still based on Silverlight and are loaded into the framework. **Silverlight is required to load these two specific applications.**

Web Client Customization

- Easily change the logo (40px high, maintains aspect ratio) and text or revert to default:



- Color theme selection using “hue shifting” for better color definition between light/dark.
 - If a selected custom color is “too light” or “too dark”, it will be auto-adjusted into the correct range, but the hue will be maintained.

Web Client

URL behavior changes

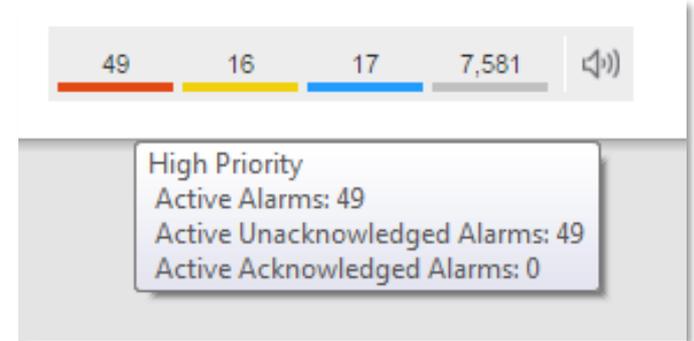
- The main PME URL is still in the form of ***http(s)://<SERVER>/Web***
- Application specific URLs are accessed by adding a #NAME value to the end of the URL
- Access to applications without banner (simple integration with other platforms)
- Slideshows can be accessed directly using an specific URL. **'Visitor' account/user removed**

Application	Normal URL	URL without Banner
Dashboards	http(s)://<SERVER>/Web/#Dashboards	http(s)://<SERVER>/Dashboards
Diagrams	http(s)://<SERVER>/Web/#Diagrams	http(s)://<SERVER>/ION
Tables	http(s)://<SERVER>/Web/#Tables	http(s)://<SERVER>/Web/Application/Tables
Trends	http(s)://<SERVER>/Web/#Trends	http(s)://<SERVER>/Trends
Alarms	http(s)://<SERVER>/Web/#Alarms	http(s)://<SERVER>/Web/Application/Alarms
Reports	http(s)://<SERVER>/Web/#Reports	http(s)://<SERVER>/Reporter

Web Client

Alarm Annunciator

- The displayed values for **High**, **Medium** and **Low** alarms has been changed from "Unacknowledged Alarms" to "Active Alarms". This gives more relevant real time information to users
- A 4th display value has been added that shows the total number of "Unacknowledged Alarms"
- Tooltip shows more details in each category
- Clicking on the Alarm Annunciator will now load the **Alarms** application
- The Alarm Annunciator has had a significant performance boost; it no longer loads all Alarms into client memory, but instead replies with up-to-date count values to display

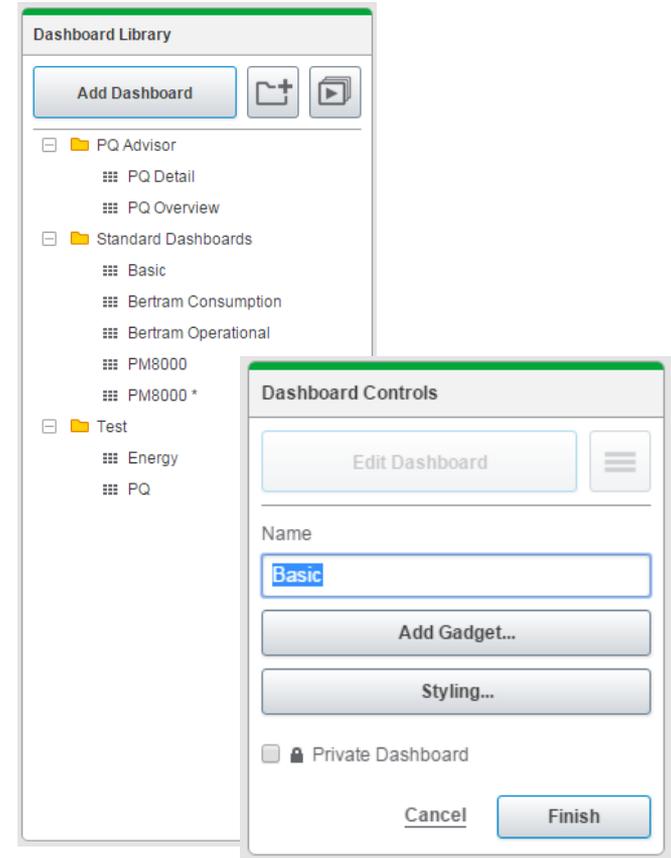


HTML 5 Dashboards

Browser friendly Dashboards

Not only using HTML5 technology but also new user workflow and experience:

- Dashboards support more configuration: global opacity, dynamic layouts, drag-to-move Gadgets, drag-to-resize Gadgets, and more!
- **Setup Mode** has been removed. Gadgets can be edited at any time
- Better image upload and management support for Dashboard backgrounds (we now support drag-and-drop to upload!)
- Gadget data caching has been improved to show information quickly, and reflect changes in data much sooner.
- All pre PME 8.1 Dashboards, Slideshows and Gadgets will be upgraded automatically.
- **Dashboard management** has been improved, including the ability to duplicate dashboards and entire folders.
- **PRIVATE** Dashboards!

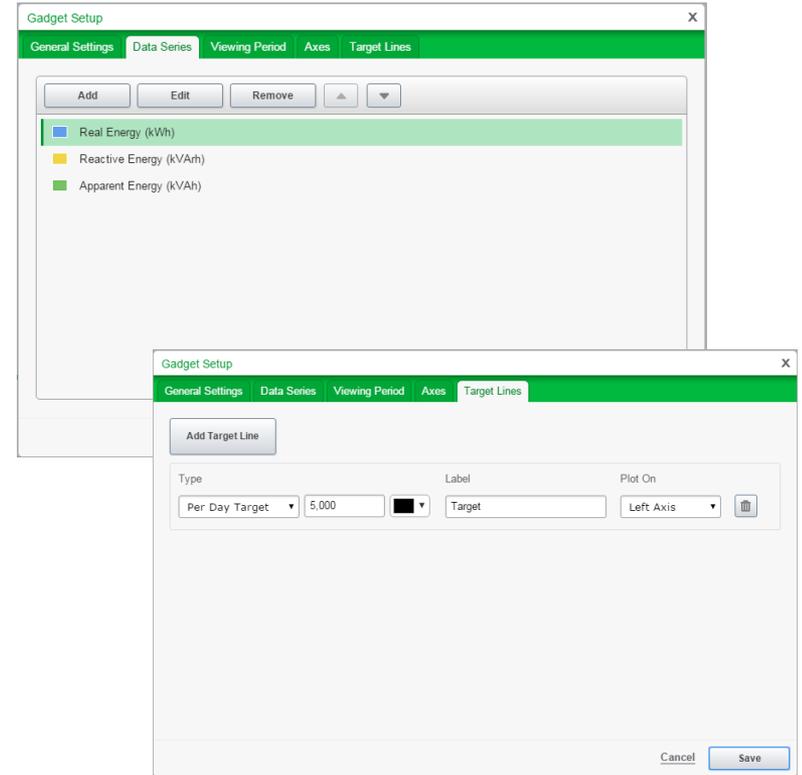


HTML 5 Dashboards

Gadgets reloaded!

All the user feedback collected since the first version of Dashboards had been addressed:

- **New Gadgets** have been added and existing gadgets have been greatly improved.
- Easier Gadget selection. Gadgets organized by group based on type, included “Common” for quick access to the most popular ones
- Gadgets support more configuration options: **series colors, target lines, axis settings, series types, line thickness, viewing periods, and more!**
- Source & Measurement selection improved. Easily find Hierarchy nodes, Virtual meters or real Devices. Full text searching is now included for quick finds.
- Gadgets will now render in different forms based on the number of pixels available to display (that is, Legends removed for small gadgets, fonts increased for large gadgets, and so on).
- **Setup Mode** removed. Gadgets can be tweaked and edited at any time
- Gadgets can be easily duplicated, including the ability to duplicate to a different dashboards



HTML 5 Dashboards

Spotlight on Web Viewer Gadget

Some of the new features of the new gadget are:

- Interactive web Viewer
- it is now a portal from the Client to the destination (rather from the server)
- Whatever loads into an iFrame
- Live videos, images, pdf docs, Vista Screens, etc



Enhanced! Cyber Security

Everywhere

Cyber Security Details

Securing our customers infrastructure

- PME Websites now support "Require SSL" option, ensuring secure communications from server to web clients
- Primary PME SQL Account no longer operates with sysadmin-level credentials
- DB Manager uses Windows Authentication exclusively now
- Plus other improvements we can not tell you....



Other Platform Enhancements

- Windows 10 support
- Excel 2016
- PM8000 new firmware support
- ION7400 feeder meter support
- EN50160-2010 Report Support for the latest ION 8650 firmware
- Bug fixes
 - Major fixes in Reports
 - Translations
 - Drivers

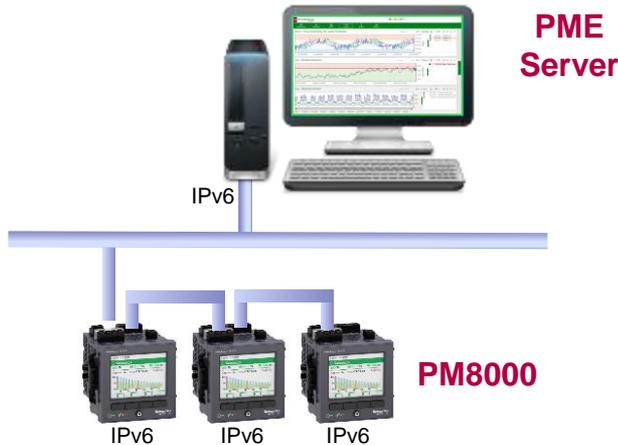


ION7400

IPv6 Support

Everywhere

- Internet Protocol version 6 (IPv6) is the most recent version of the Internet Protocol (IP).
- PM8000 new firmware supports IPv6 global addressing
- Some governments including the Federal government of the United States and China have issued guidelines and requirements for IPv6 capability.
- Trend towards IPv6 starting in big datacenter customers.



IPv4 Address - 32 bits

208.93.105.218

IPv6 Address - 128 bits

2610:18:cc0:8:0000:0000:1:8010

* Address example



Improved! Energy Analysis Module v2

Smart

Energy Analysis Module v2

Module details

Transformer and load capacity analysis

- Duration Curve Report

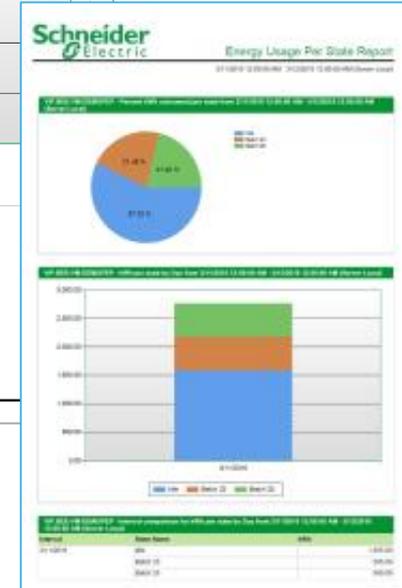
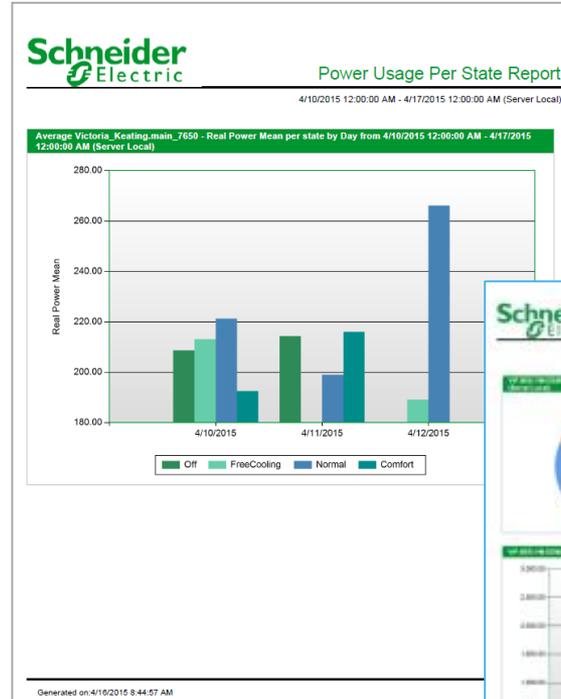
Energy performance reporting

- Energy Usage Per State Report
- Power Usage Per State Report
- Single Equipment Operation Report
- Multi Equipment Operation Report

New!
New!
New!
New!

Energy modelling

- Scatter plot with break point
- Regression analysis



Energy performance reporting

Energy Usage by State Report

Analyze **energy usage** according to operational mode or status of processes, systems or equipment:

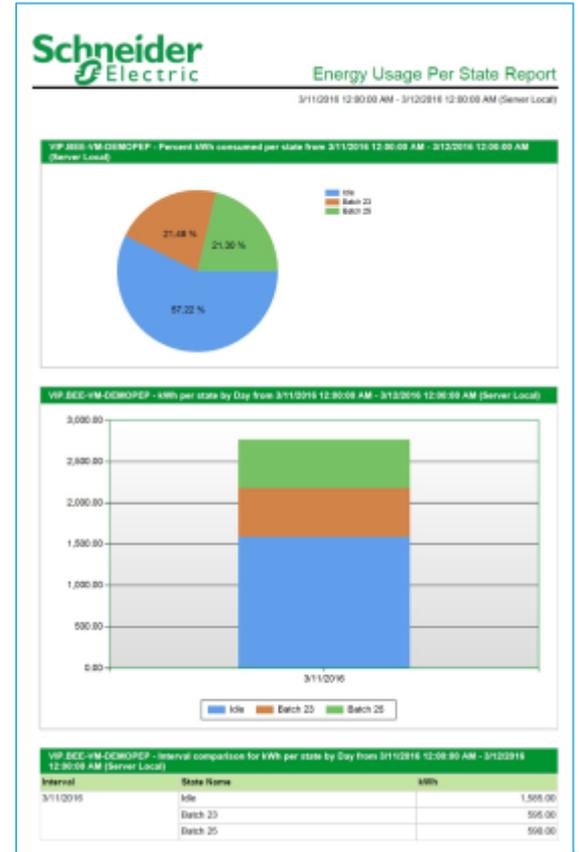
- Determine if a process is using excessive or unexpected energy
- Reduce energy usage without compromising production



EXAMPLE: Dairy Plant

Analyze Energy Usage by Process States

- Idle
- Batch 23
- Batch 25



Energy performance reporting

Power Usage by State Report

Power usage can be tracked by operational mode or status of processes, systems or equipment:

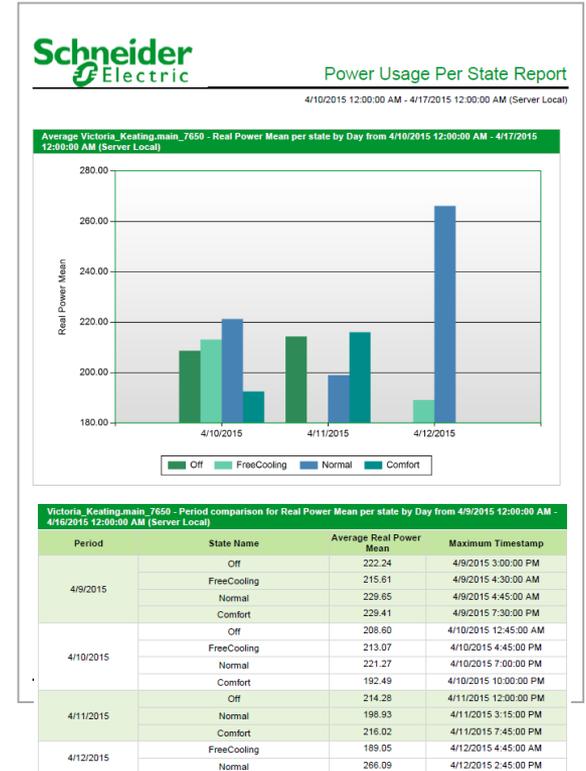
- Adjust operations and processes to lower peak demand
- Detect power anomalies and optimize equipment operation



EXAMPLE: Chiller Plant in a Building

Analyze Power Usage by Process States

- Off
- Free Cooling
- Normal
- Comfort

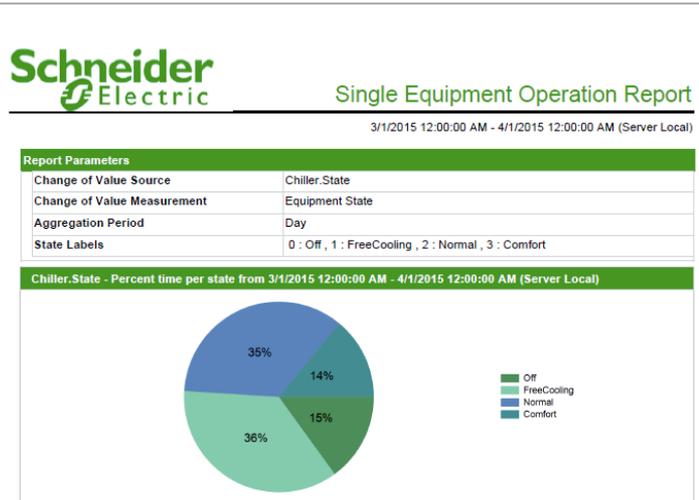
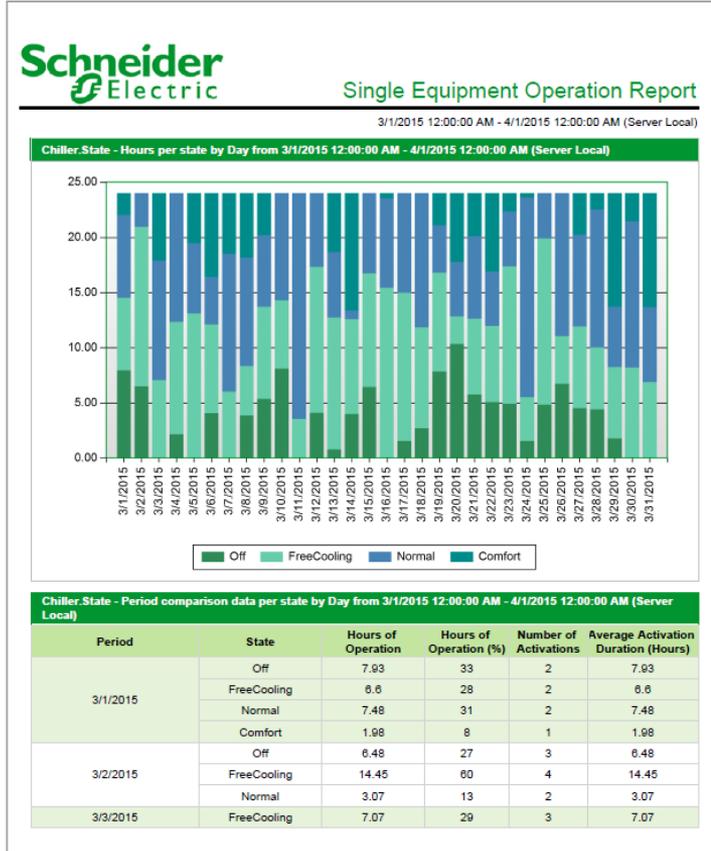


Energy performance reporting

Single Equipment Operation

Analyze how equipment is operating to find anomalies and correct problems

- Hours of operation in each state/mode
- % hours in each state/mode
- Number of activations in each state/mode
- Average activation duration



Energy performance reporting

Multi Equipment Operation

Analyze how systems are operating to find anomalies and correct problems

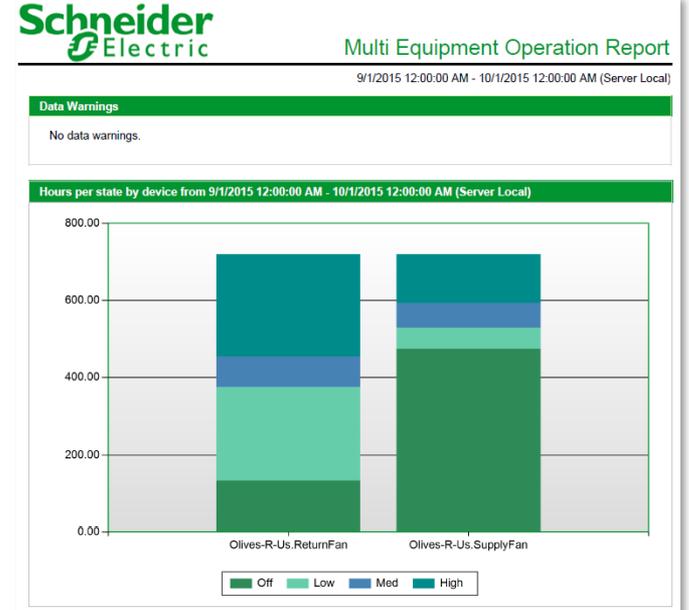
- Hours of operation in each state/mode
- % hours in each state/mode
- Number of activations in each state/mode
- Average activation duration



EXAMPLE: Water Pumping System

Analyze System Operation

- Off
- Low Speed
- Medium Speed
- High Speed



Device	State	Hours of Operation	Hours of Operation (%)	Number of Activations	Average Activation Duration (Hours)
Olives-R-Us.ReturnFan	Off	133.93	19	17	7.88
	Low	240.57	33	8	30.07
	Med	79.58	11	2	39.79
	High	265.92	37	8	33.24
Olives-R-Us.SupplyFan	Off	473.9	66	9	52.66
	Low	55.25	8	3	18.42
	Med	64	9	2	32
	High	126.85	18	4	31.71

Energy Analysis Data Integration

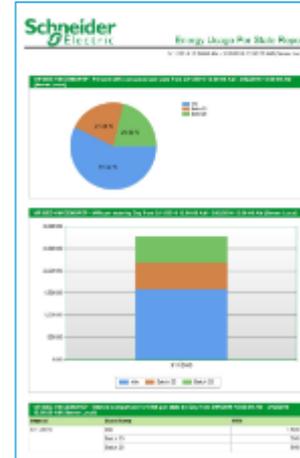
Bringing External Data to PME

Import “contextual” data into PME and combine with energy data for energy performance and regression reporting

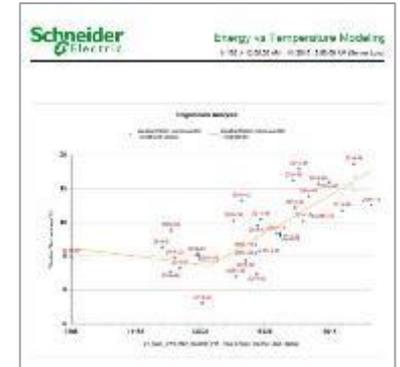
- Historical contextual data such as operational statuses, temperature, humidity, occupancy or other energy drivers (ETL).
- Integrate real time operational status (OPC, I/Os, etc)



External Historical operational status and contextual data



Energy Performance Reports



Energy Regression Report

New! PQ Advisor Module

Smart

Coming Soon!

Meet the Facility Manager

and his power quality (PQ) challenges

I can not easily share with my managers the impact of PQ in our operations

I need a to have a simple continuous view of my facility's power supply quality

Is my investment in AccuSines and cap banks paying off? Are they operating normally?



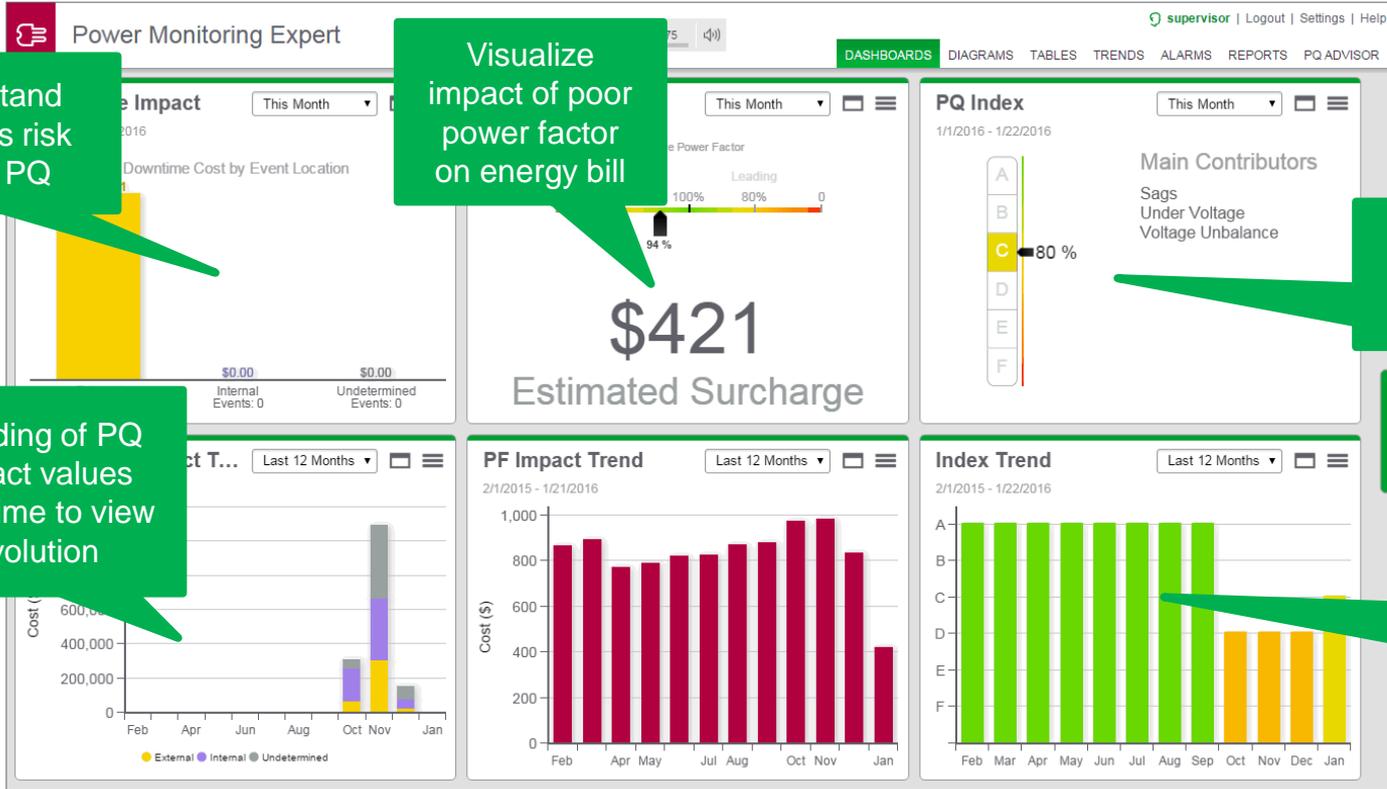
Power Quality is complex and I don't have the time to investigate

I am aware we have PQ issues but not sure where, when and how they are impacting my facility

PQ auditors provide complex reports that nobody understands, I need something easy to read

The Answer: Simple PQ Dashboards and Indicators

Simple visual indicators to understand power quality impact on operations



Understand business risk due to PQ

Visualize impact of poor power factor on energy bill

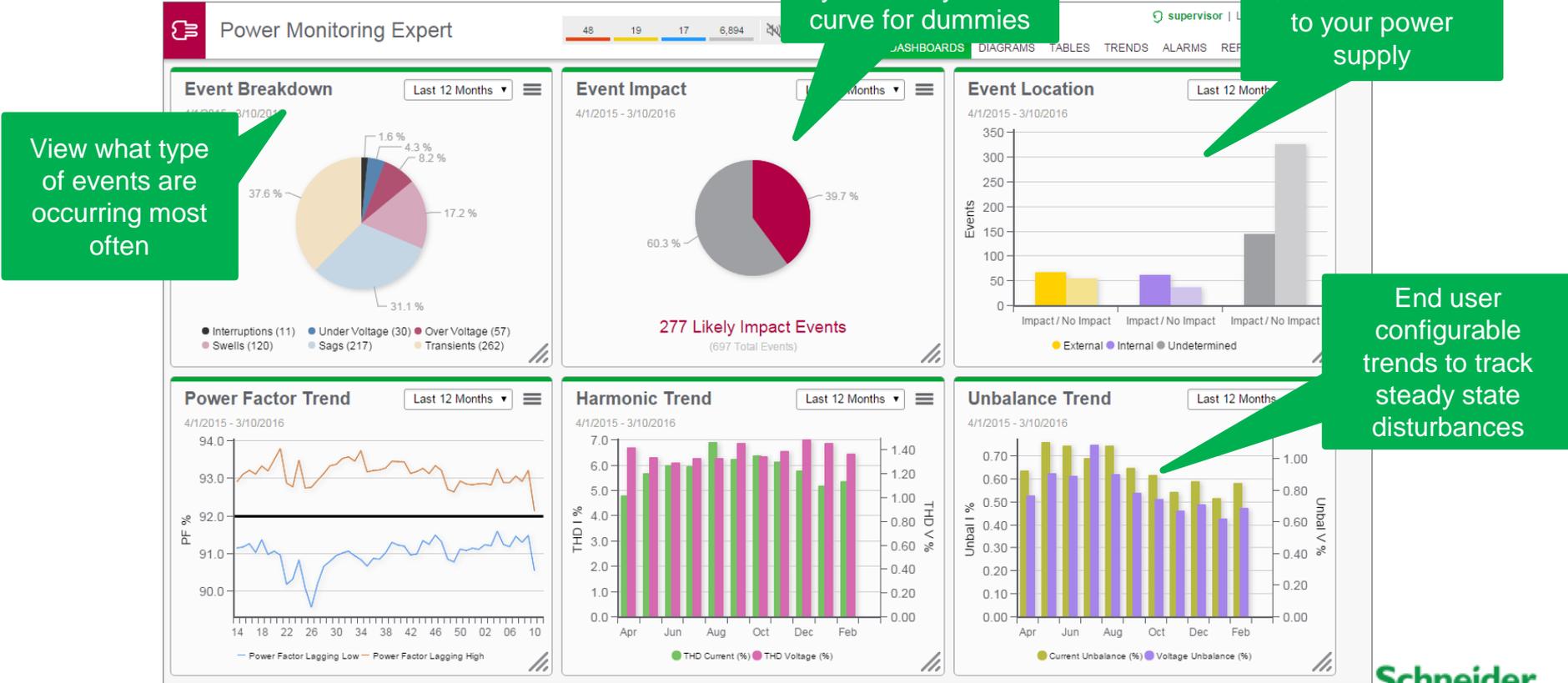
Trending of PQ impact values over time to view evolution

Overall PQ Rating indicator

Baseline your facility's PQ and track evolution

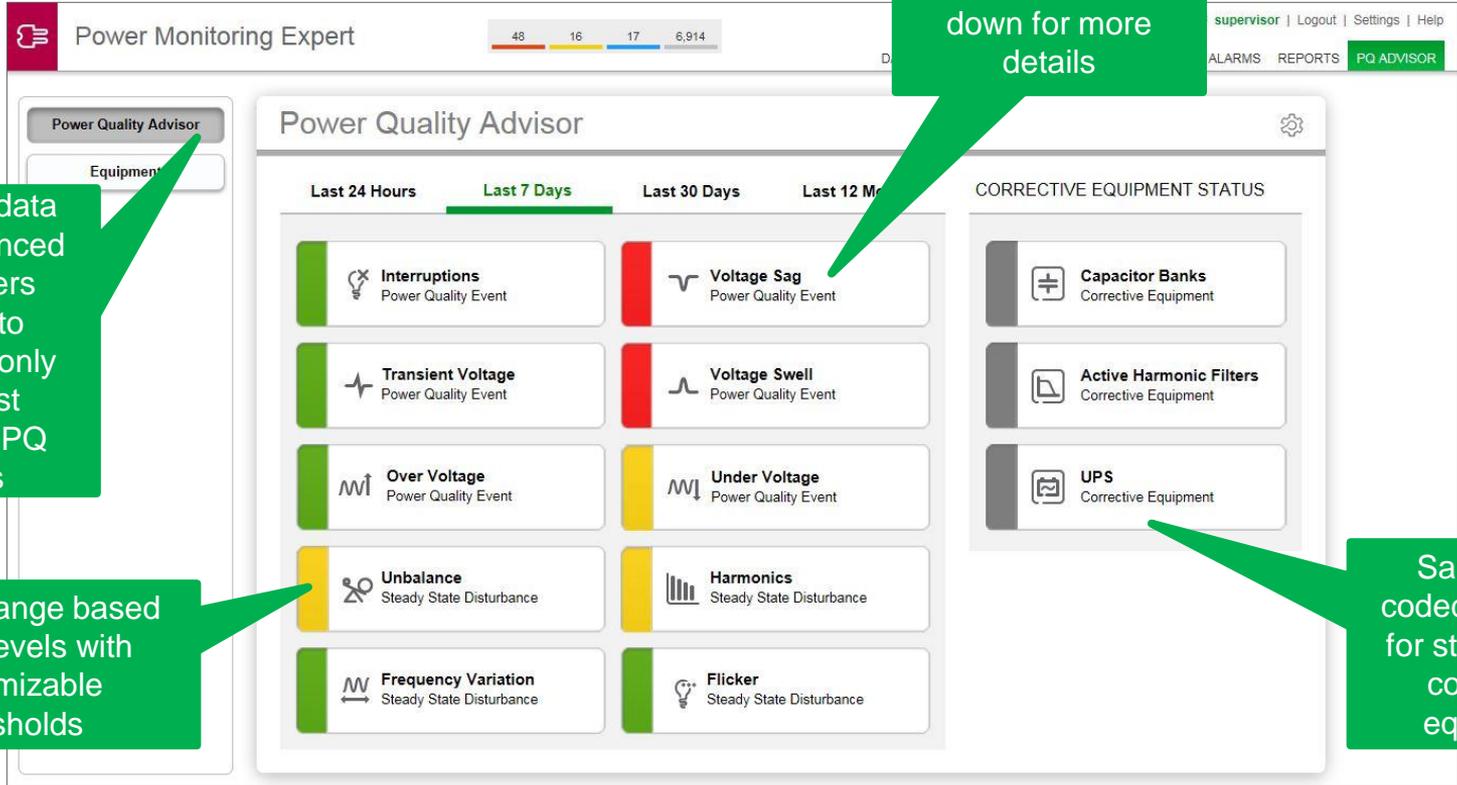
Easily Accessible PQ Event Insights

Automated analysis of PQ events



Simple Green, Yellow, Red PQ indicators

Quickly identify the disturbances affecting your operations



Complex data from advanced PQ meters filtered to highlight only the most common PQ issues

Colors change based on PQ levels with customizable thresholds

Click on each indicator to drill down for more details

Same color coded indicators for status of PQ correction equipment

Simplified PQ Statistics

Drill down for deep dive analysis

Power Monitoring Expert 48 16 17 6,914 supervisor | Logout | Settings | Help DS ALARMS REPORTS PQ ADVISOR

Device Diagram

Duration	Magnitude	Timestamp	Node	Classification	Impact	Severity	Work	Location
0,091000	49,053	09/01/2016 01:45:44,242	Victoria_Keating.main_7650	Sag	Yes	4,636		Internal
0,083000	50,000	09/01/2016 01:44:44,322	Victoria_Keating.PNL_K	Sag	Yes		V1	Internal
0,350000	63,462	07/01/2016 14:57:37,663	CM,4000T_84_247	Sag	Yes	12,788	V3	Undetermined
0,034000	49,038	04/01/2016 08:44:00,910	CM,4000T_84_247	Sag	Yes	1,733	V2	Undetermined
1,475000	43,493	02/01/2016 02:04:59,140	PQ.B2	Sag	Yes	83,348	V1	External
1,675000	73,392	02/01/2016 09:53:45,924	PQ.B2	Sag	Yes	44,569	V1	External
0,134000	51,443	21/12/2015 13:03:09,001	CM,4000T_84_247	Sag	Yes	6,507	V2	Undetermined

Identify main offending events or samples for the time period selected

Short Description of the disturbance, potential impact and mitigation

Identify the meter that detected the issue

Internal	0	6	9	40
External	0	0	8	67
Undetermined	0	1	3	122
Detail Report				

½ cycle to 1 minute
Consequence
Malfunction or downtime
Mitigation Devices
- Uninterruptible Power Supply (UPS)
- Dynamic Voltage Restorer
Occurrence
Average 50 to 90 events/year

Click to generate a summary table of the events

Analyze events in detail

Waveform capture analysis

Power Monitoring Expert | 48 | 19 | 17 | 6,894 |

[DASHBOARDS](#) | **[DIAGRAMS](#)** | [TABLES](#) | [TRENDS](#) | [ALARMS](#) | [REPORTS](#) | [PQ ADVISOR](#)

supervisor | [Logout](#) | [Settings](#) | [Help](#)

Demo.Meter1

Volts/Amps | Power Quality | **Energy & Dmd** | Inputs/Outputs

Logged Events

- Sag/Swell CBEMA
- Sag/Swell **Selected**
- Manual waveform trigger

Voltage Disturbances

Last disturbance 12/31/1969 4:00:00.000 PM

Sag/swell Counts

Reset counters

Last reset at 3/4/2016 10:06:58.000 AM

Total Harmonic Distortion: V1(ab), V2(ca), V3(bc), Harm

Device Time 3/11/2016 1:26:14.000 PM
Device Type 8,000.0

Waveform Capture Analysis

The graph displays three-phase voltage waveforms (V1, V2, V3) and their corresponding RMS values. The x-axis represents time from 13:00:04.000 to 13:00:04.224. The y-axis represents voltage from -500 to 600. A legend indicates: V1 Waveform - RMS (black), V1 Waveform - RMS (red), V2 Waveform - RMS (orange), V2 Waveform - RMS (yellow), V3 Waveform - RMS (green), V3 Waveform - RMS (blue). A green box highlights the graph area, and a green line points from the 'Sag/Swell' event in the 'Logged Events' section to the graph.

Want to learn more?

Click to learn more about possible solutions

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DASHBOARDS | DIAGRAMS | TABLES | TRENDS | ALARMS | REPORTS | **PQ ADVISOR**

Power Quality Advisor

Equipment

Power Quality Advisor - Voltage Sag

DETAILS

Number of Events	Time Period			
	Last 24 Hours	Last 7 Days	Last 30 Days	Last 12 Months
No Impact	0	4	13	173
Potential Impact	0	3	7	56
Internal	0	6	9	40
External	0	0	8	67
Undetermined	0	1	3	122
Detail Report				

DESCRIPTION

Summary
Decrease in voltage magnitude

Magnitude
90% to 10% of nominal voltage (typical)

Source
Utility or large motors starting

Duration
½ cycle to 1 minute

Consequence
Malfunction or downtime

Mitigation Devices

RESOURCES

[> Learn More](#)
Solutions, Documentation and Contact Information

Get more information from Schneider Electric on your specific problem

Improving how we interact with our customers through Digitization

Close the Loop with a PowerLogic System

Key part of a continuous PQ monitoring framework



PME + PQ Advisor + PQ Meters

Measure

PME + PQ Advisor + PQ Experts



Analyze

Improve

PME + PQ Advisor + Mitigation and correction equipment



Life Is On



Power Monitoring Expert 8.1

Summary

- Commercial **simplification**
 - PME 8.1 is a free upgrade from PME 8.0 !
 - Energy Awareness, no Buildings Edition, all modules everywhere!
- **Power Quality** Awareness for **non experts**
 - PQ Advisor module*
- Improved **energy performance** analysis
 - Energy Analysis Module v2
- Continue the journey of **multi browser enablement!**
 - HTML5 Dashboards and web client frame
- **Secure** and improved platform
 - CyberSec, Windows 10, Excel 2016, ION7400...



What's Coming?

PME 8.2 Coming in 2017

PME 8.2 Coming in Q2 2017

Web interface Enhancements:

- Fully harmonized web interface
- Configurable layouts for trends
- Direct URL to dashboards
- More configuration settings available
- Billing Module Rate editor integration

Reports Enhancements:

- Power Quality Report v2
- Energy Modeling Reports v2
- Report subscriptions improved (multi user, multi report, SMTP auth.)
- Report search filter

Device Support:

- PM800 firmware update
- PM7400 firmware update
- RMICAN Frameworks compatibility with PME software
- PM8000 on-board memory increase

Platform Enhancements

- Cyber Security enhancements
- SQL Server 2016 Standard support
- Windows Server 2016 support

Life Is On

Schneider
Electric