InterAct's Energy & Cost Analysis module provides users with a set of analytical reporting tools:

- Load Analysis
- Usage and Variance Analysis
- Trending
- Baseline Analysis
- Energy & Cost Benchmark
- What If Analysis
- Cost Variance
- Bill Charges

Overview

The Load Analysis report helps you:

- Gain insights into the shape of your meter's load (demand).
- Identify when peak loads occur.
- Identify specific 15-minute, hourly or daily anomalies.
- Identify monthly and seasonal variations in your load.

Load Analysis allows the selection of a single meter and includes the following components:

- Summary Statistics
- Load Profile chart and table
- Average Hourly Consumption chart
- Load Duration chart and table

Usage and Variance Analysis report helps you:

- Characterize your energy usage (consumption) over time, by hour, day, week, month or year.
- Identify irregularities in energy use from day to day, week to week, etc.
- Compare energy usage for different time periods.
- Analyze increases or decreases in energy usage for one or more meters.
- Display minimum, maximum and average demand relating to a single meter or meter group's consumption.
- Normalize your usage data by area, weather or production units for standard comparison.

Usage and Variance Analysis allows multiple meters, or meter groups, and includes the following components:

- Summary Statistics
- Usage and Demand chart and table (Demand is only included for a single meter or meter group)
- Usage Variance chart and table listing, usage values for each meter and for each time period
The **Usage and Variance Analysis** can help you answer questions such as:

- How do my consumption totals vary from month to month, or year to year?
- Do my monthly peak demand levels correspond to the months in which my rate schedule prices are higher?
- How do my consumption totals vary across the same hours and days?
- Do my peak consumption hours correspond to the peak time of use price periods on my rate schedule?
- Are there intermittent periods that have abnormally high energy use?

**Trending** report helps you:

- Visualize your facilities' load or energy consumption over any time period.
- Display "cause and effect" correlations between energy data for a single meter and weather, an alternative meter channel, or real-time pricing.
- Compare values and trends for multiple meters on the same graph.

**Trending** allows selection of multiple meters, or meter groups, and includes the following components:

- Trend chart displaying metered, hourly or daily loads, or consumption.
- Summary table listing average, minimum and maximum demand, and total consumption for each meter

**Example 1: Weather vs. Demand**

A facility's energy consumption varies widely with temperature. You can plot energy demand against weather, to see when this correlation is greatest. This may help you identify which equipment (heating, cooling, or other) is most weather-dependent and whether operational efficiencies are possible.
Example 2: Power Factor concerns

A meter is on a tariff that includes a penalty for poor power factor. You can plot energy demand against power factor to help identify if that meter has poor power factor at any time, and to discover any correlation with energy demand.

The Baseline Analysis report compares baseline data to historical data. This enables you to view baselines related to different demand response programs before you enroll in those programs. Specifically, this report:

- Compares actual historical usage for a service point with one or more selected baseline algorithms
- Calculates a baseline algorithm on the fly, even if no baseline channel exists
- Compares multiple baselines simultaneously
- Analyzes one day at a time against a second historic date

Energy & Cost Benchmark report

This report provides basic information about energy usage and energy cost. It allows usage and cost to be tracked, and spikes or dips can be easily identified and researched.

What If Analysis report

The What If Analysis report allows comparison of rates, load reduction, and load shift to answer such questions as: “What if I was on a different rate?” or “What if I cut energy usage by 10%?” The cost reductions are based on actual usage data, removing the guesswork from decision making and energy monitoring. The What If Analysis report also calculates costs based on load changes.
Cost Variance report

The Cost Variance report allows you to compare costs over two different time periods, verify cost savings from demand response programs and energy efficiency projects, and identify cost increases due to changes in energy usage and demand.

Bill Charges report

The Bill Charges report allows you to create an accurate estimate of an actual bill based on interval meter data. You can also estimate month-to-date charges.

Report Setup

To create a Load Analysis report:

1. From the “Energy Analysis or Cost and Energy Analysis” tab, click Load Analysis.
2. Click Select Meters to choose a meter, or meter group, from the meter selection dialog. If the meter(s) you want to analyze are already selected, proceed to the next step.
3. Set the Time Period for this report. If the “Load Profile Type” is “Actual Daily,” the maximum number of days in the time period is 41.
4. Select the Load Profile Type to view.
   a. Actual daily—Returns one line in the chart for each day.
   b. Weekly average—Averages each daily line for the week into a single weekly average line.
   c. Monthly average—Averages each daily line into a single monthly average line.
   d. Average and peak day—Returns two lines, one for the average for the total time period, and the other showing the line for the peak day over the time period.
5. Select Day Types to Include.
6. Click Create to run the report, or Reset to return to default settings.
7. Use the report toolbar to save, print or export report results.

To create a Usage and Variance Analysis report:

1. From the “Energy Analysis or Cost and Energy Analysis” tab, click Usage and Variance Analysis.
2. Click Select Meters to choose one or more meters from the meter selection dialog. If the meter(s) you want to analyze are already selected, proceed to the next step.
3. Set the Time Period for this report.
4. Set the Comparison Period or identify a Comparison Start Date.
5. Select a Show Results By choice. Energy usage will be totaled by hour, day, week, month or year.
6. Optional: On the Advanced tab, select Normalize by Setting. Choices include area, heating and cooling degree days, and production units.
7. Click Create to run the report or Reset to return to default settings.
8. Use the report toolbar to save, print and export report results.
To create a Trending report:

1. From the Energy Analysis or Cost and Energy Analysis tab, click **Trending**.
2. Click **Select Meters** to choose one or more meters from the meter selection dialog. If the meter(s) you want to analyze are already selected, proceed to the next step.
3. Set the Time Period for this report.
4. **Optional:** Select **Compare Meter Demand To** choice. Selections include weather data, other meter channel data (e.g., power factor, reactive energy), or real-time pricing data. The weather and price options are available if your service provider includes such data. **NOTE:** This option is only available when you select a single meter.
5. Select the **Trend Interval**.
   a. **Metered**—Plots "as metered" data. Depending upon the meter selected, the graph may display 15-minute to one-hour interval data or daily interval data.
   b. **Hourly and Daily**—Roll up smaller interval data to hourly and daily totals.
6. **Optional:** On the Advanced tab, select whether to display "Demand" or "Energy" values.
7. Click **Create** to run the report, or **Reset** to return to default settings.
8. Use the report toolbar to save, print or export report results.

To create a Baseline Analysis report:

1. From the "Energy Analysis" tab, click **Baseline Analysis**.
2. Click **Select Meter** to choose a meter from the meter selection dialog. If the meter you want to analyze is already selected, proceed to the next step.
3. Enter the **Date** of the data you want to analyze.
4. **Optional:** Enter a **Comparison Date**. Dates must be today's date, or a date in the past; future dates are not valid.
5. If no data is available for either of these dates, the report displays the baseline and an alert message that no data is available.
6. Select one or more **Baselines** for comparison. (Use the ‘Ctrl’ key to select multiple baselines.)
7. The baseline list includes all active baseline algorithms that have been defined in Curtailment Manager, except for user-defined baselines. This calculated baseline is not stored for future use.
8. Click **Create** to run the report, or **Reset** to return to default settings.
9. Use the report toolbar to save, print or export report results.

To Create an Energy & Cost Benchmark report:

2. Click “Select Meters” to choose the meter and customer location for the report.
3. A pop-up window will appear with a list of locations. Check the appropriate box.
4. Click “Select Meters” and you return to the main screen with you selection activated.
5. Choose the report dates from the drop down menu or input your own selection.
6. Choose report type, Average Cost, Cost per Day, or Use per Day.
7. Click “Create.”
After you click create, the report appears on the right side of the screen. These steps are illustrated on the following screens.
InterAct User

3. Choose the meter/customer location

4. Click Select Meters

Information for selected meter/customer location

Data exists for these dates

Available Data Range

New Meter Group

Select Meters

Close

After you click create, the report appears on the right side of the screen

Total cost is $5,532.45

Usage is 67,045 kWh

Average cost is $8.107293

5. Choose report dates

6. Choose report

7. Click Create
To create a What If Analysis report:

2. Choose the meter and customer location as in steps 2 through 4 above.
3. Choose the report dates from the drop down menu or input your own selection.
4. Click “Select alternative rates” to choose the rate(s) for comparison.
5. A pop-up window will appear with a list of the available rates. Check the appropriate box.
6. Click “Select Alternative Rates” and you return to the main screen.
7. Click “Create.”

After you click create, the report appears on the right side of the screen. These steps are illustrated on the following screens.
5. Choose rate for comparison (details for selected rate appear on the right)

Only legitimate alternatives to the current rate appear

6. Click to choose checked rate
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After you click create, the report appears on the right side of the screen.

Current rate A11OS-TDO costs $8,054.45

Add option costs $7,714.99

Data Summary:

Concurrent Units kWh 30,378.78
Total Units kWh 60,757.56
Total Demand kW 167.02 05/09/2019 16:45 AM

Demand:

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Rate Class</th>
<th>Rate Description</th>
<th>Bill Calculation</th>
<th>Cost Class</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current 1</td>
<td>PG</td>
<td>Medium General Demand Nightly Service - Thursday through Sunday 11AM-3AM</td>
<td>Default</td>
<td>2.50565</td>
<td>8.00</td>
</tr>
<tr>
<td>Alternative 1</td>
<td>PG - As</td>
<td>Small General Time Of Use Cares</td>
<td>Default</td>
<td>7.02454</td>
<td>14.42</td>
</tr>
</tbody>
</table>

Bill Charges - PG - AS:

- Energy Charge: $9,159.56
- Demand Charge: $4,930.74
- Total Charge: $14,090.30

Bill Charges Details:

- Base Rate: $9,159.56
- Demand Rate: $4,930.74
- Total Bill: $14,090.30

Note: Normal usage: 00AM-03AM, 11AM-03AM, 06AM-11AM, 06PM-09PM, 09PM-06AM.
The **What If Analysis** report also calculates costs based on load changes. Follow these steps to create a **What If Analysis** report:

2. Choose the meter and customer location as in steps 2 through 4 of the Energy and Cost Benchmark report above.
3. Choose the report dates from the drop down menu or input your own selection.
4. Click “**Apply Load Change**” to select load change options.
5. A pop-up window will appear to input the load change details.
6. Click “**OK**” and you return to the main screen.
7. Click “**Create**”

After you click create, the report appears on the right side of the screen. To choose other load change options, click “**Clear Load Change Settings**” and repeat steps 4 through 7. These steps are illustrated on the following screens.
To create a Cost Variance report:

2. Choose the meter and customer location as in steps 2 through 4 of the Energy and Cost Benchmark report above.
3. Choose the report dates from the drop down menu or input your own selection.
4. Choose comparison period from the drop down menu or input the start date of the period.
5. Click “Create.”
After you click create, the report appears on the right side of the screen. These steps are illustrated on the following screens.
To create a Bill Charges report:

2. Choose the meter and customer location as in steps 2 through 4 of the Energy and Cost Benchmark report above.
3. Choose the report dates from the drop down menu or input your own selection.
4. Click “Create.”
After you click create, the report appears on the right side of the screen. These steps are illustrated on the following screens.
Scheduling Reports

You can schedule reports to run automatically and be delivered to you by email, in the format(s) of your choice.

To schedule a report

1. From a report, click **Save and Schedule.**
2. In the Save and Schedule dialog box, enter a **Name** and **Category** for the report
3. Click the **Schedule Delivery** tab.
4. Do one of the following:
   a. Select an existing schedule from the drop-down menu.
   b. Select an existing schedule and click **Edit** to modify it. Modify the frequency, time, start date or optional end date of the schedule and click **OK.** (Changes made to a schedule apply to all reports assigned to that schedule.)
   c. Click **New** to create a new schedule. Enter the frequency, time, start date and optional end date of the schedule, and click **OK.**
5. Select one or more formats for the delivered report by clicking the checkboxes. Formats include PDF, HTML and Excel export.
   **NOTE:** The Excel format only includes data tables, not charts and graphs.
6. Enter one or more email addresses to send the report to. Separate multiple addresses with a semicolon. Do not put spaces between the addresses.
7. Enter a **Subject Line** to use in the delivery email.
8. Click **OK** to save, or **Cancel** to abort and return to the report.
To manage schedules

1. From the Home tab, click **My Favorites**.
2. Click the **My Schedules** tab.
   a. To create a schedule, click **New Schedule**.
   b. To modify an existing schedule, click **Edit Schedule**.
   c. To delete a schedule, click **Delete Schedule**. Click OK to delete the schedule permanently, or Cancel to abort and skip the following steps.
3. In the Schedule dialog box, enter the frequency, time, start date and optional end date, of the schedule. The start date sets the day of the week, or the month, that the report will run.
4. Click **OK** to save, or **Cancel** to abort and return to **My Schedules**.

**Contact:**

Keep your contact information current to ensure that you receive scheduled reports, and alerts, in a timely manner.

1. From the **Home** tab, and click on **My Settings**.
2. Click the **Contact** tab, and enter you contact information.
   **Contact methods include:**
   a. Email Address
   b. Work Phone
   c. Fax
   d. Pager (Must be in email format, e.g., 8001234567@carriername.com)
3. Click **Save**.