UNITED ENERGY CONSULTANTS LLC

# Project Proposal


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# UTILITYMODULE 4.0

## Interactive Energy Management Software

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UTILITYMODULE

# Introduction

UTILITYMODULE

## Who We Are

UM Technologies (UM Tech) is a custom programming and software development company that offers flexible, premium software and creative business solutions.

> “ Premium Software Providing Superior Business Solutions ”

## Our Team

We are designers, coders, energy experts and implementers, focused on providing exactly the specific result you desire. Whether you want an out-of-the-box solution or a highly customized application, our team of experts can create the result you need.

UM Tech’s integration specialists will work with you to understand your specific needs. Our talented team of designers and coders will develop and implement your customized solution. We will work to ensure that UtilityModule matches the look and feel of your existing brand, and coordinate with your IT staff to integrate with any internal databases or applications.

**Our goal is to design, develop and implement your customized application of *UtilityModule.***

# Software Solutions

UTILITYMODULE

## The Solution to Utility Management

*UtilityModule* is a state-of-the-art, customized software system developed and exclusively delivered by UM Tech to manage utility costs and consumption. It serves as the central management tool to analyze data, efficiently group accounts, and maintain, service and advise users on the performance of their contracts, budgets and energy consumption. Whether managing a single facility or hundreds of facilities across the country, *UtilityModule* provides an array of property information, including annual budgets, daily re-projections, year-end forecasts, accruals, budget tracking, charts and reports, as well as savings analyses. Additionally, a minimum of two years of data history is maintained online at all times, providing the ability to compare costs and consumption in various views.

## The Importance of Managing Data

You can't manage what you can't track. *UtilityModule* provides the integration of utility operations, finance, procurement and accounting efforts into an easy-to-use interface. Users will receive system generated updates advising of changing market conditions and their impact on users' budgets and expenses. Email alerts are generated to notify users of any utility variances, so that appropriate action may be taken. *UtilityModule's* robust tracking system, combined with effective commodity procurement, results in greater control of overall expenses and enhanced data management.

- Saves Staff Time
- Ensures Accurate Data
- Reduces Utility Errors
- Offers On Demand Reporting
- Optimizes Deregulated Purchasing
- Provides Analysis at Your Fingertips
- Issues Proactive Utility Alarms
- Consolidates Utility Processes

# Back End Features

UTILITYMODULE

## 1. Deployment and Development

### Cloud-based solutions with flexibility to integrate with multiple systems.

With *UtilityModule*, there is no need for internal technical staff or infrastructure, as everything is hosted in the UM Tech cloud. Customizations are available for integration into your existing applications and databases, either via flat files or using a RESTful API. The greatest challenge with a comprehensive utility management portal is integrating with both the supplier and utility company in order to provide users with a complete view of their usage and costs. However, UM Tech has elegantly solved this complex problem by developing this process to integrate directly with most suppliers and utility companies, as well as providing an advanced data acquisition process for those utilities which are not automated.

- Suppliers send current rates to *UtilityModule* on a scheduled basis
- Using Data Capture, *UtilityModule* can import customer invoices from the utility company
- Web-based interface works on desktop, tablets or smartphones

## 2. Security and Access

### Flexible and unlimited access to *UtilityModule* for your customers.

You can set up user access to UtilityModule to allow that user a view based on portfolio, property or building. In addition, there are several permission levels, including “read only” to set access, accounts payable and admin status which allow users to set alerts and establish budgets within *UtilityModule*. Our secure servers keep user data private and only accessible to authorized users. With an unlimited number of user logins available, *UtilityModule* can be scaled to handle any size portfolio.

- Strong passwords required and established by system on setup
- All requests are made using SSL (Secure Socket Layer) connections
- Hierarchal levels of user access
- Unlimited number of user accounts and unlimited simultaneous users

## 3. Organizational Structure

### Database hierarchy to support your business model.

*UtilityModule* stores individual meter invoices to provide users a very granular level of detail. The database hierarchy groups these meters into properties, buildings and utility types to offer the user multiple ways of viewing utility data.

- Data stored at meter / account number level
- Meters can be grouped by building, portfolio or properties
- *UtilityModule* can even be used to track contracts from other utility types, including water and sewer

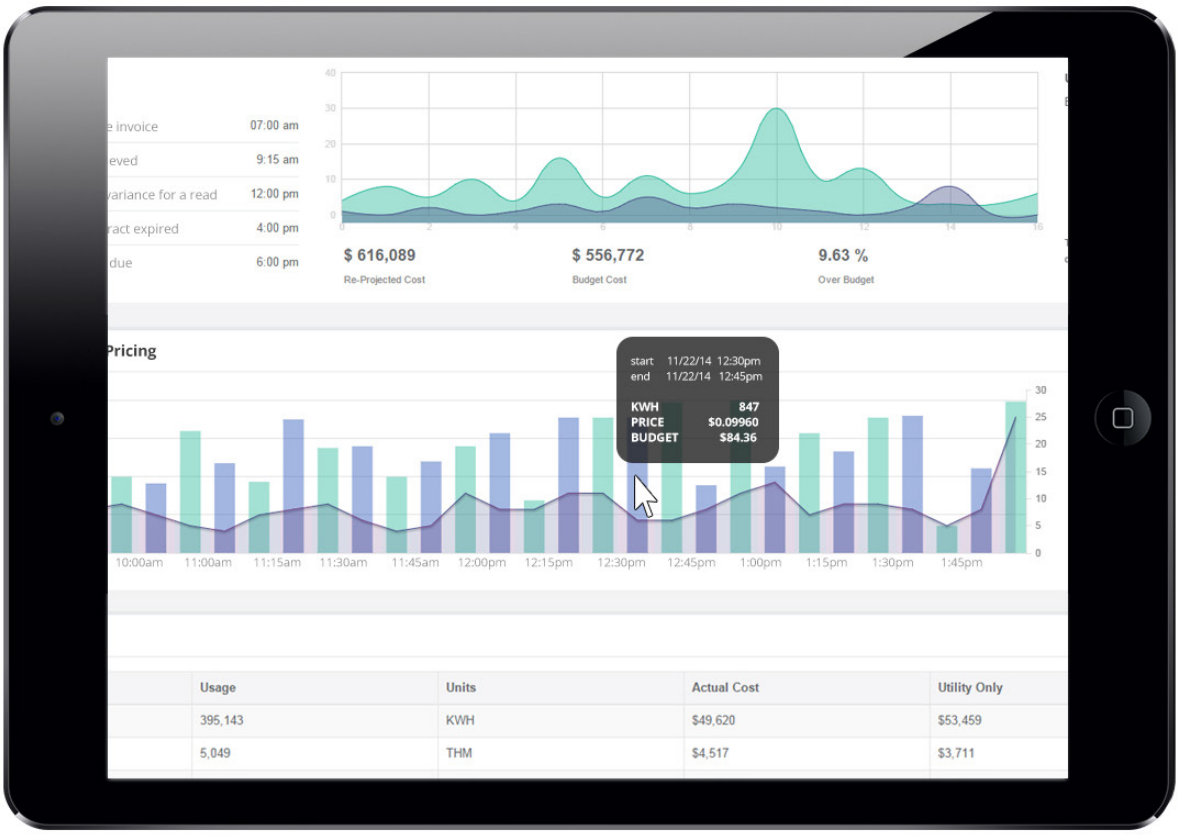
# Front End Features

UTILITYMODULE

## Pricing and Usage in Real-Time

Real-time data displayed in 15 minute increments and stored securely on server.

UM Tech will integrate with utility companies or customer meters to acquire interval real-time usage and demand data. This data can be merged with contractual real-time pricing or market based trading to create budget projections and invoice audits.




The 15 minute data is stored on secure servers, while the feed remains in *UtilityModule's* real-time atmosphere. Data may be scrubbed and alarms set to provide pricing alerts, usage anomalies and demand spikes, as well as any other critical real-time metric.

Should the customer have contractual specifications or any details that are pertinent to the analysis, UM Tech can build custom reports or data links to any available data source.

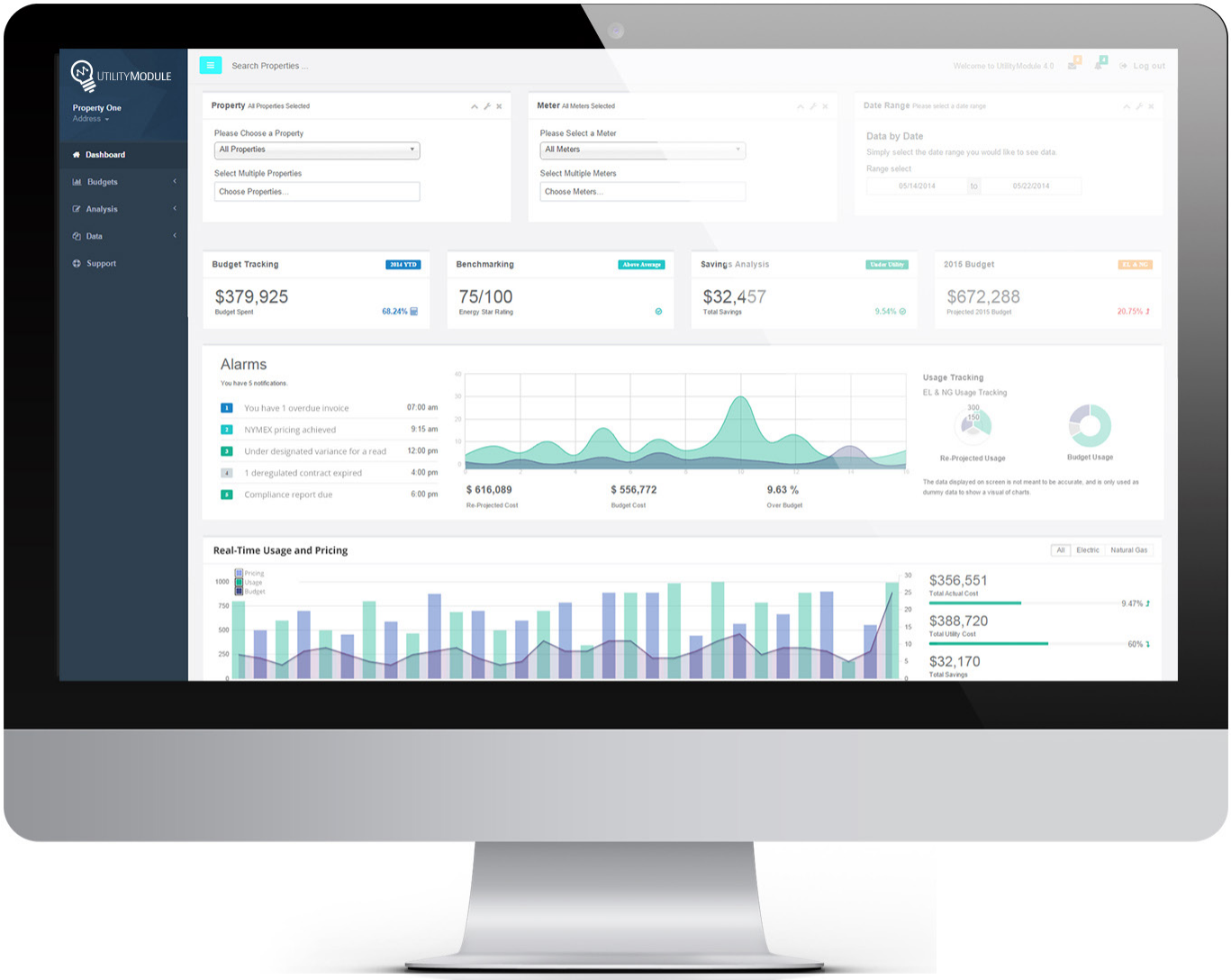
# Front End Features

UTILITYMODULE

## Customized Dashboard

Allows customers to choose the information they want to view upon login.

Allows users to create their own *UtilityModule* experience by selecting among hundreds of widgets to so they can view the data that is most important to them.




- Choose from hundreds of available widgets
- Drag and drop interface to customize your dashboard and create your own UtilityModule experience
- View animated graphs and charts

# Front End Features

UTILITYMODULE

## 1. Reporting

### Build, customize and download charts and reports.

*UtilityModule* houses a section dedicated to building customized reports called *Report Builder*. This function allows the user to define a date range, preset analytics, compile raw data, or any combination thereof and to export the data to various formats, including PDF, Excel and CSV. Those customized reports may be saved as "favorites" and recalled at a later date with new data and analytics factored into the format.

UM Tech can create various mailing lists which will generate reports and schedule a time for reports to be forwarded to the users. These reports may come from any current prefabricated templates, a customer designed format, or any customization that might be required in the future.

*UtilityModule* presents data in an Infographic view, with an emphasis on icons, charts, and interactive displays. Customized reports can be created with both data, analysis and a graphic representation of the data. *Chart Builder* allows the user to customize displays, including date ranges, preset functions, compile raw data or any combination thereof.

The alarms section of *UtilityModule* creates a nightly variance email which compares the budgeted usage, demand and costs to the actual usage, demand and costs; users are then notified of any variance down to the meter level. The alarms can be expanded to year over year analysis or property to property.

Energy efficiency projects may be tracked with the *Demand* section as well as within *Report Builder* and *Chart Builder*. The specific implementation date will produce a weather normalized analysis of pre and post project performance, along with consideration for market trading differentials, utility rate changes and new deregulated contracts.

## 2. Bill Tracking

### Accurate and timely acquisition of customer invoice data.

Whether for natural gas, electricity, water or sewer, UM Tech has developed processes to acquire raw data on usage, demand and granular monthly costs. The process varies from utility to utility and supplier to supplier, but the result is the automated and timely acquisition of critical data for calculating budgets and forecasting financial projections. The raw data (usage and costs) may be analyzed and reported in various established reports or in a customized user experience.

*Budgets* and *Forecasting* utilize collected utility and supplier data, and utilize that information with proprietary algorithms to calculate weather normalized load shapes, projected utility costs, projected supplier costs, trend consumption models, market trading and other variables. All of the variables involve granular data captures such as NYMEX hedges, block and index electric contracts, load shaped electric purchases and various other variations of a fixed priced contract.

Within the *alarm* section of *UtilityModule*, the user can set alarms based on contract expiration (date), specific NYMEX trigger (weighted average cost of gas) or specific budget triggers (inclusive of deregulated contract and utility costs). These email alerts will spark action on behalf of the user, rep and company to execute transactions on existing contracts and/or renewal contracts.

- Track any utility type including electric, natural gas, sewer or water
- Use *UtilityModule* alarms to be notified when a contract is set to expire
- Displays actual usage and costs, including supply costs
- Determine savings by comparing deregulated cost versus supply cost

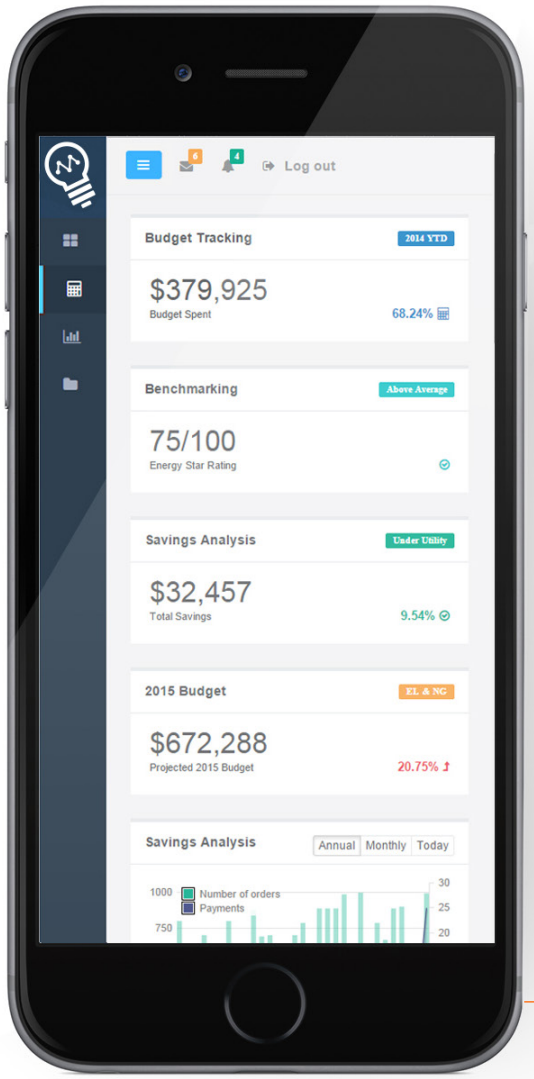
# Front End Features

UTILITYMODULE

## 3. Budgeting and Forecasting

### Create accurate and easy to manage annual budgets.

The raw data, collected through the supplier and utility processes, is categorized into calendar buckets and defaulted to either the cash or accrual views in the system. The cash view, an accounting perspective, logs the usage and expense associated with the meter read end date and when the invoice is captured on the books. The accrual view, an operational perspective, will prorate the usage and pro-rate expenses across the meter read period and associate the applicable amounts to the months in which the usage was likely to have occurred.




Normalization is a significant functionality within *UtilityModule* and there are various methods in which usage and expense are explained to the user. Weather normalization creates a standard year based on 30 year averages of heating and cooling degree days and compares actual results against the baseline. The analysis also accounts for rate normalization, which will explain expense spikes associated with a change in deregulated contract rate and/or utility rate schedules. These analysis periods may be defined and the granular data will normalize within the applicable range and provide results.

*UtilityModule* has embedded functionality which analyzes weather sensitive and baseload usage, which can be normalized to create a purchasing profile. The functionality allows the user to increase a projected profile by increasing and/or decreasing heating degree days, cooling degree days, baseload usage or full operational usage.


tel . 201 820 8565 peter@uecnow.com www.uecnow.com

# Front End Features

UTILITYMODULE

## 4. Energy Knowledge

### Stay in compliance by comparing energy usage to portfolios and properties of similar building types.

*UtilityModule* is an approved partner with Portfolio Manager and the EnergyStar program. This designation allows the system to link and update nightly with any changes made to the user accounts that day. Therefore, the changes and reporting analytics are regularly updated and accessible.

The sharing of information between *UtilityModule* and Energy Star allows for the creation of an account and the setup of specific spaces and buildings through *UtilityModule*. This provides the specific user access to an Energy Star rating, compliance reporting with local benchmarking laws, and portfolio level comparisons to gauge energy efficiency. All of these metrics can be equated to greenhouse gas, green energy, CO2 reporting, and various conversions available through the systems.

The communication mechanisms embedded within *UtilityModule* are specifically designed to create "touches" with the customer on a regular basis. The ability to associate *UtilityModule* with the user's utility accounts is the goal. This is accomplished through regular reporting on weather events, energy statistics, natural gas storage reports, predictions of pricing, federal, state and utility level rebates, as well as many other sources of noteworthy events.

As explained, *UtilityModule* utilizes 17,000 NOAA weather station points to maintain a database of heating and cooling degree data. Each meter inputted into the database associates with the closest station which is typically within 15 miles of the physical location. This ensures that accurate weather data is utilized in each weather normalization and load shape calculation.

*UtilityModule* provides the user with both the analysis and the internal mechanisms to impact behavior at the user's location. Analysis will be made available in the portal, even emailed in certain events; however the system was designed to have actionable items also sent internally, possibly to a larger community of trusted partners. If these actions should motivate a user to undertake an ESCO project, *UtilityModule* contains all the embedded reporting to measure and verify the savings associated with the project, inclusive of weather, rates, other projects, etc.

# Front End Features

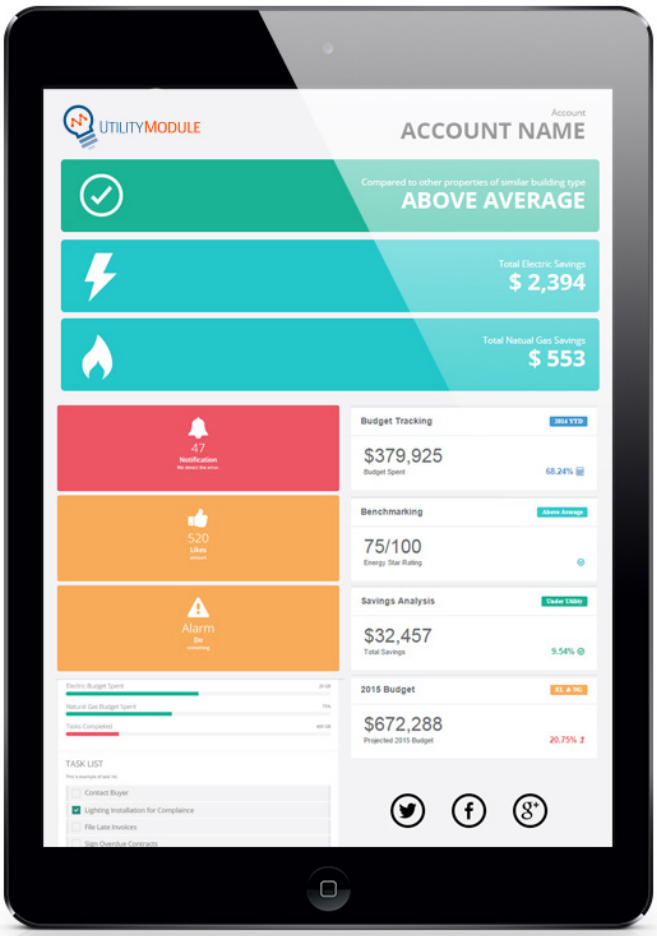
UTILITYMODULE

## 5. Project Tracking

### Track energy supply contracts and management projects.

The optimal application of *UtilityModule* provides financial knowledge which promotes management of utilities as one would manage other business assets and encourages proactive changes to the site. This has prompted customers to institute improvements such as new HVAC systems, cogeneration units, green projects, lighting retrofits and other installations. Back end *UtilityModule* service measures and verifies the success of these projects through monthly savings statements. The savings are customized reports which factor in weather, utility rates, deregulated supply contracts, and expense reduction across all utilities. Many ancillary impacts are also factors, including improving load factor for commodity purchasing, reducing ICAP and/or capacity assignment, qualifying for demand response or curtailment services, and various other secondary benefits.

*UtilityModule* houses all deregulated contract activity as a critical component of future expense projections. All components are logged at the contract level (fixed, basis, variable, hedges, index...) as well as at the invoicing level, including commodity, swing, balancing, taxes and many others. The supply contracts may be tracked and alarms set by expiration date, trigger market pricing and/or overall budget triggers.




## 6. Gamification

### Compare how you are doing in relation to other similar properties.

The monthly report card is a quick way to see how an account is performing in relation to the budget, savings and other meters within the account. When tied in with the Social Sharing feature, results can be posted to your social networks.

## 7. Social Media Integration

### Brag to your contacts about how much money you are saving.

Did you save 25% in costs this month after a new energy saving project? Is your deregulated contract saving you an average of 15% over previous years? Share this information on Facebook, Twitter and LinkedIn.

# Extra Features

UTILITYMODULE

## Responsive Design

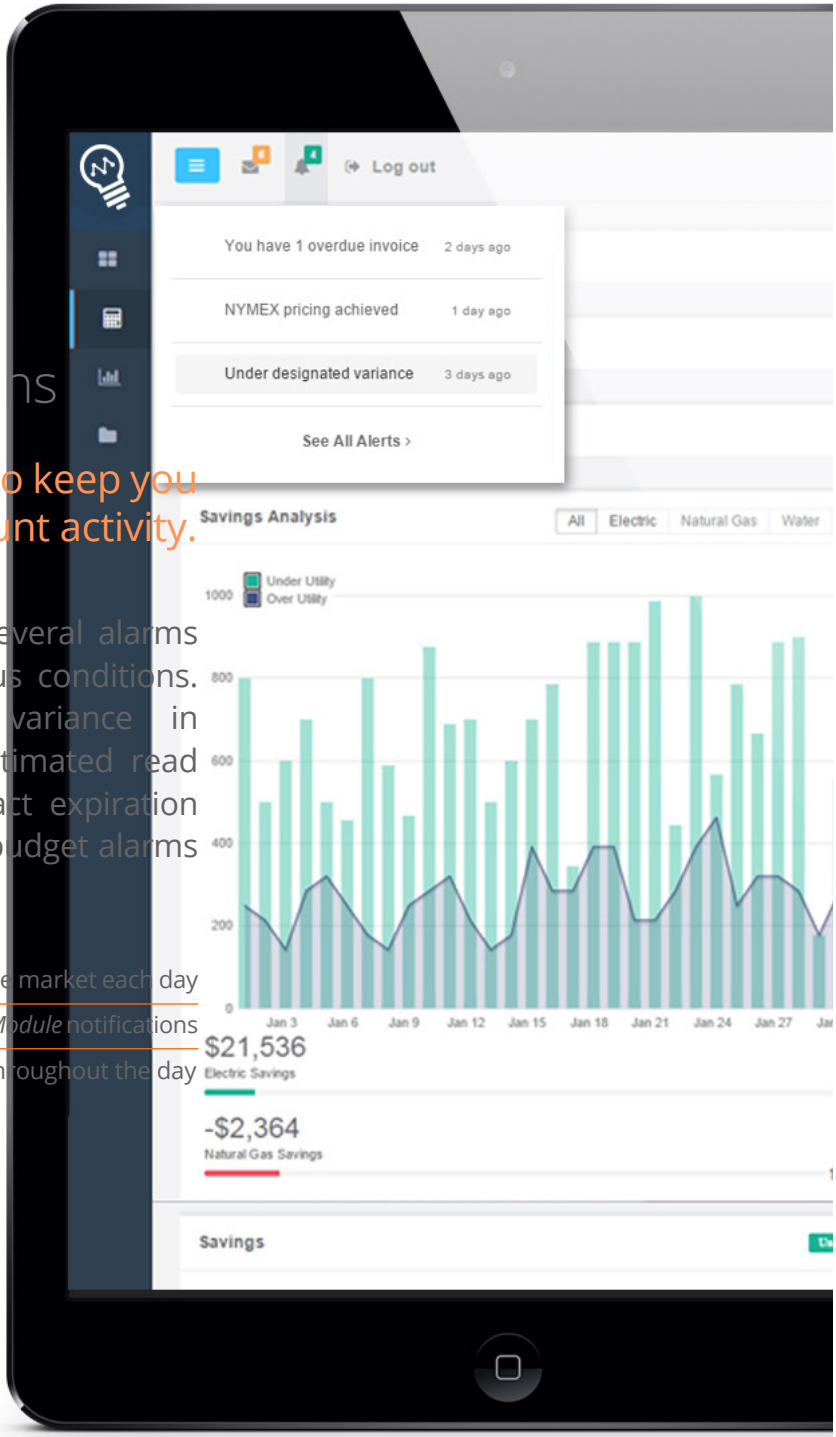
### Access your information on all devices.

*UtilityModule* is a state-of-the-art web-based application, which provides customized experiences, based on the devices customers use to log in. Native applications for iOS, Android and Windows devices are available as a customization.

- State-of-the-art interface built using HTML5 / CSS3 / JQuery
- Works on Desktops / Tablets / Phones

# Extra Features

UTILITYMODULE




## Alarms / Notifications

### Alerts and notifications to keep you updated with your account activity.

Administrators may set up several alarms to notify customers of various conditions. Available alarms include variance in usage for each utility, an estimated read notification, upcoming contract expiration dates, and NYMEX price and budget alarms for natural gas customers.

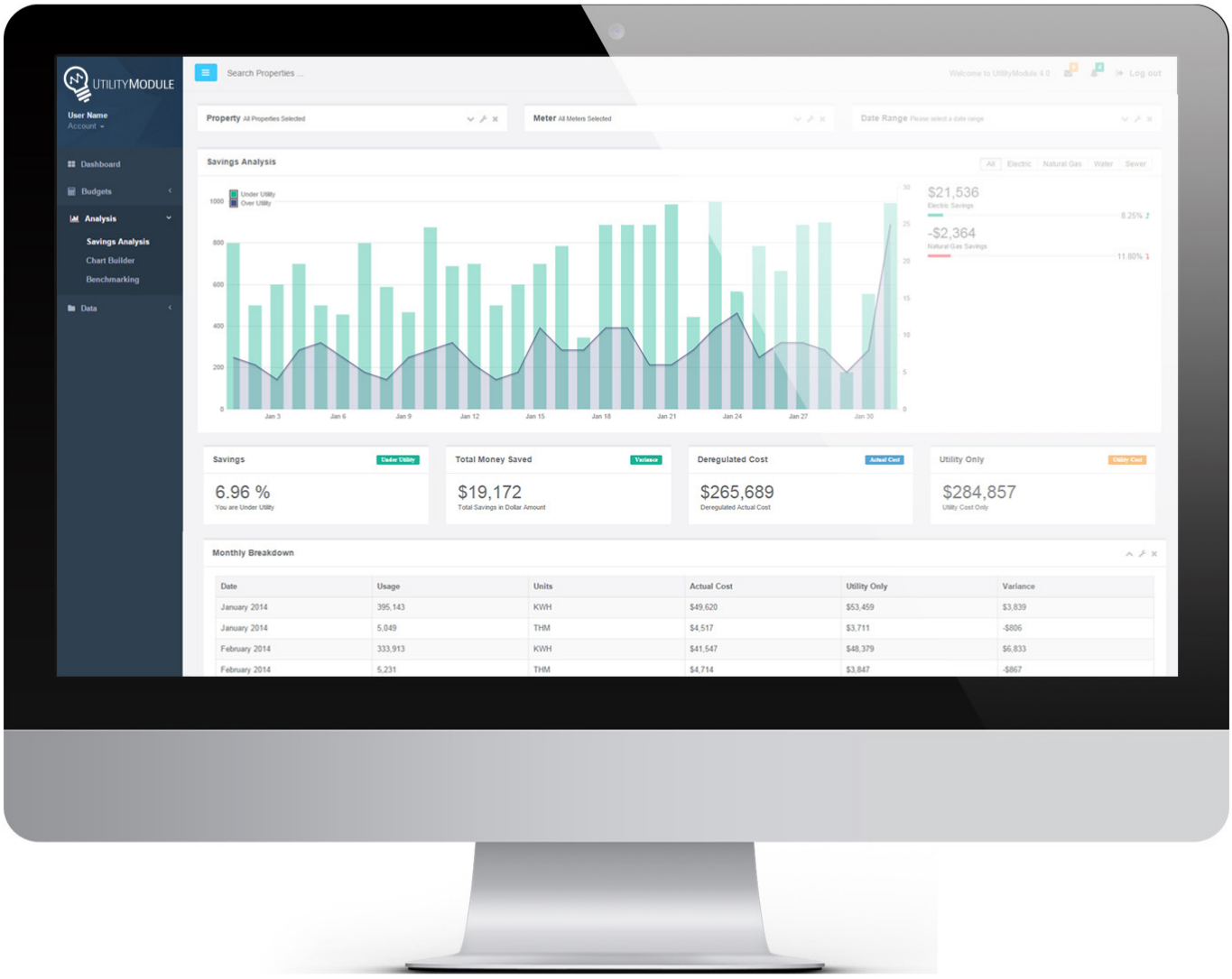
- Prices download after the close of the market each day
- Receive alerts via email, text or *UtilityModule* notifications
- Projections calculated periodically throughout the day

# Extra Features

UTILITYMODULE

## Savings Analysis

View savings by comparing deregulated cost with utility costs.




Savings Analysis displays deregulated contract performance and cost savings. Supplier contracts and hedge programs often reveal immediate savings opportunities. A full risk analysis will determine if your customers' positions in the market match their organizations' risk tolerance.

# Extra Features

UTILITYMODULE

## Benchmarking

### Comply with city laws by linking to EnergyStar.

*UtilityModule* assists in the management of the benchmarking process by detailing, per property, standard metrics for energy usage that can be used in measuring and tracking energy efficiency projects. *UtilityModule* displays usage and cost per square foot and per unit, and the gathered statistics can be compared to other properties in the portfolio as well as the portfolio averages or groups of similar property types.

- Track and compare energy use to portfolios and properties of similar building types
- Link accounts to Energy Star and receive a rating

## Demand Analysis

### Calculation of energy use divided by square feet.

When benchmarking a property, one key factor involved is Energy Use Intensity. The EUI (energy use divided by square feet), is a calculation used to determine how a property compares to other properties with similar building types. *UtilityModule* calculates Energy Use Intensity for each property and makes a comparison with other properties.

- Customizations available to convert to and use any standard preferred
- Connect to EPA's Portfolio Manager for even more available features

## Invoicing / Data Capture

### Download your customers' utility invoices while you sleep.

*UtilityModule* integrates with several utility companies, in order to automatically download user invoices and import the invoice data into the *UtilityModule* database. This allows you to address accounts with problems or issues, rather than focusing on data entry.

- Nightly, automated processing
- Screen scraping reduces errors
- All invoice information is available in *UtilityModule*

# Conclusion

UTILITYMODULE

## Contact Information

### General Questions

Peter Kaplan
201-820-8565
peter@uecnow.com

# THANK YOU

UNITED ENERGY CONSULTANTS LLC