

# SkyFoundry Insider

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## Now Deployed to over 10,000 Facilities – More than 650M sq ft !!!

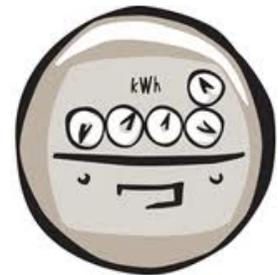
It's around this time each year that our partners provide an updated report their deployments of SkySpark®. We are incredibly honored to report that SkySpark is now deployed to over 10,000 facilities worldwide, encompassing over 650 million sq ft (>60 million m<sup>2</sup>).

The continued rapid growth in the use of SkySpark Analytics software validates the clear financial benefits of applying analytics to building and equipment systems to reduce energy and operational costs. It's also validation of the effectiveness of SkyFoundry's worldwide partner channel, a network of independent systems integrators and specialty engineering firms, that provide building managers and owners the greatest freedom of choice in the industry for deployment, service and ongoing consulting and support services.

A key capability enabling this success is SkySpark's fully programmable approach to analytics. By combining a library of over 500 analytic functions with full user programmability, SkySpark allows building owners and managers to utilize their specialized knowledge in conjunction with the deep expertise of SkyFoundry partners to implement analytics to fit the unique characteristics and requirements of individual facilities.

## In This Issue

### SkySpark Introduces the Rate Modeler and Tariff Engine



Now you can model complex utility rates to calculate costs for energy use and Sparks (pg 2)

**Project Haystack** Simplifying data for the Internet of Things

### Haystack Community Grows with New Associate Members

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# Taking Cost Analysis to the Next Level: SkySpark's Rate Modeler and Tariff Engine

Improving financial results is the prime driver in applying data analytics to facilities and equipment systems. The role of analytics in reducing energy and operational costs is well proven with thousands of successful implementations. In addition, independent studies have also verified that more efficient facilities have higher overall financial performance. <http://carbonwarroom.com/news/2015/06/19/news-sustainable-buildings-pay-real-estate-investors-finds-first-its-kind-study>

A critical element of using analytics to drive these financial benefits is the ability to assign costs to energy and other resources (water, oil, natural gas, etc), and to be able to correlate the costs associated with operational issues identified by analytic rules. One of the great challenges in assigning costs to energy use and analytic findings is the complexity of energy rates. It's reported that there are over 30,000 different rate programs in the US alone!

In order to address the need to calculate costs based on real world, complex energy rates we are excited to introduce a major new addition to SkySpark - **The Rate Modeler and Tariff Engine**. This new capability allows you to more precisely calculate the costs associated of energy (and other resources) and apply those costs to sparks identified by SkySpark rules and energy usage.



This new capability is a natural extension that builds on SkySpark's existing cost features, which have always allowed cost factors and formulas to be added to Rules and energy meters.

## Rate Modeler Supports Real World, Complex Energy Rates

The rate modeler allows rates to be defined based on a wide range of billing "charges" including:

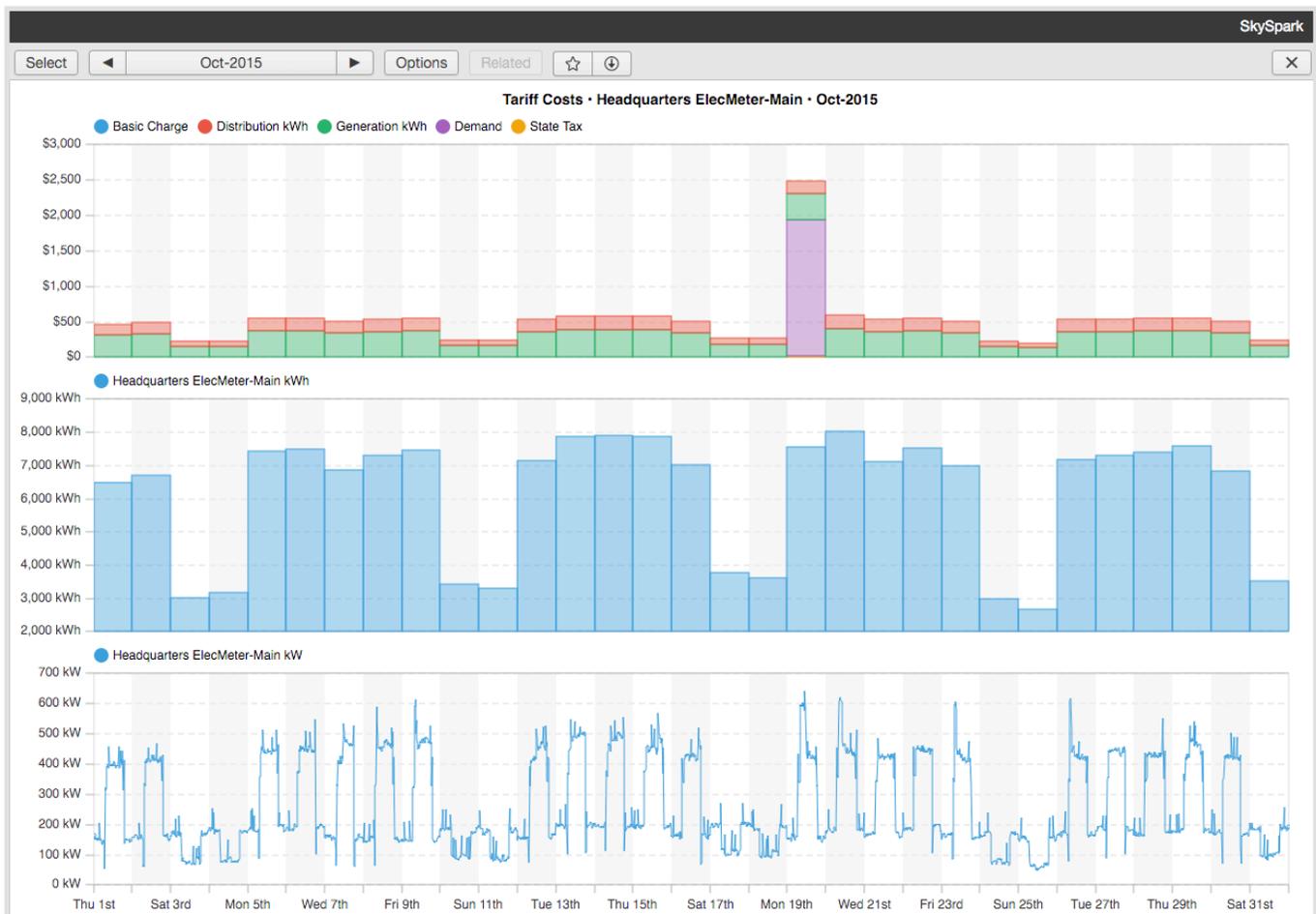
- Consumption
- Demand
- Service and equipment charges (both fixed rate and percentage-based)
- Minimum contract charges
- Distribution and Generation charges
- Ratchets
- Time of Use including both time of day and monthly use factors
- Ranges (or blocks)
- Currency
- Custom charges which can be expressed as math functions
- Definition of billing periods (including support for variable billing periods)
- Variable fees based on data retrieved from external systems

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# Taking Cost Analysis to the Next Level: SkySpark's Rate Modeler and Tariff Engine

Con't from pg 2

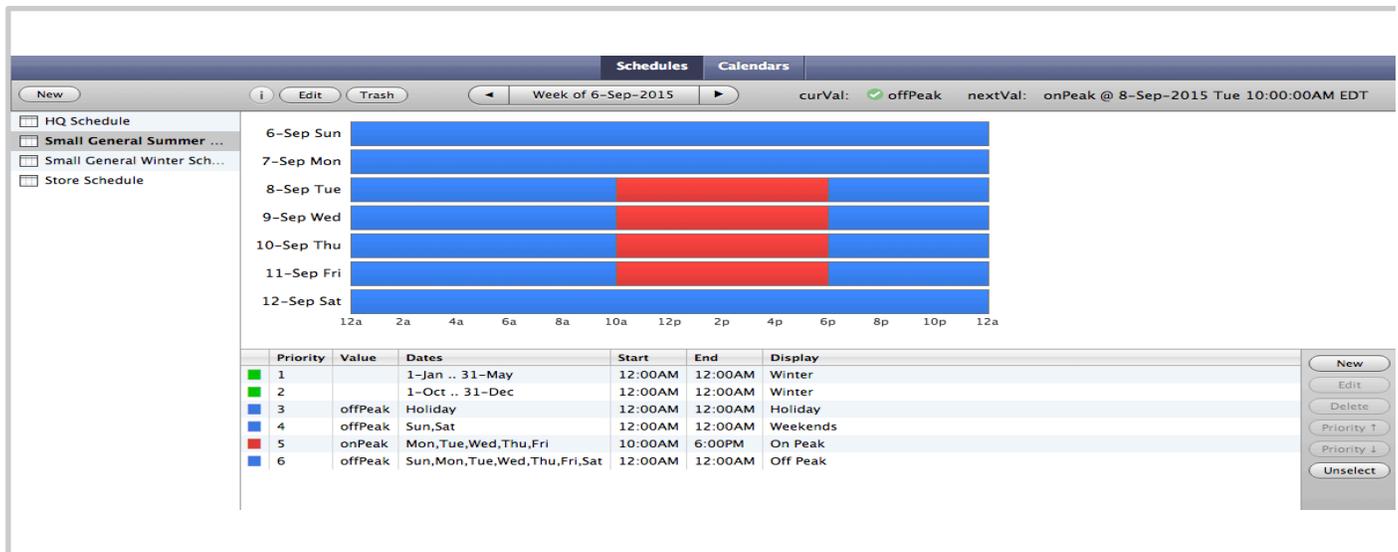
Once the "charges" that make up a tariff rate are defined the next step is to assign the tariff to equipment systems such as meters. The SkySpark Tariff Engine then calculates costs based on those charges. The result is precise calculation of cost associated with electric and other energy resources. The view below shows an example of cost based on a rate with 5 charges: a basic charge, distribution charge for kWh, generation charges for kWh, a demand charge and state taxes.



The screen above – a SkySpark 3.0 preview by the way – shows energy cost data calculated by the new Tariff Engine feature. Similar displays can be produced today in SkySpark 2.1 Apps.

# Cost Analysis Tools Support The Journey to More Efficient Facilities

The Tariff Engine features can be used in conjunction with SkySpark's scheduling features to create schedule-aware tariffs that take into account Time of Day, and Monthly and seasonal tariff elements.



SkySpark screen showing schedule factors added to a Tariff rate



While it's true that not all analytic findings can be easily associated with costs, a significant portion of analytic results can have costs associated with them.

Being able to present cost data enables facility managers to:

- Develop more comprehensive proposals and justifications for upgrades, repairs and improvements
- Plan operating and capital budgets
- Increase organizational awareness of the financial implications of operational systems
- Present operational data in the language of financial managers

In fact, in our experience one of the key benefits of SkySpark analytics is the clarity and visibility it brings to the financial impact of operational issues. SkySpark's analytics and visualization tools give facility managers and operators financial and reporting tools on par with the tools used in other departments.

SkySpark's Rate Modeler and Tariff Engine tools are available today in release 2.1.12 along with complete documentation to help users implement tariff rates for their projects.

# Energy Star Portfolio Manager®

## Part of SkySpark's Suite of Energy Tools

While we are on the topic of energy analysis and reporting its worth revisiting another major energy-related feature of SkySpark® that is seeing increasing adoption – SkySpark's integration with Energy Star Portfolio Manager. SkySpark's Energy Star App allows you to set up a connection to Energy Star and define an Energy Star "property" (referred to as a Site in SkySpark) and add tags to define required items like area, year built, address, occupancy percentage, & primary use function.



Once your properties are set up, SkySpark can automatically push energy consumption data into PM on a continuous basis, or as a one-time batch. SkySpark automates your Energy Star reporting !!!

Uploading consumption data to PM is the first step in utilizing PM features for benchmarking your building performance against the PM "peer group" database of buildings. Portfolio Manager provides over 100 different metrics that give you insight into how your property is performing.

Developed by the EPA, ENERGY STAR Portfolio Manager®, is an online tool you can use to measure and track energy and water consumption, as well as greenhouse gas emissions. It can be used to benchmark the performance of one building or a whole portfolio of buildings. Use of Portfolio Manager is growing – over 40 percent of U.S. commercial building space is benchmarked in Portfolio Manager.

You can also use Portfolio Manager to get an Energy Star rating for your building. This score compares your building's energy performance to similar buildings nationwide. A score of 50 represents median energy performance, while a score of 75 means your building performs better than 75 percent of all similar buildings nationwide. Buildings with scores of 75 or higher may be eligible for ENERGY STAR certification.

Energy Star Portfolio Manager is the tool of choice used as the reporting mechanism to support new initiatives by major cities that have enacted energy reporting and disclosure requirements in their jurisdictions. Chicago and Boston recently joined the ranks of New York City, Philadelphia, Washington, D.C., Seattle, San Francisco in adding these reporting requirements.

SkySpark's integration streamlines the process of complying with those requirements by automatically pushing energy consumption data collected from meters or BAS systems into PM. Today, over 40 percent of U.S. commercial building space is benchmarked in Portfolio Manager. And its not just for the US, Portfolio Manager is used by the Canadian Government as the platform for their national energy benchmarking program for existing commercial and institutional buildings.

You can get full details on Portfolio Manager at the Energy Star website at:

<http://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager>

Complete documentation on SkySpark's Energy Star App is included with the product.

# To the Cloud or Not To the Cloud

## *With SkySpark the Choice is Yours*

There's a revolution happening in the software industry. Applications hosted "in the cloud" enable organizations to utilize advanced software without having to install it locally and manage it with their internal staff. Cloud hosting of software can offer numerous benefits: easy expandability as systems grow, reduction or elimination of upfront capital costs, 24/7 server and application management, and more.



But, cloud hosting is not the right fit for all applications. Security concerns, or corporate policies may prevent companies from allowing their operational data from being moved outside their secure networks and hosted in the cloud. Others are concerned about being dependent on a single outside organization. So while the "cloud" can be great for some people, it's not a solution for all.

With all of the buzz about the "cloud" people often assume that SkySpark is only available as a cloud hosted, Software as a Service (SaaS) option. Not True !! SkySpark is unique in that it can be deployed in the cloud OR installed locally inside the perimeter of an organization's IT infrastructure. Want to take advantage of SkySpark as a cloud hosted application – just contact us and we can connect you to an authorized provider that offers SkySpark as Software as a Service, or organizations that offer complete Analytics services to facility managers.

*With SkySpark it's never "one size fits all". From the ability to create custom rules to match individual project needs, to custom reports, or integration with external applications of your choice via our open and fully documented API's, and the ability to install on-premise or in the cloud – SkySpark gives you unrivaled flexibility to meet your unique operational needs.*

SkySpark has been deployed on numerous cloud platforms including Microsoft Azure™, Amazon Web Services (AWS™), Proxios, and other providers. If cloud hosting is right for you its available with SkySpark.

### **Subscription Pricing – Another Advantage Offered by SkyFoundry**

Another benefit some organization see in the cloud approach is the ability to pay for software as a monthly service fee as opposed to having to commit to a large up-front capital expense. SkyFoundry offers a subscription pricing plan for SkySpark. And you take advantage of subscription pricing even if you choose to install SkySpark on-premise inside your own organization. ***SkySpark provides the greatest range of choice in the industry.***

## Project Haystack Continues to Grow with New Corporate Associate Members

One of the exciting announcements to come out of the Haystack Connect event was the establishment of a new Associate membership level in the Haystack organization. New Associate members include:

Altura <http://www.alturaassociates.com/>  
BASSG <http://bassg.com/>  
BUENO Systems <http://www.buenosystems.com.au/>  
Building Systems Solutions <http://buildingsystemsolutions.net/bss/>  
CABA <http://www.caba.org/>  
Controlco <http://www.controlco.com/>  
Grosvenor Engineering Group (Australia) <http://geggroup.com.au/>  
Intelligent Buildings <http://www.intelligentbuildings.com/>  
KMC Controls <http://www.kmccontrols.com/>  
KNX Association <http://knx.org/knx-en/index.php>

These new companies join the Haystack founding member companies:

Airmaster (Australia) <http://www.airmaster.com.au/>  
J2 Innovations <http://www.j2inn.com/>  
Lynxspring <http://www.lynxspring.com/>  
Siemens <http://www.usa.siemens.com/buildingtechnologies>  
SkyFoundry <http://skyfoundry.com/>  
Wattstopper <http://www.wattstopper.com/>  
Yardi/Enerliance <http://enerliance.com/>

Since its formation in March of 2011, The Project-Haystack organization (a 501C non-profit trade association) has grown tremendously providing the industry with an open-source, collaborative environment where people work together to address the challenge of utilizing semantic modeling (also known as tagging) to make data self-describing, thereby streamlining the interchange of data among software applications. The community has developed a flexible, extensible, data modeling approach and standard models for common equipment systems. The standard includes detailed documentation describing the data modeling techniques, significant libraries of consensus approved equipment models, and software reference implementations to easily enable software applications to consume smart device data that is "marked up" with Project-Haystack data descriptions.

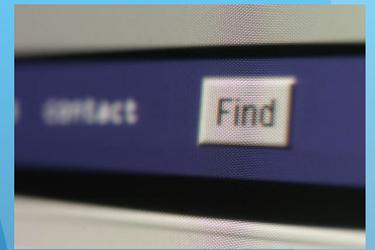
For information on becoming a supporting member of Project Haystack visit: <http://project-haystack.org/about>

# SkySpark® - Analytics for a World of Smart Devices

The past decade has seen dramatic advances in automation systems and smart devices. From IP connected systems to support for web services and xml data schemas, it is now possible to get the data produced by the wide range of systems and devices found in today's buildings and equipment systems.

Access to this data opens up new opportunities for the creation of value-added services to reduce energy consumption and cost, and to identify opportunities to enhance overall facility operations.

Access to the data is just the first step in that journey, however. The new challenge is how to manage and derive value from the exploding amount of data available from these smart and connected devices. *SkySpark directly addresses this challenge.*

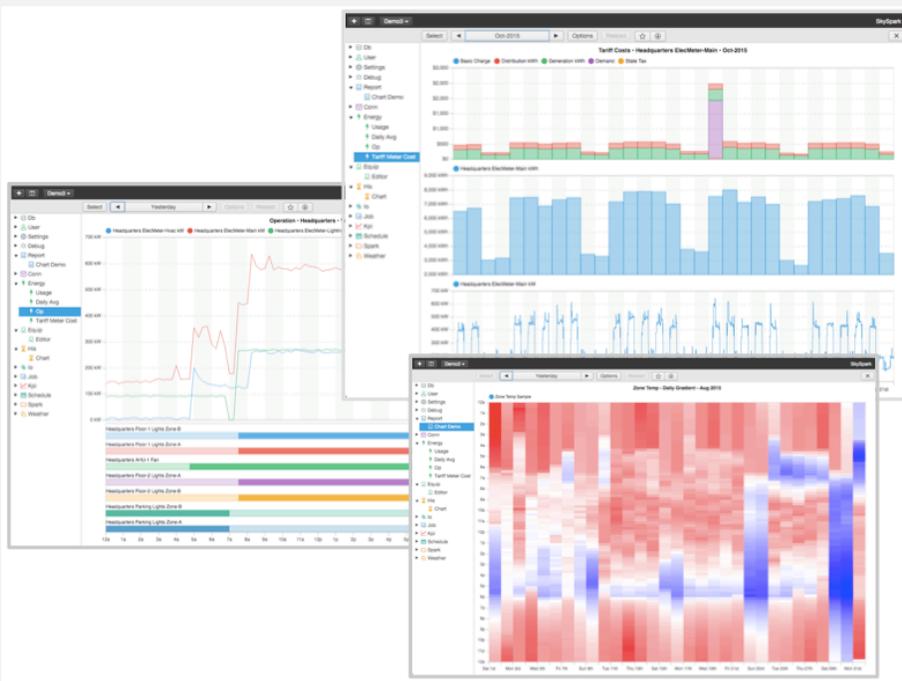


The new frontier is to efficiently manage and analyze data to *find what matters.*

## SkySpark 3.0 - Much More to Come !!!

The new Rate Modeler and Tariff engine are the first major pieces of the next generation of SkySpark to be released. The next set of features will take SkySpark's highly intuitive visualizations to the next level. Here's a quick teaser of new UI features to be released in 2016

# 3.0



*And just in case you were wondering, you will be able to update any SkySpark system to 3.0 without losing a single feature or App that you currently use and enjoy. Existing 2.0 Apps work side by side with all new Apps !*