SMART ENERGY DECISIONS

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The 2019 Innovation Awards

2019 Innovation Awards Editor's Note

It is with deep gratitude and excitement that we present the winners of the second *Smart Energy Decisions* Innovation Awards in this special issue of *Smart Energy Decisions Insights*. The awards were presented at a celebratory dinner capping off the *Smart Energy Decisions* 2019 Innovation Summit in Houston, Texas.

The objective of the ***Smart Energy Decisions*** **Innovation Awards** program is to recognize the individual and collective efforts of large electric power users, their suppliers, and their utilities in support of the energy transformation currently taking place. Innovation Awards are presented in two categories—customer project awards and utility partnership awards. In addition, this year we recognized several renewable energy sourcing partnerships with special awards.

The winners in the Customer Project Awards competition are: **Arconic, Atlantic County Utility Authority, AvalonBay, Cinemark, City of Yonkers, Equinix, Inc., Intel, Intuit, Kaiser Permanente, Ocean Spray Cranberries, Staples, Inc., Switch, University of California at San Diego, University of Maryland, University of Virginia,** and **Welltower Inc.**

The winners in the Utility Partnership Awards competition are: **Consumers Energy, PSE&G,** and **Puget Sound Energy**.

The winners of special Renewable Energy Sourcing Awards are: **Constellation & Starbucks, REsurety & Microsoft,** and **Sysco & NRG Energy**.

We'd like to thank the program's judges: Ali Ahmed, principal, Green Strategies LLC; Wolfgang Bauer, distinguished professor and associate vice president for administration, Michigan State University; Peter Kelly-Detwiler, principal, NorthBridge Energy Partners; Karl R. Rábago, executive director of the Pace Energy and Climate Center; David Reid, global energy and productivity leader, Celanese Corp., and Rowena Striff, energy manager, Lockheed Martin Aeronautics. Their extensive industry experience added greatly to our program.

We look forward to the exciting entries that are sure to be submitted during the 2020 Innovation Awards. Entries open on October 14, 2019.

Cordially,

John Failla
Founder & Editorial Director

2019 Innovation Awards Methodology

Nominations for the ***Smart Energy Decisions*** **Innovation Awards** were called for in October and November 2019. Nominations were accepted in the following categories:

Customer Project

- Energy Data Management
- Energy Efficiency Technology
- Energy Storage & Microgrids
- EV Charging Infrastructure
- Offsite Renewable Energy
- Onsite Renewable Energy

Utility Partnership

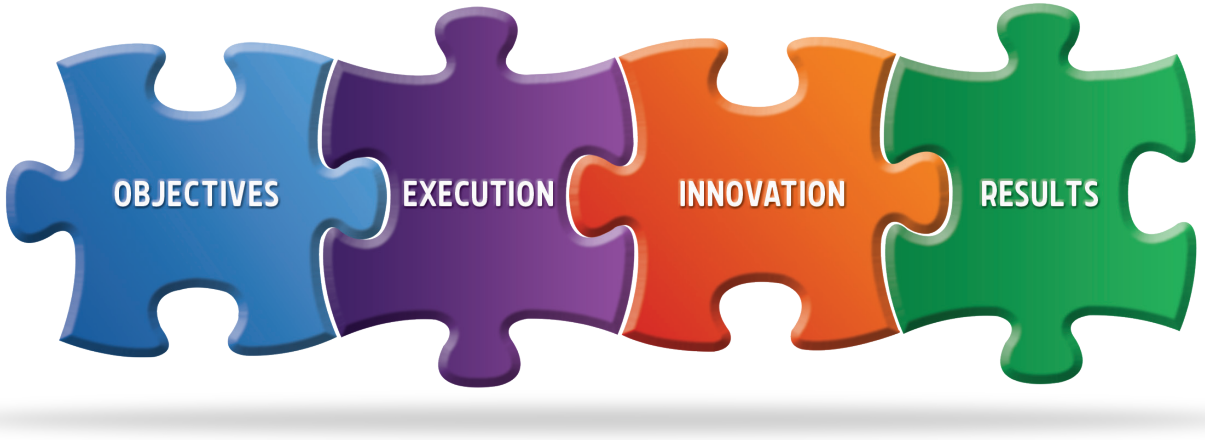
- Green Tariff Program
- Energy Efficiency Incentive Programs

Special Award Category

- Renewable Energy Sourcing

More than 100 nominations were received and reviewed by a panel of six judges. Submissions were judged on the **objectives** and **execution** of the project, the level of **innovation** (including approach, execution, use of technology, partnership or any other unique attributes) and **results** (including measurements, ROI, achievements and goals met).

Winners were announced in January 2019.

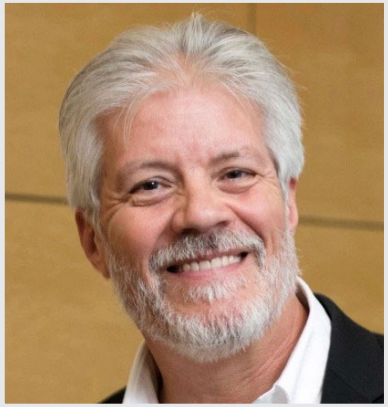


2019 Innovation Awards Judges

Ali Ahmed
principal,
Green Strategies, LLC

Wolfgang Bauer
distinguished professor and associate vice president for administration,
Michigan State University

Peter Kelly-Detwiler
principal,
NorthBridge Energy Partners



Karl R. Rábago
executive director,
Pace Energy and Climate Center

David Reid
global energy and productivity leader, Celanese Corp.

Rowena Striff
energy manager,
Lockheed Martin Aeronautics

Customer Project: Industrial Energy Data Management

Arconic

Arconic Builds a Single Source of Truth

Using a combination of solutions, **Arconic** was able to consolidate all aspects of energy management and procurement into one system for the tracking and analysis of supply chain performance, rate structure changes, and sustainability reporting. Judges were impressed that the project targeted complicated energy data with a single enterprise solution and provided empowerment to control and manage costs.

Photo: Steve Frank, sourcing manager of energy; Adam Vucelich, global category director of energy

Customer Project: Commercial Energy Data Management

AvalonBay Communities

Avalon Bay, SmartKit AI Smart Building Software

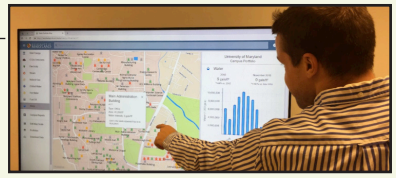
Avalon Bay Communities faced high energy expenses at its buildings in New York City and Boston. Using Logical Buildings' smart buildings software and solutions, energy usage can now be analyzed in real-time, leading to actionable insights and significant cost-savings and the ability to participate in demand response programs. Thanks to this success, the company will now roll out the program to other locations.

Photo: Jeff Hendler, CEO of Logical Buildings, AvalonBay's partner on the project

Customer Project: Higher Ed Energy Data Management

University of Maryland

TerpFootprints Energy Dashboard



Given the premise that "a picture is worth a thousand words," the Dashboard has become a crucial tool for facility management planning as well as project proposal and budget justification as it assimilates energy-related data for the **University of Maryland**, a campus that hosts approximately 14.1 million gross square feet with 254 buildings. The judges say the project is innovative for both its technical approach and stakeholder alliance at the UMD main campus.

Photo: Professor Jelena Srebric; Chauncey Jenkins, facility program manager

Customer Project: Commercial Energy Efficiency Technology

Cinemark

Energy Savings Through Automated Scheduling of Systems

A real win for **Cinemark** is to ensure that customer comfort remains intact while reducing as much energy as possible across the enterprise. By rolling out PhoenixET's new technology, Cinemark auditorium set points can be adjusted based on actual theater occupancy as recorded by the POS system for each individual auditorium. Judges appreciated Cinemark's ability to leverage multiple data sources through one platform to drive more advanced optimization of energy usage and the unique mash-up of these data sources.

Photo: Art Justice, vice president of energy and sustainability

Customer Project: Industrial Energy Efficiency Technology

Ocean Spray Cranberries

Making Craisins® With Industrial IoT Energy-Efficient, Intelligent LED Lighting

The company set out to identify an energy efficient lighting project to cut electrical energy use in half at its Middleboro, Massachusetts plant. By installing an IoT smart control wireless solution integrated into the LED lighting fixtures, they achieved an incredible 89.9% savings. Judges noted this as a model project that others should try to emulate.

Photo: Nelson Rego, maintenance supervisor and Scott Stears, plant director

Customer Project: Higher Ed Efficiency Technology

University of Virginia

Delta Force—Clark Hall

The $2 million retro-commissioning of Clark Hall was funded through the "Delta Force" program, where the utility bill is held steady until Delta Force recovers 125% of the project funding. Funding was recovered within the two-and-a-half year project duration. The project demonstrated to students and the general public that green technology can also be good for the financial bottom line.

Photo: Jesse Warren, sustainability program manager for buildings and operations

2019 Innovation Awards Winners

Customer Project: Data Center Energy Efficiency Technology

Switch

Switch's Patented Hot and Cold Aisle Technology

Most data centers have an average Power Usage Effectiveness ranging from 2.0 to 3.0. Switch implemented its technologies in their Grand Rapids, Michigan "Pyramid" as their first retrofit project. Results allowed customers to dramatically reduce their carbon footprints with PUEs of 1.18—and lower.

Photo: Sam Castor, executive vice president of policy

Customer Project: Government Energy Storage & Microgrids

Atlantic County Utility Authority

Wastewater Treatment Plant Renewable Battery Energy Storage

A new battery energy storage system is now online at ACUA, capturing up to one megawatt hour of energy produced by the site's 7.5-megawatt wind farm and 500 kilowatts of solar energy, storing it to be used when needed. Judges called this project a great example for integrating storage technology into a renewable microgrid.

Photo: Greg Seher, senior analyst and Valdre Forbes, electrical group

2019 Innovation Awards Winners

Customer Project: Data Center Energy Storage & Microgrids

Equinix, Inc.

Bloom Energy 37MW Fuel Cell Deployment

With 24/7 constant power needs and an announced goal to reach 100% clean and renwable energy, **Equinix** installed Bloom fuel cell technology onsite at 12 US data center locations, the largest-ever deployment of fuel cells in the co-location data center industry. The judges appreciated this technology application in data centers, where consistent reliability is a key objective.

Photo: Bruce Frandsen, senior manager, global utilities & sustainability and Michelle Kerbow, global utilities & sustainability manager

Customer Project: Commercial Energy Storage & Microgrids

Staples, Inc.

Staples Grid Edge Energy Efficiency Innovation

Where markets, microgrids and Grid Edge-worthy utility programs provide innovative market structures and incentives, this increased load is met through the strategic addition of solar capacity, site-level battery storage, and associated controls. The judges think **Staples** has provided an excellent example of how a leading company can integrate energy innovation and energy savings throughout their portfolio—and how to share best practices with suppliers and customers to improve relationships.

Photo: Bob Valair, director, energy & environmental management

Save the date!

SMART ENERGY DECISIONS

DISTRIBUTED ENERGY FORUM

Joby Carlson
Director, Global Sustainability, Walmart

Alex Floyd
Senior Manager, Sustainable Food Strategy, Tyson Foods

Art Justice
VP, Energy and Systainability, Cinemark

Daren Kaiser
Global Energy Strategy Leader, General Mills

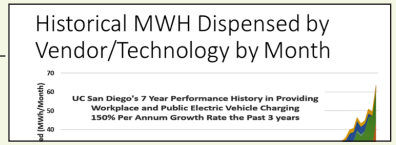
June 24–26, 2019 • Gaylord Rockies Resort, Denver, CO

Information: www.deforum2019.smartenergydecisions.com

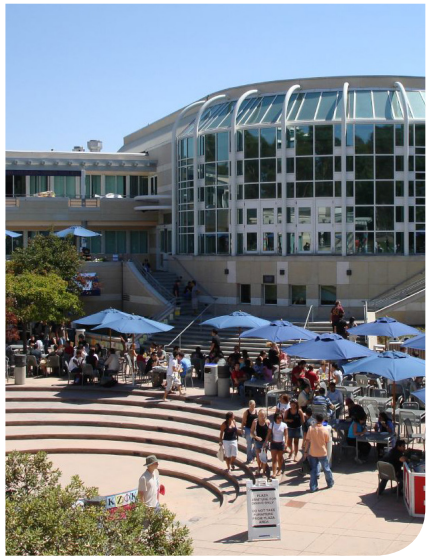
Customer Project: EV Charging Infrastructure

University of California, San Diego

Innovating the Art of the Possible in EV Grid Integration



This EV network is optimized to provide charging accessibility to employees and the public, especially the underserved and difficult to penetrate markets of multi-unit dwelling and disadvantaged community residents. All 2018 goals of doubling the 2017 performance were met by October, including energy dispensed, unique drivers, GHG reduction and gasoline savings. Judges applauded this multi-pronged DER for serving the community at large while driving a successful, sustainable business model.



Customer Project: Commercial Offsite Renewable Energy

Intuit

Intuit Affinity Program

This program helps Fortune 1000 corporations buy physical green energy for their facilities from local renewable projects and makes energy from the same source available to their employees, customers, suppliers, partners, and overall community at the same price as ordinary power from the grid. This program solves for the real problem of how smaller companies and individuals can participate in renewable energy markets.

Photo: Sean Kinghorn, global sustainability leader

Customer Project: Healthcare Offsite Renewable Energy

Kaiser Permanente

RE100 Solar + Wind + Battery Storage Project

Kaiser Permanente executed a virtual power purchase agreement for 181 MW of clean energy, which will enable the construction of utility scale solar and wind farms and one of the country's largest battery energy storage systems. This project is currently the largest-scale solar + wind + battery storage project in North America.

Photo: Rame Hemstreet, VP of operations and chief energy officer

Customer Project: Commercial Onsite Renewable Energy

Welltower Inc.

Executing a Landlord-Tenant PPA

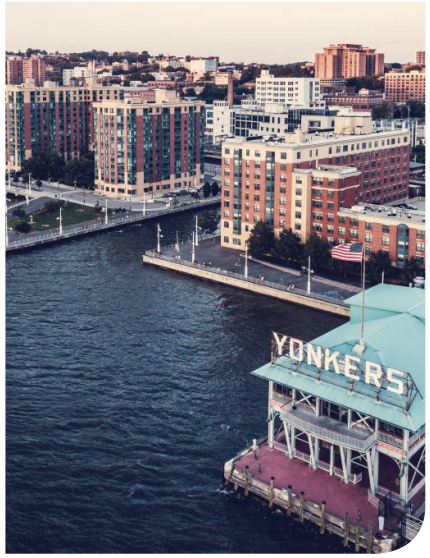
Welltower's project consists of the development of 2,250 kW solar arrays installed at a seniors housing facility in Dartmouth, Massachusetts, and the execution of a landlord-tenant PPA between the building owner and tenant to allow the installation to be feasible and for both parties to benefit. Landlord and tenant relationships can be mercurial even in the best of times, said the judges. In this case, this partnership allowed all stakeholders to win.

Customer Project: Government Onsite Renewable Energy

City of Yonkers, New York

Yonkers Off-Grid City Park

This renewable energy project, in which an entire city park has been removed from the electric grid and powered solely by wind and solar energy, is the first of its kind in the New York Hudson Valley region. Though this started as a relatively small project, it is well-designed to have a large impact through replication. The project pulls together resources from a wide team, which further strengthens its potential as a teaching platform.



Customer Project: Industrial Onsite Renewable Energy

Intel Corporation

Greener, Better Solution: India

By installing a fuel cell solution at **Intel's** facility in Bangalore, India, the company now provides more than 50% of power with reliable power on-site, reducing the carbon footprint by more than 60%. Bringing new technology to a country unfamiliar with it was exemplary of not only meeting their own power resource needs but of providing a model example for others to follow.

Utility Partnership: Green Tariff Programs

Puget Sound Energy

Green Direct

Green Direct aggregates demand from many sizes and types of buyers, from large national retail brands to small municipalities, with flexible terms. The program also creates additionality and is expected to track at or below the brown power rate for most customers. This program has "customer" infused throughout it, according to the judges. It builds on utility performance and is flexible to meet diverse customer needs.

Photo: Heather Mulligan, manager, customer renewable energy programs

Utility Partnership: Energy Efficiency Incentive Programs

PSE&G

Hospital Efficiency Program

This $199 million initiative enables hospitals to make an investment in energy efficiency, which significantly reduces operating costs while improving the comfort of hospital facilities. **PSE&G** provides up-front funding and an incentive towards the total cost of the project. On-bill repayment for the hospital's share of the program costs is often offset by the savings realized.

Photo: Joseph Prusik, manager–energy services (C&I)

2019 Innovation Awards Winners

Utility Partnership: Energy Efficiency Incentive Programs

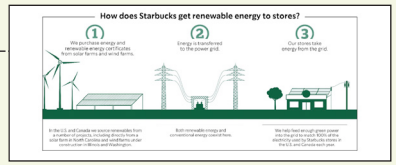
Consumers Energy

Zero Net Energy Pilot Program

The program fosters and incentivizes projects all the way from project initiation through conceptual design, energy modeling and construction, coming full circle with one full year of measurement and verification. The strength of this program, said the judges, is its lengthy engagement with the customer to ensure delivery of a comprehensive program and persistence of savings.

Photo: Doug Kot, head of section, sustainable buildings and communities

Renewable Energy Sourcing



Starbucks & Constellation

Constellation CORe

Starbucks signed a 14 MW agreement with **Constellation** to purchase the equivalent of 100% of the electricity needs of their company-operated Illinois stores. The unique retail transaction provides electricity and RECs from a new wind farm in the state. The judges said this project solves problems that customers have been seeking to address: 1) shorter terms; 2) smaller lots; and 3) multiple end-use locations.

Photo: Toni Centanni, senior business development manager for Constellation

Renewable Energy Sourcing

Microsoft & RE-Surety

Volume Firming Agreement

VFAs are contracts, offered by a third party, that sit atop new or existing PPAs, mitigating the intermittency risk to the PPA buyer by transferring that risk to an insurance company better suited to absorb it. **Microsoft** is the first company to pilot the VFA solution via three VFA contracts.
This project is highly innovative, cutting edge, and may add an entire new capability to the challenge of long-term PPAs with risk related to variable output of renewable resources, say our judges. It is one of the most unique approaches to PPAs seen recently in the industry.

Renewable Energy Sourcing

Sysco and NRG Energy

Solar Garden with Renewable Select

Sysco partnered with **NRG** to contract for three solar facilities totaling 25 MW in the Houston and Dallas areas. The three facilities will supply over 62,000 MWh of 100% renewable electricity, enough generation to cover Sysco's entire Texas load. This partnership enables Sysco to achieve half of their 20% renewable sourcing target, all through transactions that were completed in less than 45 days.

Photo: Tracey Anderson, senior director, global real estate & supply chain sustainability

2019 Innovation Awards Dinner

Save the Date!

Nominations will be accepted for the

2020 Innovation Awards

beginning October 14, 2019

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INNOVATION AWARDS 2020

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