

SGCC Peer Connect **WEBINAR SERIES**

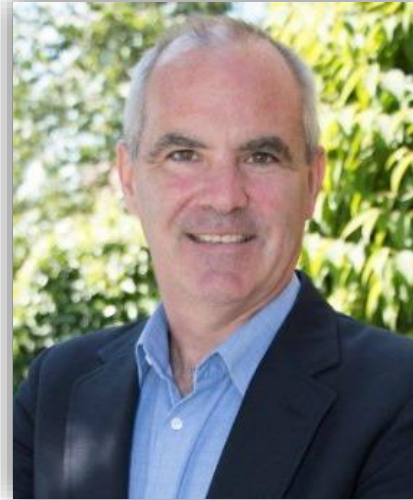
Customer Engagement Success Stories

April 26, 2017

Today's Presenters



Julee Cunningham
Communications, Marketing &
Business Readiness Director
Snohomish County PUD



Neil Neroutsos
Chief Spokesperson/Public
Relations Liaison
Snohomish County PUD



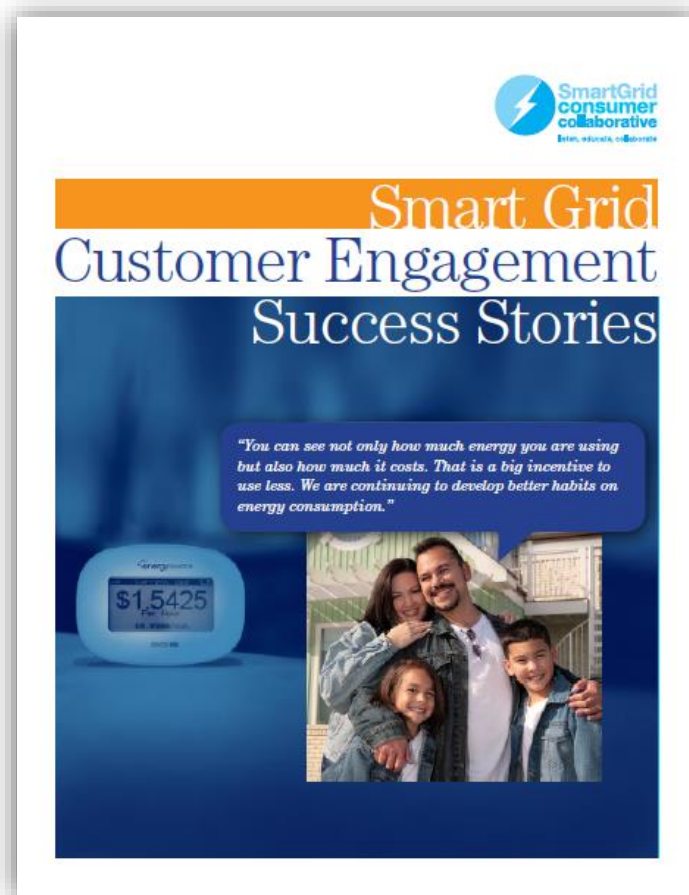
Justin Chamberlain
Manager of Energy Efficiency
and Demand Response
CPS Energy



Emmanuel Taylor
Senior Electricity Consultant
Energetics


Consumer Engagement Success Stories


Case studies that spotlight how various utility programs have successfully engaged consumers

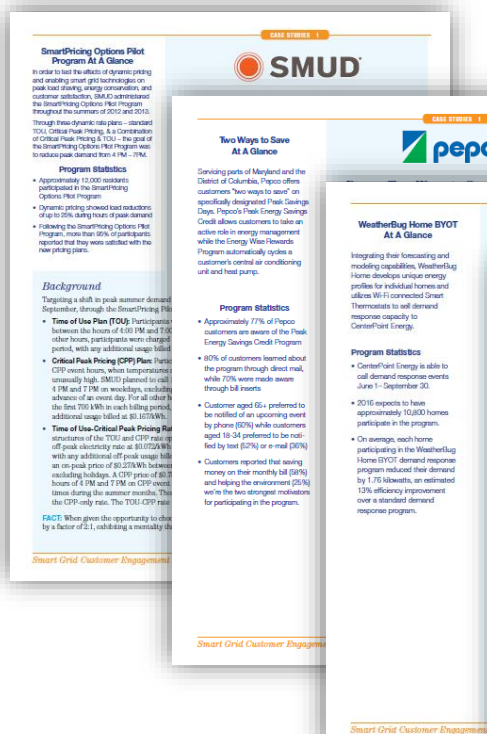


**Smart Grid
Customer Engagement
Success Stories**

"You can see not only how much energy you are using but also how much it costs. That is a big incentive to use less. We are continuing to develop better habits on energy consumption."







SmartPricing Options Pilot Program At A Glance

In order to test the effects of dynamic pricing and enabling smart grid technologies on peak load shaving, energy conservation, and customer satisfaction, SMUD administered the SmartPricing Options Pilot Program throughout the summer of 2015 and 2016.

Through three dynamic rate plans - standard TOU, Critical Peak Pricing, & a combination of Critical Peak Pricing & TOU - the goal of the SmartPricing Options Pilot Program was to reduce peak demand from 4 PM - 7 PM.

Program Statistics

- Approximately 12,000 customers participated in the SmartPricing Options Pilot Program.
- Dynamic pricing showed load reductions of up to 20% during hours of peak demand.
- Following the SmartPricing Options Pilot Program, more than 80% of participants reported that they were satisfied with the rate pricing plans.

Background

Targeting a shift in peak summer demand September, through the SmartPricing Pilot:

- **Time of Use Plan (TOU):** Participants between the hours of 4:00 PM and 7:00 PM other hours, participants were charged a period, with any additional usage billed.
- **Critical Peak Pricing (CPP):** During CPP event hours, when temperatures are unusually high, SMUD planned to call 4 PM and 7 PM on weekdays, including advance of an event day. For all other the first 700 kWh in each billing period, additional usage billed at \$0.105/kWh.
- **Time of Use-Critical Peak Pricing:** The structure of the TOU and CPP pricing off-peak electricity rate at \$0.075/kWh with any additional off-peak usage bills an its peak price of \$0.275/kWh, between excluding holidays. A CPP price of \$0.37 hours of 4 PM and 7 PM on CPP event times during the summer months. This the CPP-only plan. The TOU-CPP was \$0.075/kWh.

FACT: When given the opportunity to bid by a factor of 2.1, exhibiting a volatility in



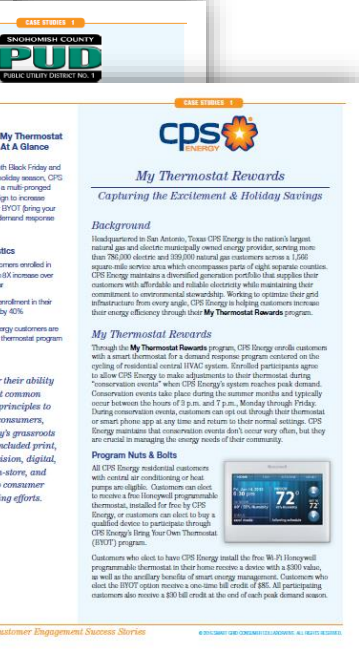
pepco

Two Ways to Save At A Glance

Serving parts of Maryland and the District of Columbia, Pepco offers customers "Two ways to save" on an specially designated Peak Savings Days. Pepco's Peak Energy Savings Credit allows customers to take an active role in energy management while the Energy Wise Rewards Program automatically cycles a customer's central air conditioning unit and heat pump.

Program Statistics

- Approximately 77% of Pepco customers are aware of the Peak Energy Savings Credit Program.
- 80% of customers learned about the program through direct mail, while 70% were made aware through bill inserts.
- Customer aged 65+ preferred to be notified of an upcoming event by phone (50%) while customers aged 18-54 preferred to be notified by text (52%) or e-mail (50%).
- Customers reported that saving money on their monthly bill (84%) and helping the environment (54%) were the two strongest motivations for participating in the program.



BGE SmartEnergy Rewards At A Glance

Integrating their forecasting and modeling capabilities, WeatherBug Home develops unique energy profiles for individual homes and utilizes Wi-Fi connected Smart Thermostats to self-demand response capacity to CenterPoint Energy.

Program Statistics

- CenterPoint Energy is able to call demand response events June 1 - September 30.
- On average, each home participating in the WeatherBug Home (BYOT) demand response program reduced their demand by 1.75 kilowatts, an estimated 13% efficiency improvement over a standard demand response program.



CPS Energy My Thermostat Rewards At A Glance

Capitolizing on both Black Friday and the approaching holiday season, CPS Energy employed a multi-pronged marketing campaign to increase enrollment in their BYOT (Bring Your Own Thermostat) demand response program.

Program Statistics

- 1,745 new customers enrolled in just 6 weeks, an 8X increase over the previous year.
- All rolling installations must be completed by a registered installer to qualify for SmartPUD's rebate.
- SmartPUD has had tremendous success in recruiting customers to the Solar Express Program through varied channels that utilize both traditional and new media.
- Solar Express customers qualify for SmartPUD's net metering rate and may qualify for other state and federal incentives.

Unique for their ability to adopt common retailing principles to engage consumers, CPS Energy's grassroots approach included print, radio, television, digital, social, in-store, and direct to consumer marketing efforts.

Speaker #1

Name	Background
<p>Julee Cunningham</p> 	<p>Communications, Marketing & Business Readiness Director at Snohomish County PUD</p> <ul style="list-style-type: none">• Along with her team, responsible for customer and employee communications, business readiness, marketing, graphic design, social media, video production, website, mail and printing services, media relations, public relations and education outreach• Team has received recognition from many groups, including the NWPPA, APPA and two prestigious Gold Quill awards from the IABC• Previously worked as a regional advertising director for Longs Drugs• Bachelor's in journalism from the University of Nevada-Reno and master's in organizational psychology from Antioch University

Speaker #2

Name	Background
<p>Neil Neroutsos</p> 	<p>Chief Spokesperson/Public Relations Liaison at Snohomish County PUD</p> <ul style="list-style-type: none">• Has handled a broad range of issues, from green energy and conservation to emergency response and emerging energy technologies• More than 25 years of experience in communications and marketing in the public and non-profit sectors• Worked for Community Transit, the Chicago Academy of Sciences and the City of Highland Park, Illinois

Solar Express



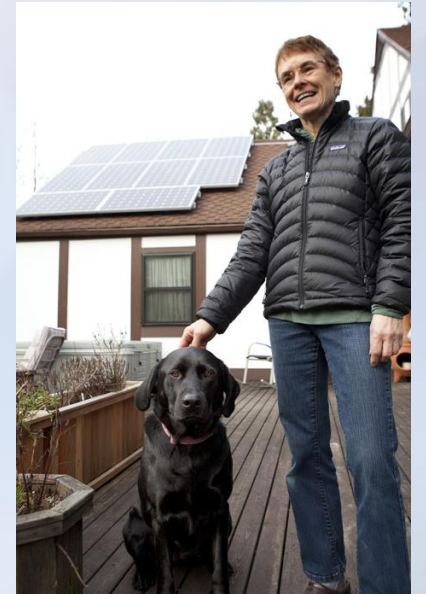
Who We Are

- Second-largest public utility in Washington
- 12th largest in the U.S.
- 2,200 sq. mile service area
- 340,000+ customers
- 65+ year history



Solar Express

- Launched in 2009
- Utility provided:
 - Cash incentives
 - Net metering
 - List of registered contractors
 - Assistance with Washington state production incentive (expires 2020)



Supported at the Top

- Initiative by GM
- Committed \$1 million annually to the program

“Solar power is a wise investment for the utility as we look to increase locally generated green energy sources. It reduces our need to purchase new energy as our region grows, and it gives customers a way of reducing their environmental impact – and their utility bill.”

– Steve Klein, former CEO/General Manager



Solar Express Launch/Promotion

- Cash incentives
- Registered trade allies
- Pent-up demand
- News media outreach
- Website and testimonials
- Bill newsletters, inserts, targeted letters
- Community meetings, solar fairs, solar home tours
- Social media in subsequent years
- Customer word-of-mouth



Join the Solar Express Today!

Interested in learning more? Ready to get started on your system? Visit us at www.snopud.com/solar-express, or call the Energy Hotline at 425-783-1700, to find out about upcoming educational events, request a registered installer list or get detailed program guidelines. When you're ready to begin, follow the steps below.

- Step 1** Get a solar site assessment to determine if your home is a good candidate for solar.
- Step 2** Get a bid for a system from a PUD registered solar installer.
- Step 3** Submit a system application and loan application (if applicable) to the PUD.
- Step 4** The PUD schedules an on-site energy audit and pre-inspection.
- Step 5** The PUD issues an Approval to Construct letter.
- Step 6** Proceed with solar system installation as approved.
- Step 7** Submit the Notice of Completion to the PUD.
- Step 8** PUD schedules the final inspection(s).
- Step 9** PUD issues the incentive payment or processes the loan after final approvals.



Questions? Energy Hotline: 425-783-1700

Monday through Friday,
8am to 5pm
Toll-free in Western Washington
and outside the Everett
local calling area at
1-877-783-1000, ext. 1700

www.snopud.com/solarexpress



Solar Express
PO Box 1107
Everett WA 98206-1107

SOLAR EXPRESS

clean -> renewable -> bright

A Solar Program from
Snohomish County PUD





SOLAR PHOTOVOLTAIC PROJECT

CUSTOMER PROFILE: Charles Hall Orthodontic/Madrona Dental

System Size: 7.4 kilowatts

Federal Tax Credits:

Expected Annual Output: 8,140 kWh

\$12,090 (up to 30%)

System Cost: \$40,300

Annual Net & Production Credits:

PUD Incentive: \$3,700

\$1,800

Charles Hall Orthodontic joins dozens of other PUD customers who are supporting solar energy generation in the community. In 2010, the business installed a 33-module solar energy system on the rooftop of its dental clinic in Stanwood.

The 7.4 kilowatt system produces 8,140 kilowatt-hours on average annually, enough for more than 40 percent of the clinic's electricity needs. For the dental clinic it's not just a smart economic investment, but a move that helps the environment and the greater community.

With PUD incentives, along with other state incentives and federal credits, many solar energy systems at businesses pay for themselves in as little as 10 years. Beyond that, any additional energy output is essentially free!



PUD Incentives

Commercial customers can qualify for up to \$10,000 for solar photovoltaic systems. Customers with electric hot water systems can qualify for a \$500 incentive for new solar hot water systems. Customers may also qualify for additional federal tax credits and state production incentives.

Solar Express is one of the ways the PUD is promoting clean, locally generated renewable resources. Contact us for more information, including qualifications.

"We were pleasantly surprised to see how economically feasible solar energy is. And environmentally, this is an investment that benefits everyone, not just us."

Ann Marie & Charles Hall
Charles Hall Orthodontic, Stanwood



425.783.1700
www.snopud.com/solarexpress

"Making electricity is fun! The PUD's *Solar Express* program helped our family install solar modules that have reduced our energy bills."

—Joanie Geppert



Solar

The PUD invites customers to get onboard the *Solar Express*, which offers a range of resources for customers interested in installing their own photovoltaic and solar hot water systems. The program offers cash incentives, low-interest loans for residents and educational support.

In addition, the PUD has partnered with several schools, public agencies and a local business to install solar demonstration projects to help the community learn about this clean, locally generated energy source. The systems are funded through the utility's Planet Power program, a voluntary customer-funded green energy program (See page 11 for a special fall offer). The PUD also recently installed its own demonstration project on its administration building in downtown Everett.

“Solarize” Programs

- Mukilteo, Lynnwood, Edmonds
- Community-led, grass-roots efforts to promote installations
- Neighbors get together, identify installer, obtain lower cost for multiple installations
- High success rates in green-friendly communities

solarize south county

ATTEND A FREE SOLAR ENERGY WORKSHOP



Produce clean, renewable energy

Solarize with your community and receive a limited time group discount. Program led by local nonprofits and neighborhood groups.

Get started at: www.solarizewa.org/registration

Wed., Aug. 20	6:30-8 p.m.	Lynnwood Library 19200 44th Ave W, Lynnwood
Thu., Aug 28	Noon-1 p.m.	Webinar Online
Sat., Sept. 13	10-11:30 a.m.	Brackett Room, 121 Fifth Avenue North
Tue., Sept. 23	Noon-1 p.m.	Webinar Online



Questions? meghan@nwseed.org

solarize mukilteo

Your community is going solar!



Join your neighbors to get a deal that makes a difference

Group buy + incentives = up to 50% off

Join our next workshop
Wednesday, October 17, 6-7:30 p.m.
Rosehill Community Center
304 Lincoln Avenue, Mukilteo

Register NOW at www.solarizewa.org



Northwest SEED
alex@nwseed.org
www.nwseed.org



Snohomish County PUD
solarexpress@snopud.com
www.snopud.com

Going solar with a group makes switch cheaper

Fri Sep 21st, 2012 10:39pm • **NEWS**



By Bill Sheets Herald Writer

STANWOOD — Joan Schrammeck not only has a \$461 credit on her electricity bill, the state of Washington owes her \$800 as well.

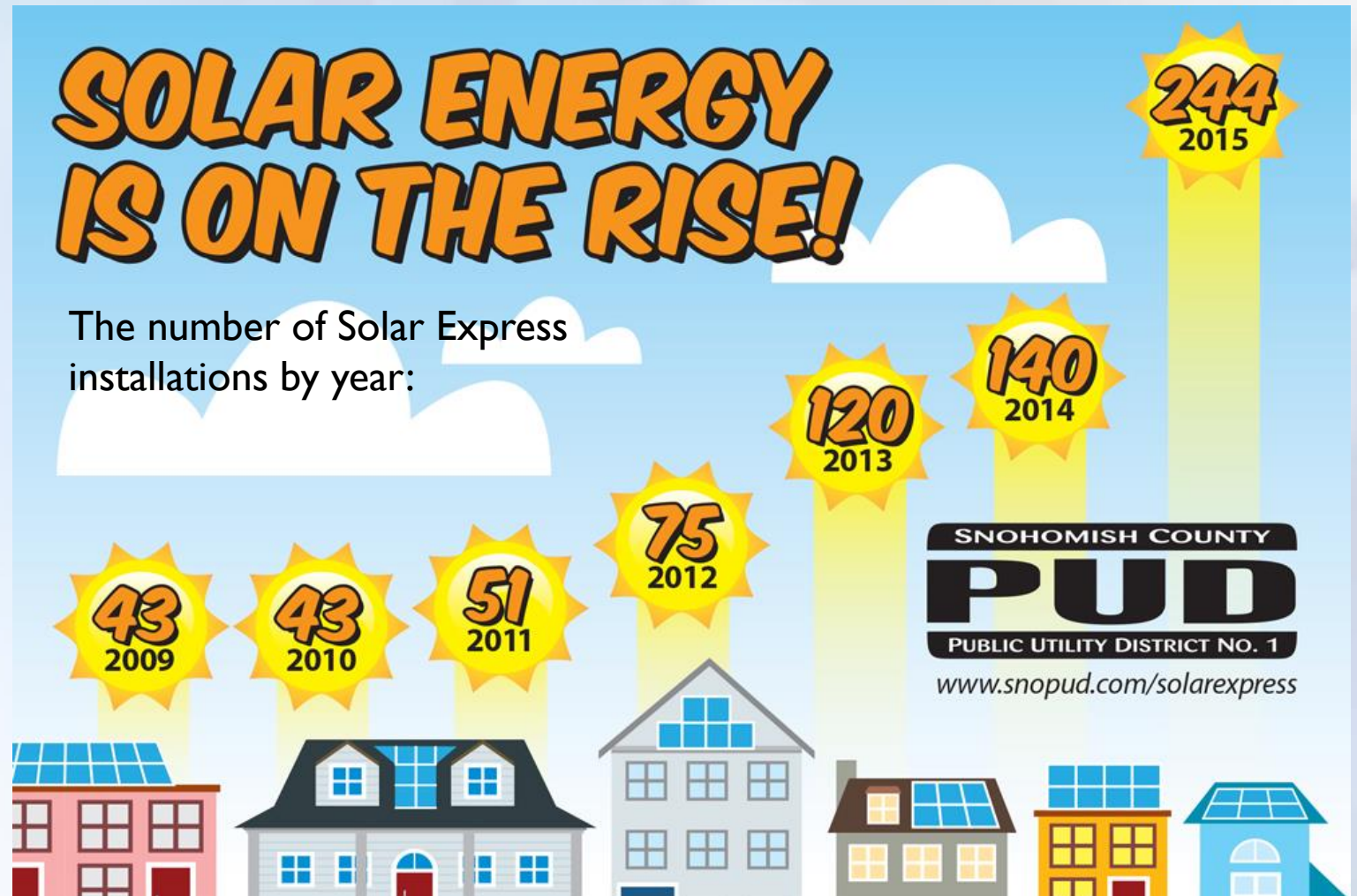
That's because she generates power at her Camano Island home with solar panels, sells some of it back into the grid and also is given credits by the state for the power she produces.

"I'm thrilled, and I'm thrilled to be helping strengthen the grid," said Schrammeck, whose solar panels were installed in May.

Schrammeck was not only interested in putting a solar power system on her own home, she wanted to help others get it done, too. That's why she volunteered as an organizer for Solarize Stanwood-Camano, in which 23 residents signed up for solar installations as a group, saving the


Program Results – A Shining Success!

- 1 MW installed capacity in 3 years
- 2 MW less than 18 months later
- 3 MW in < 1 year
- System costs declining
- Now at 9 MW
- Challenges ahead



Challenges & Observations

- The PUD will hit cap for state incentives in current fiscal year 2017
- State incentive will be reduced proportionally
- Clear communication with new customers installing
- Changing calculations for return on investment



WA State Renewable Energy
Production Incentive Cap

FAQS

The Washington State Production Incentive is a state program, funded through tax revenue and voluntarily administered by utilities. The PUD administers this incentive to its customers in accordance with state law (WAC 458-20-273 and RCW 82.16.120). It provides incentives based on customers' annual energy production, including from solar energy units. State law requires that a utility's tax credit, which funds customers' incentives, may not exceed .5% of its taxable power sales, or \$100,000, whichever is greater. If requests for the incentive exceed the amount of funds available for credit to the utility, the incentive payments will be reduced proportionately.

What is the current status of the PUD's incentive payments compared to limits?

State production incentive payment requests as well as the PUD's annual limit on payments are both calculated at the end of the state fiscal year. The last data point that we have is from the 2015-2016 fiscal year, which ended June 30, 2016.

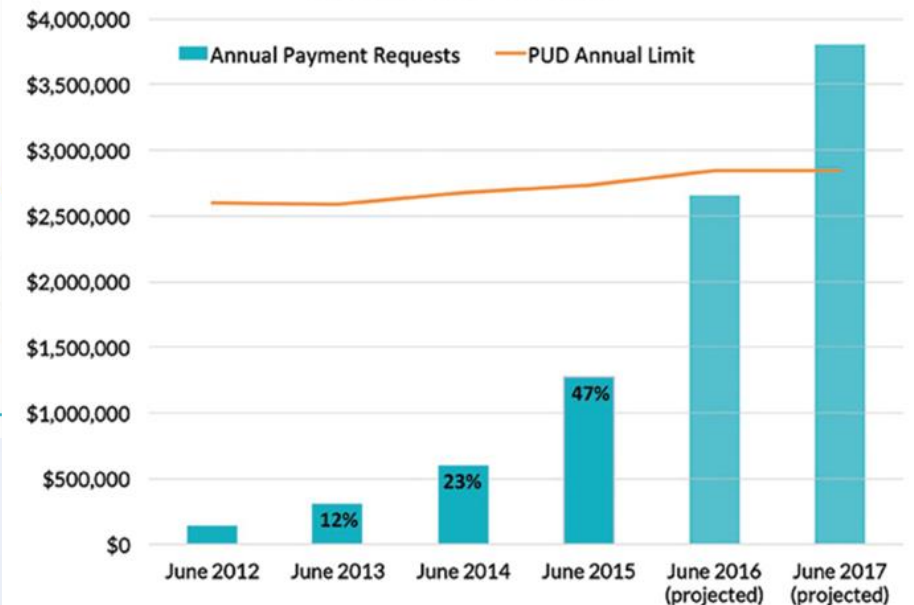
2015-2016 Fiscal Year:

PUD Taxable Power Sales:	\$605.6 Million
Limit in Allowable Credit:	\$3.0 Million
Production Incentive Payments:	\$2.6 Million
Percent of Annual Limit paid:	87%



State Production Incentive: An Important Milestone Approaches

WA Production Incentive: Annual Payment Requests and PUD Limit



- > [Learn About Going Solar](#)
- > [For Customer Generators](#)
- > [For Solar Contractors](#)

▼ **Planet Power**

[Online Enrollment](#)

[Learn More \(FAQs\)](#)

[Funded Projects](#)

Home » Residential » Customer Renewables » Planet Power



Through Planet Power, customers fund solar projects at schools and public buildings in our community.

Learn more about the Planet Power program by [visiting the FAQ page](#).

Funded Solar Projects



PLANET POWER news

July 2009

Planet Power at Work

NEW! Community Solar Projects

Thanks to input from Planet Power customers, our voluntary green energy program now supports local green energy projects in our community! Your Planet Power participation has helped launch several solar energy projects right here in Snohomish County. The program now funds solar panel systems at six local sites:

- ☉ Cedar Wood Elementary School (Mill Creek)
- ☉ Snohomish High School
- ☉ Stanwood High School
- ☉ Snoqualmie Gourmet Ice Cream (Maltby)
- ☉ Mukilleo City Hall
- ☉ Community Transit Mounlake Terrace Transit Center

"Customers have told us they want to support small-scale renewable energy projects that make a difference in our community," said PUD Doris Abravanel, senior energy efficiency program manager. "These local projects give our customers a way to learn more about this energy source by seeing it in use."


Each of the solar energy systems rely on photovoltaic panels, which convert energy from the sun. The six systems will generate up to 14,580 kilowatt-hours per year – enough to power an average PUD home for nearly 18 months. The sites will track electricity generation through the onsite interactive kiosks and/or the Internet to share data with students and the public.

The PUD will also fund renewable energy curriculum programs at the



school solar sites and at four additional schools. The funds will support teacher training, activity guides and science kits customized for the grade level of the students. These schools also will benefit as the community solar projects share data and results.

Speaker #3

Name	Background
<div>Justin Chamberlain</div> <div></div>	<div>Manager of Energy Efficiency and Demand Response at CPS Energy</div> <div><ul style="list-style-type: none">• A program manager at the largest municipally owned electric and gas utility in the US serving the greater San Antonio, TX area• Responsible for customer recruitment, program design, administration and ultimately the success of residential and commercial Demand Response Programs• Demand Response Programs include Automated and Traditional Demand Response, Direct Install Thermostats, BYOT and the development of a DRMS solution• BBA in marketing from Texas State University</div>

CPS Energy
My Thermostat Rewards
Holiday Splash

Presented:
4/26/2017

About CPS Energy

#1

Largest municipally-
owned electric and
gas Utility in US

786K
339K

Electric
and Gas Customers

AA+

Premier credit
rating

\$11B
\$2.5B

\$11B in assets
\$2.5B in annual revenue

#1

Solar leader in Texas;
Seventh in the nation.

Save For Tomorrow Energy Plan

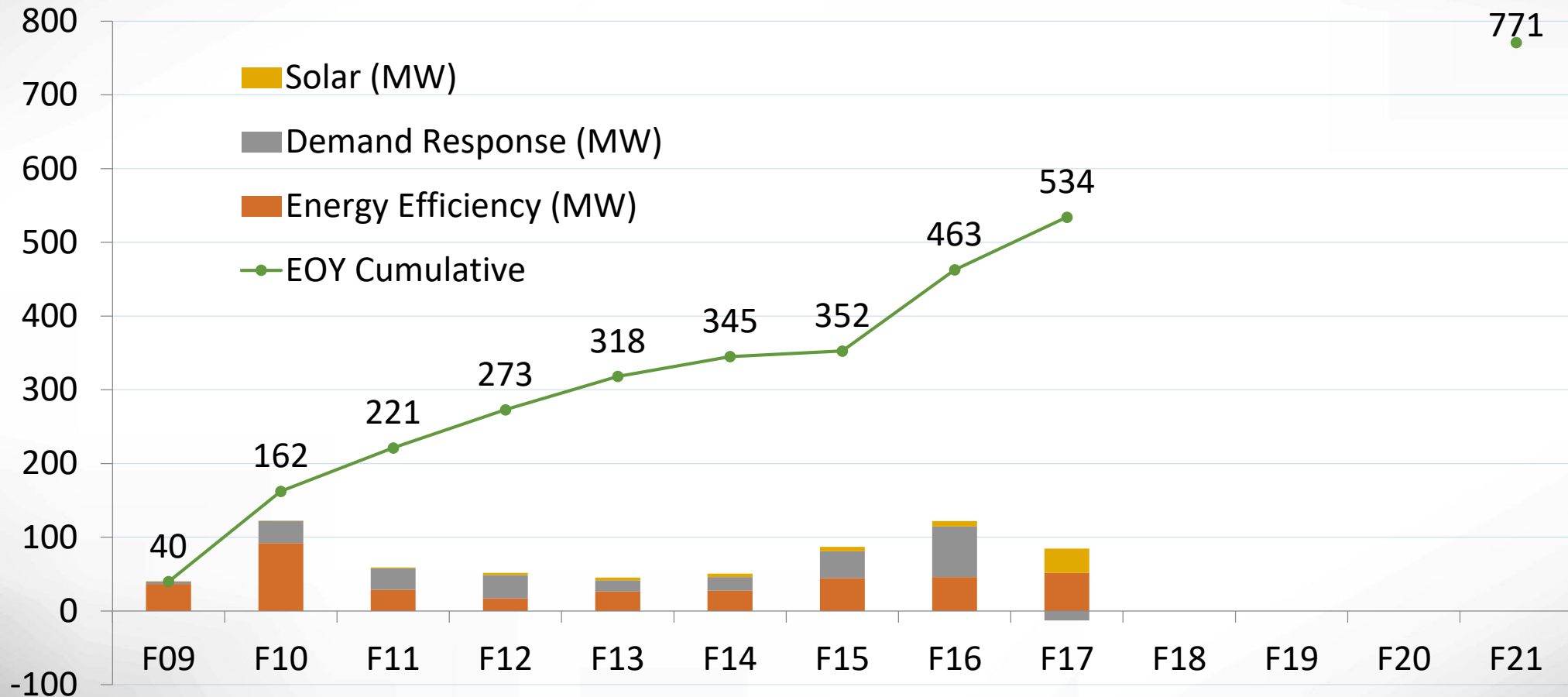
 **534 MW**

CPS Energy's goal is to save
771 MW by 2020

4.6%
generation mix

EE, DR and Solar are a growing
portion of our generation mix

More About STEP



CPS Energy's Demand Response Program

Impact on the STEP goals:

- 41% of STEP MW from Demand Response
- 50-50 split between Residential and Commercial MW

Demand Response Mix:

Residential Thermostats – 140K

- 100K one-way pagers
- 20K Home Area Networks
- 10K Wi-Fi Direct Installs
- 9K BYOT



Commercial Programs:

- 330 Two Hour Call Ahead Customers
- 70 Automated Demand Response Customers

Holiday Splash Idea

Idea:

- Create value for our customers
- Meet our customers where they are, when the best deals are available
- Eliminate cost barriers for our customers wanting to purchase Smart Thermostats
- Grow our BYOT portfolio

Details

- Increase rebate from \$85 to \$150
- Promotion runs from Black Friday through Jan 31
- Outreach
 - CPS Energy
 - Newsletters
 - Paid
 - Partners
 - Partner Outreach E-mail
 - Instore

MY THERMOSTAT REWARDS

CONNECT AND COLLECT A
\$150 REBATE.



Connect your qualified Wi-Fi thermostat to My Thermostat Rewards and connect to savings. Take control of your energy costs with My Thermostat Rewards. Install a qualified Wi-Fi thermostat yourself and receive a \$150 bill credit, plus an additional \$30 bill credit each year. Connect today for a better way to save.

See if you qualify and learn more at cpsenergy.com/mythermostatrewards



RESTRICTIONS APPLY: The \$150 dollar bill credit is a limited time offer. To qualify for the \$150 bill credit, customers must install a Wi-Fi thermostat approved by CPS Energy, enroll in My Thermostat Rewards between November 27, 2015 through January 31, 2016 (the "Special Enrollment Period"), and allow CPS Energy to periodically control and interrupt service to manage peak energy periods. Each year, following the end of September, a \$30 bill credit will be applied to an enrolled customer's bill.

Holiday Splash: Year One

Year One:

- Goal 1,000 new customers
- Added 1,700 new customers
- Holiday enrollments up 8X last years promotion
- CPS Energy grew the BYOT program by 40% in six weeks
- Program remained cost effective – 1.54 UCT
- Post event enrollments more that doubled



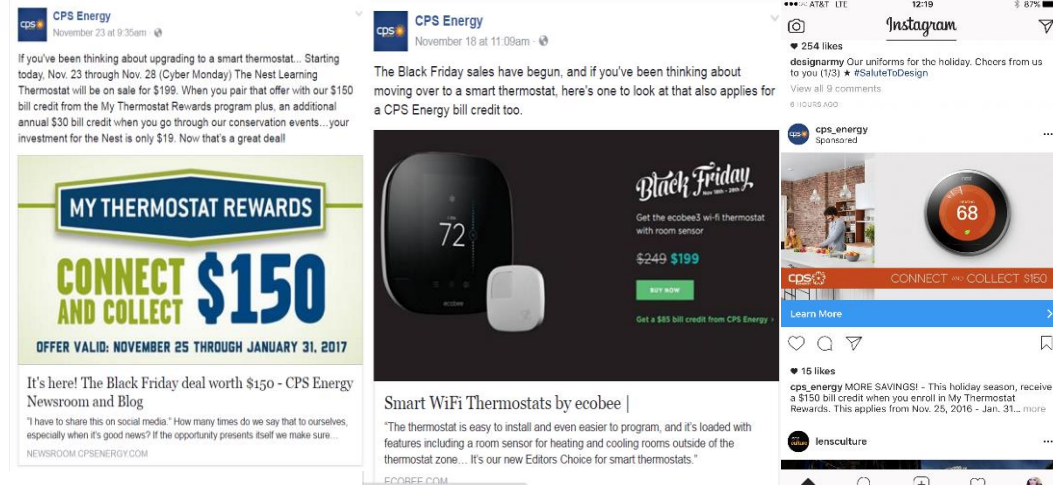
Holiday Splash: Year Two

Strategy: Same Rebate, Different Outreach

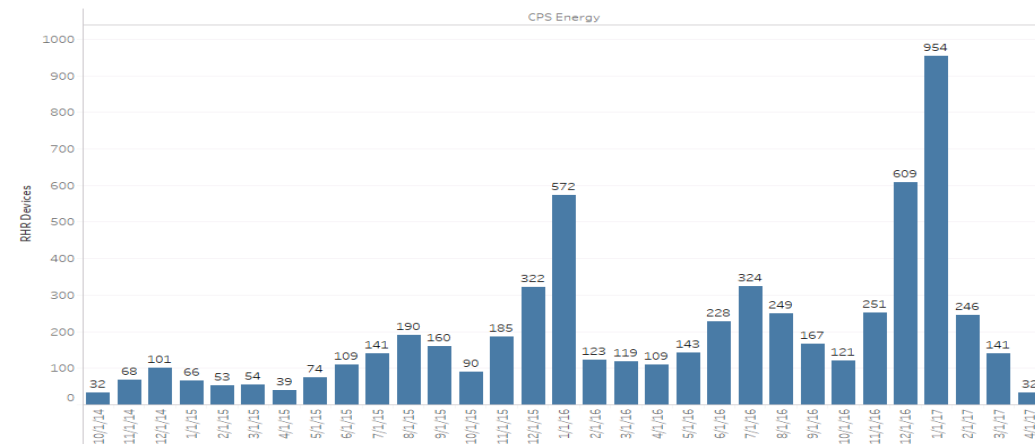
- Focused our outreach on social media
- Refocused the budget
- Let partners handle in store outreach

Results:

- Added 3,300 new customers during the promotion
- Increasingly cost effective – 2.95 UCT



RHR Total Enrollments

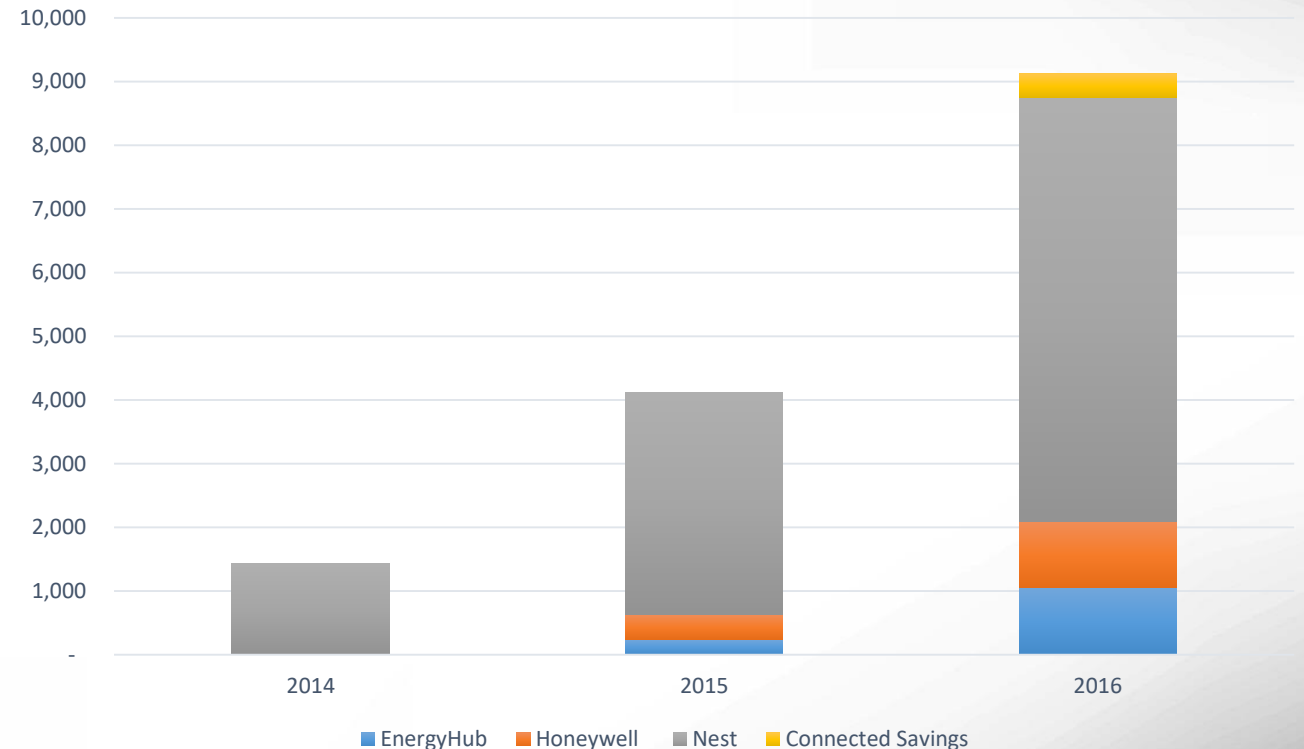


Continued Growth

Growth:


- Our BYOT program quadrupled over the last two years
- Last year BYOT outpaced DI in new installs
- BYOT is the most cost effective program in our demand response portfolio

My Thermostat Rewards: BYOT



Thank you

Speaker #4

Name	Background
<p>Emmanuel Taylor</p> 	<p>Senior Electricity Consultant at Energetics</p> <ul style="list-style-type: none">• Current work includes strategic planning, technology roadmapping, science communication, and microgrid design with expertise in electric power systems, power electronics, and renewable energy• Formerly an Electrical Engineer at the U.S. Department of Energy• Possesses a range of professional experience, covering hardware and system design, software development, energy policy, academic research, and technical consulting• Holds a B.S., M.S., and Ph.D. in Electrical and Computer Engineering from the University of Pittsburgh



NY Prize Community Microgrid Competition Customer Engagement Success Stories

*Smart Grid Consumer Collaborative
SGCC Webinar*

April 26, 2017

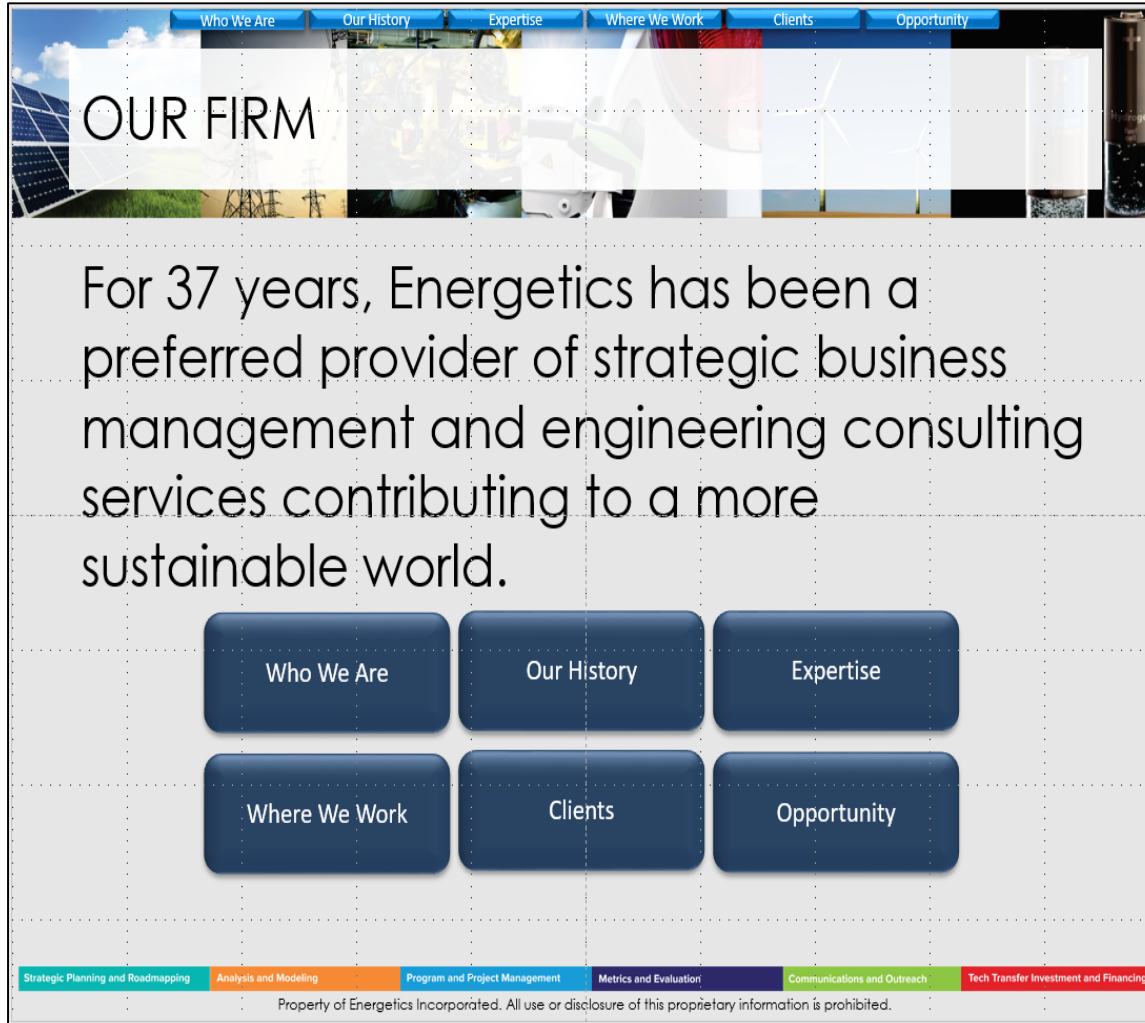
Emmanuel Taylor
Senior Electricity Consultant
Energetics Incorporated



Presentation Outline

- Energetics Background
- Microgrid Basics
- Microgrid Examples
- Community Microgrids
- NY Prize Competition Description
- Focus Areas for Customer Engagement

Energetics Background



OUR FIRM

For 37 years, Energetics has been a preferred provider of strategic business management and engineering consulting services contributing to a more sustainable world.

Who We Are

Our History

Expertise

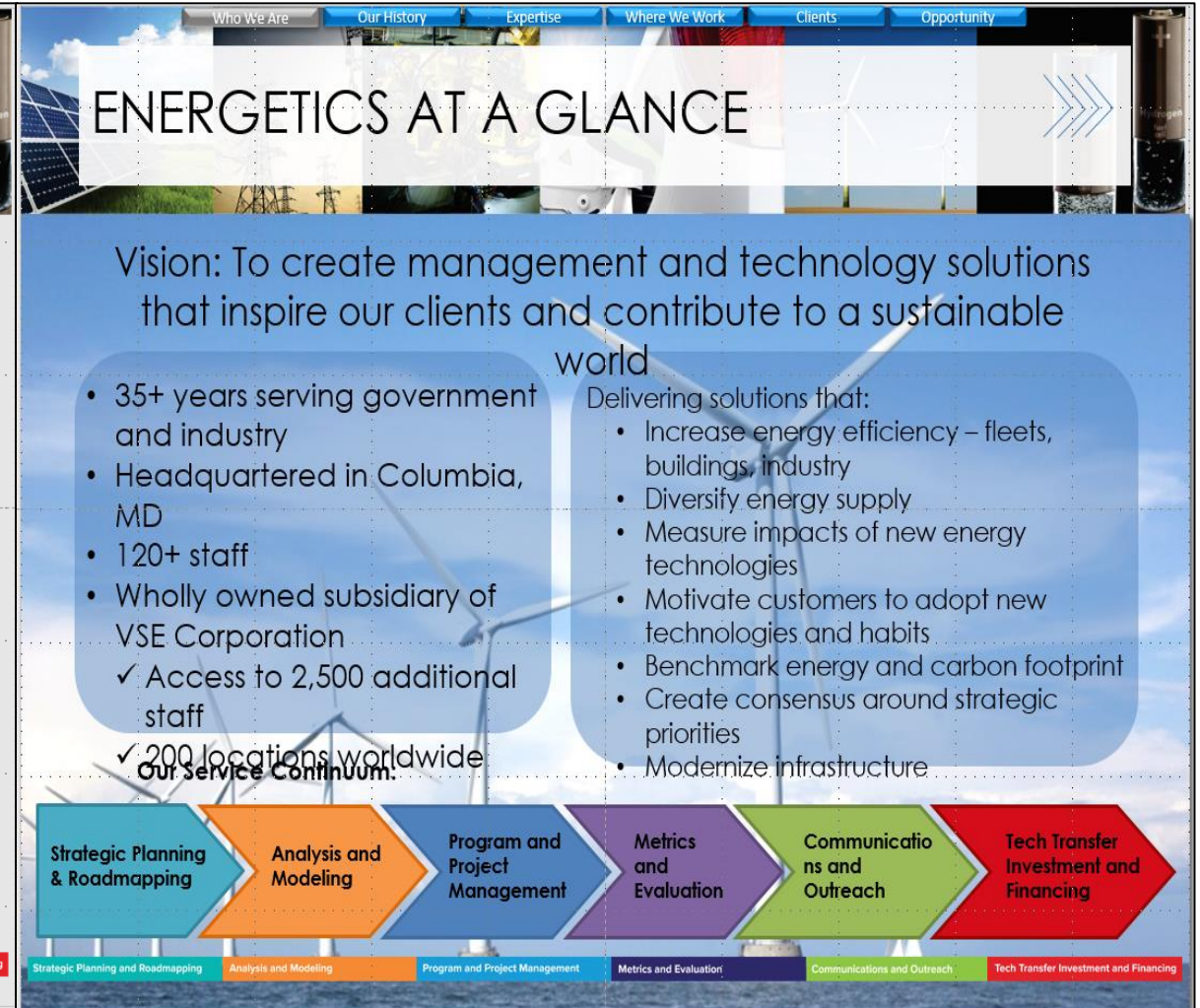
Where We Work

Clients

Opportunity

Strategic Planning and Roadmapping Analysis and Modeling Program and Project Management Metrics and Evaluation Communications and Outreach Tech Transfer Investment and Financing

Property of Energetics Incorporated. All use or disclosure of this proprietary information is prohibited.



ENERGETICS AT A GLANCE

Vision: To create management and technology solutions that inspire our clients and contribute to a sustainable world

- 35+ years serving government and industry
- Headquartered in Columbia, MD
- 120+ staff
- Wholly owned subsidiary of VSE Corporation
- ✓ Access to 2,500 additional staff
- ✓ 200 locations worldwide

Delivering solutions that:

- Increase energy efficiency – fleets, buildings, industry
- Diversify energy supply
- Measure impacts of new energy technologies
- Motivate customers to adopt new technologies and habits
- Benchmark energy and carbon footprint
- Create consensus around strategic priorities
- Modernize infrastructure

Our Service Continuum

Strategic Planning & Roadmapping

Analysis and Modeling

Program and Project Management

Metrics and Evaluation

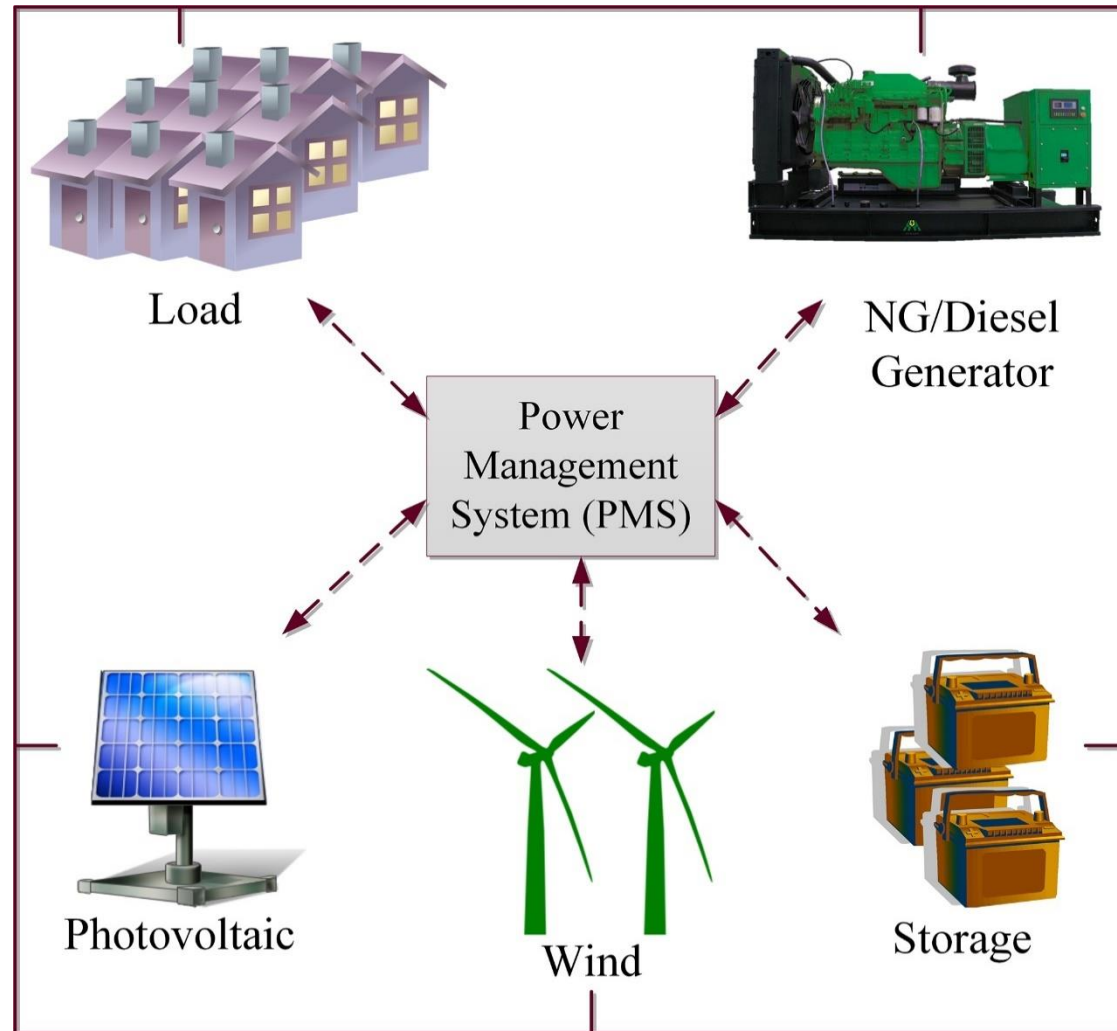
Communications and Outreach

Tech Transfer Investment and Financing

Strategic Planning and Roadmapping Analysis and Modeling Program and Project Management Metrics and Evaluation Communications and Outreach Tech Transfer Investment and Financing



Microgrid Basics

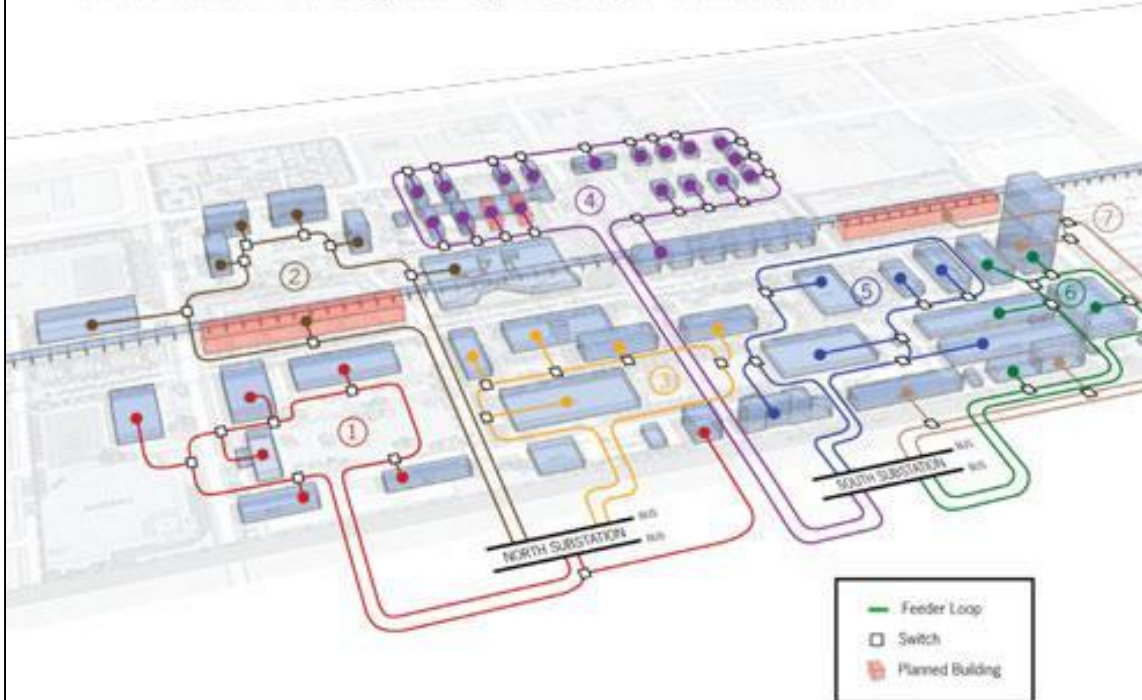




Microgrid Examples

PERFECT POWER AT IIT

Illinois Institute of Technology's 12-megawatt, campus-wide microgrid system



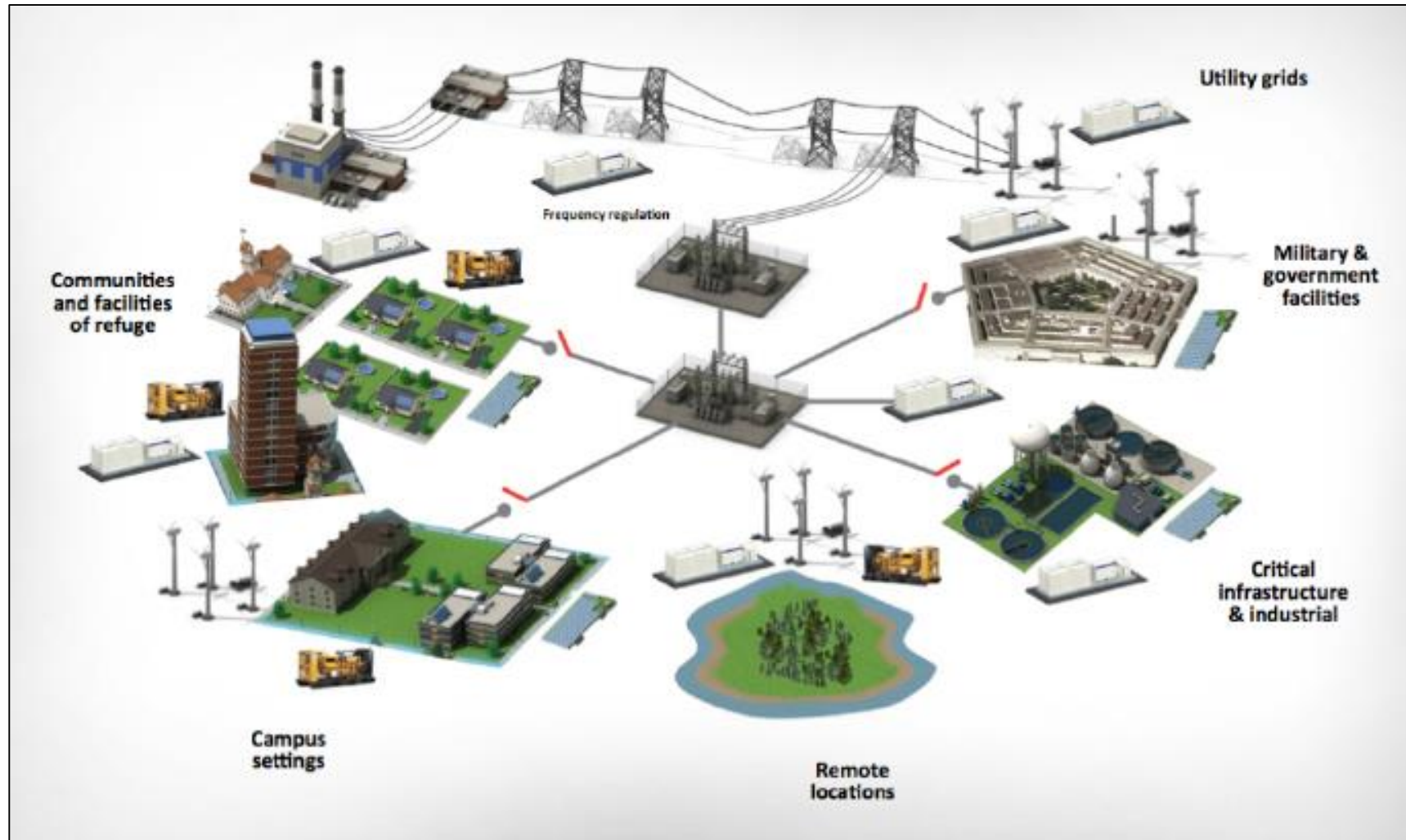
Santa Rita Jail – Alameda County, CA



<https://magazine.iit.edu/spring-2009/new-grid-town-perfect-power-system-ramps-iit>; <http://microgrid-symposiums.org/microgrid-examples-and-demonstrations/santa-rita-jail-microgrid/>



Community Microgrids





NY Prize Competition

Three Stages:

- Feasibility Studies (83)
- Design (11)
- Project Build Out (2018)

Feasibility Studies:

- Completed around 12/2016
- Engineering Design + Cost Benefit
- Largest Existing Body of Literature on community microgrids



Focus Areas for Customer Engagement

- Community involvement in project teams
 - Pre-competition webinars
- Localization of emissions
 - Environmental justice concerns
- Customer electricity rates
 - Residential impacts

Questions?

Questions?

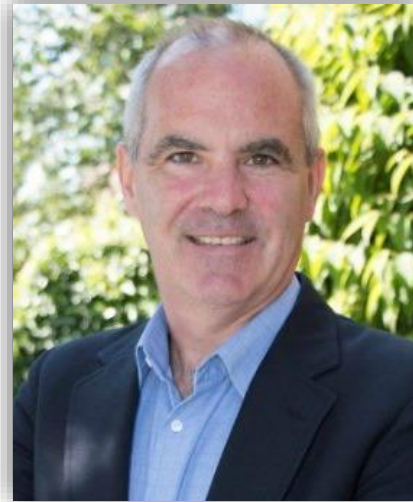


Thank you!

You will receive a copy of today's slides at the email address you used to register.



Julee Cunningham
Communications, Marketing &
Business Readiness Director
Snohomish County PUD



Neil Neroutsos
Chief Spokesperson/Public
Relations Liaison
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