



**CPS ENERGY BOARD OF TRUSTEES SPECIAL MEETING  
TO BE HELD ON AUGUST 17, 2020 AT 1:00 PM  
BY TELEPHONE CONFERENCE  
1 (877) 353-4701**

*To protect the health of the public and limit the potential spread of COVID-19, the CPS Energy Board of Trustees will hold this special meeting via telephone conference. These meeting standards are based upon the provisions of the Open Meetings Act, as modified by the Governor of Texas in response to the COVID-19 crisis. These modified standards shall remain in place until further notice or until the state disaster declaration expires or is otherwise terminated by the Texas Governor. **There will be no in-person public access to the meeting.***

*At any time during the Board Meeting, and pursuant to the provisions of Chapter 551 of the Texas Government Code, the Board may meet in executive session for consultation concerning attorney-client matters under Section 551.071; for deliberations and other authorized action on real property under Section 551.072; on prospective gifts or donations under Section 551.073; on personnel under Section 551.074; on security personnel or devices under Section 551.076; on economic development negotiations under Section 551.087; to deliberate, vote, or take final action on competitive matters under Section 551.086; to deliberate regarding security audits and devices under Section 551.089; or to deliberate under Texas Government Code Section 418.183(f) about confidential information under the Texas Homeland Security Act.*

ITEM	TOPIC	ACTION	PRESENTER/ SPONSOR
1	<b>CALL TO ORDER</b>	Execute	Mr. John Steen
2	<b>SAFETY MESSAGE</b>	Execute	Mayor Ron Nirenberg & Ms. Paula Gold-Williams
3	<b>INVOCATION</b>	Execute	Mr. Chad Hoopingarner
4	<b>PUBLIC COMMENT</b> (Pre-Registration scheduled from 10:00 AM – 11:00 AM @ (210) 353-4662) A. Chair's Announcements B. Comments	Discuss	Mr. John Steen
<b>UPDATE ON CHAIR'S PRIORITIES</b>			
5	<b>CEO'S REPORT</b>	Discuss	Ms. Paula Gold-Williams
6	<b>ADDITIONAL UPDATES:</b> A. CPS Energy / SAWS AMI Project (Mr. Jonathan Tijerina) B. Other	Discuss	Ms. Paula Gold-Williams
<b>REGULAR AGENDA</b>			
7	<b>TARIFF LANDSCAPE</b> (Mr. Cory Kuchinsky, Mr. Chad Hoopingarner & Mr. Rick Luna)	Discuss	Ms. Paula Gold-Williams
8	<b>SOLAR ENERGY GLOBAL TRANSITION / LANDSCAPE UPDATE</b>	Discuss	Mr. Frank Almaraz
9	<b>NEW ENERGY ECONOMY UPDATE</b>	Discuss	Mr. Frank Almaraz
<b>CONVENE TO EXECUTIVE SESSION</b>			
10	<b>EXECUTIVE SESSION:</b> Please see the narrative list at the top of this agenda for the potential discussion topics.	Discuss	Mr. John Steen
<b>RECONVENE TO OPEN SESSION</b>			
11	<b>ADJOURNMENT</b>	Execute	Mr. John Steen
If the Board meeting has not adjourned by 5:00 PM, the presiding officer may entertain a motion to continue the meeting, postpone the remaining items to the next Board meeting date, or recess and reconvene the meeting at a specified date and time.			

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CITY OF SAN ANTONIO  
CITY CLERK  
2020 AUG 12 AM 8:07  
Update: 8/11/2020

**CPS ENERGY BOARD OF TRUSTEES**

**NOTICE OF SPECIAL MEETING**

**BY TELEPHONE CONFERENCE**

To protect the health of the public and limit the potential spread of COVID-19, the CPS Energy Board of Trustees will hold this meeting via telephone conference. These meeting standards are based upon the provisions of the Open Meetings Act, as modified by the Governor of Texas in response to the COVID-19 crisis. These modified standards shall remain in place until further notice or until the state disaster declaration expires or is otherwise terminated by the Texas Governor.

Notice is hereby given that the CPS Energy Board of Trustees will hold a Special Meeting on **Monday, August 17, 2020, at 1:00 p.m.**, by telephone conference.

The subject of this meeting is to act upon all matters pertaining to the current management and operation of the municipal electric and gas systems, including the acquisition of real property and interest therein, by purchase and condemnation, the facilities, financing, the handling and administration of funds and accounts, consideration of matters relating to operations and administration and such other matters as may be brought before the meeting by the Trustees of the Board, and specifically those matters referred to in the attached agenda, which is incorporated herein.

**There will be no in-person public access to the meeting.**

**The meeting will be audio-streamed on cpsenergy.com.**

**The meeting is also available by calling toll-free 1 (877) 353-4701.**

Those wishing to speak on an agenda item during the Public Comment portion of the meeting must register on the day of the Board meeting by phone at 210-353-4662. Registration is open for 1 hour, from 10:00 a.m. CT to 11:00 a.m. CT. Those registering to speak should be prepared to provide the following information:

- First & last name / group or organization
- City & state of residence
- Phone and/or email address
- Agenda item # about which they are speaking
- Group for which the individual is speaking
- Any required translation services

Speakers will be called to speak in the order that they register.

The agenda packet is attached. It and other informational material may be found at:

<https://www.cpsenergy.com/en/about-us/who-we-are/trustees/board-meetings.html>

A recording of the telephonic meeting will be made and will be available to the public in accordance with the Open Meetings Act upon written request.

*At any time during the Board Meeting, and pursuant to the provisions of Chapter 551 of the Texas Government Code, the Board may meet in executive session for consultation concerning attorney-client matters under Section 551.071; for deliberations and other authorized action on real property under Section 551.072; on prospective gifts or donations under Section 551.073; on personnel under Section 551.074; on security personnel or devices under Section 551.076; on economic development negotiations under Section 551.087; to deliberate, vote, or take final action on competitive matters under Section 551.086; to deliberate regarding security audits and devices under Section 551.089; or to deliberate under Texas Government Code Section 418.183(f) about confidential information under the Texas Homeland Security Act.*



Carolyn E. Shellman  
Secretary of the Board  
August 12, 2020

2020 AUG 12 AM 8:37

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CITY CLERK



# ***CPS ENERGY / SAWS AMI PARTNERSHIP***

*PRESENTED BY:*

**Jonathan R. Tijerina**

Sr. Director, Business & Economic Development

August 17, 2020

*Informational Update*



# OBJECTIVES & TAKEWAYS



- **PREVIEW THE POTENTIAL PARTNERSHIP WITH SAWS**
- **PROVIDE AN OVERVIEW OF WATER AMI DEAL STRUCTURE**
- **DISCUSS CPS ENERGY AS A NETWORK AS A SERVICE (NAAS) PROVIDER**



# AGENDA



- **GUIDING PILLARS**
- **SMART GRID ADVANCED METER INFRASTRUCTURE (AMI) BACKGROUND**
- ***FLEXIBLE PATH***
- **SAWS AMI PROJECT**
- **DEAL STRUCTURE**
- **NEXT STEPS**



# OUR GUIDING PILLARS & FOUNDATION



**The CPS Energy / SAWS AMI partnership leverages community assets to maximize customer benefits while enabling our Smart City vision.**



# SMART GRID EVOLUTION

## REINVENTING OUR BUSINESS

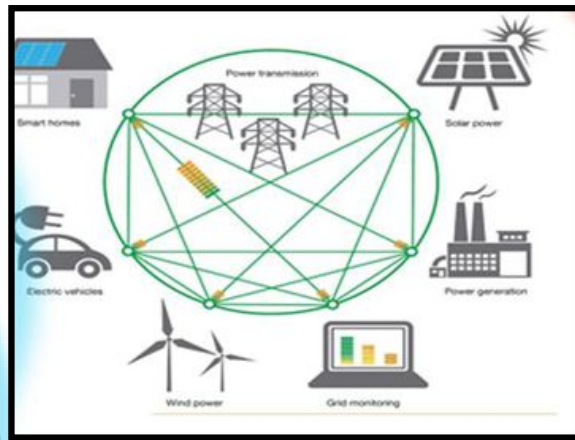


### ***Flexible Path:***

Smart Grid + Energy Efficiency +  
More

New Products & Services

Edison Era



Transitioning to Innovation

Past

Present

Future

# SMART GRID AMI

## NEW ERA FOR THE UTILITY



### Transformational

- EV integration
- Rooftop solar metering
- New pricing plans
- New services

### Customer Benefits

- Accurate bill (less estimates)
- Same day move-in's
- Web Portal for services
- Data for energy insights

### Utility Benefits

- \$ Savings
- Fewer truck rolls
- Reduced emissions
- Employee safety



**Transformational AMI technology increases value to customers & drives the utility of the future.**



# ITRON BACKGROUND



- Opened San Antonio Office in 2014
- Collaboration is ongoing as we extend the reach of the network
  - Works diligently with us on system needs & maintenance
  - Delivers & works with us to maintain high reliability levels
    - We expect this to continue



**Over the past 9 years, this collaborative partnership has evolved to Itron being our trusted AMI metering system service provider.**

# Our Flexible Path

BALANCING THE TRIED & TRUE WITH THE NEW



# CPS ENERGY / SAWS AMI PARTNERSHIP



*San Antonio's multipurpose network leveraged for water AMI, Intelligent Streetlights, & other Smart City applications*

Our strategic partnership with Itron & SAWS optimizes value to our community

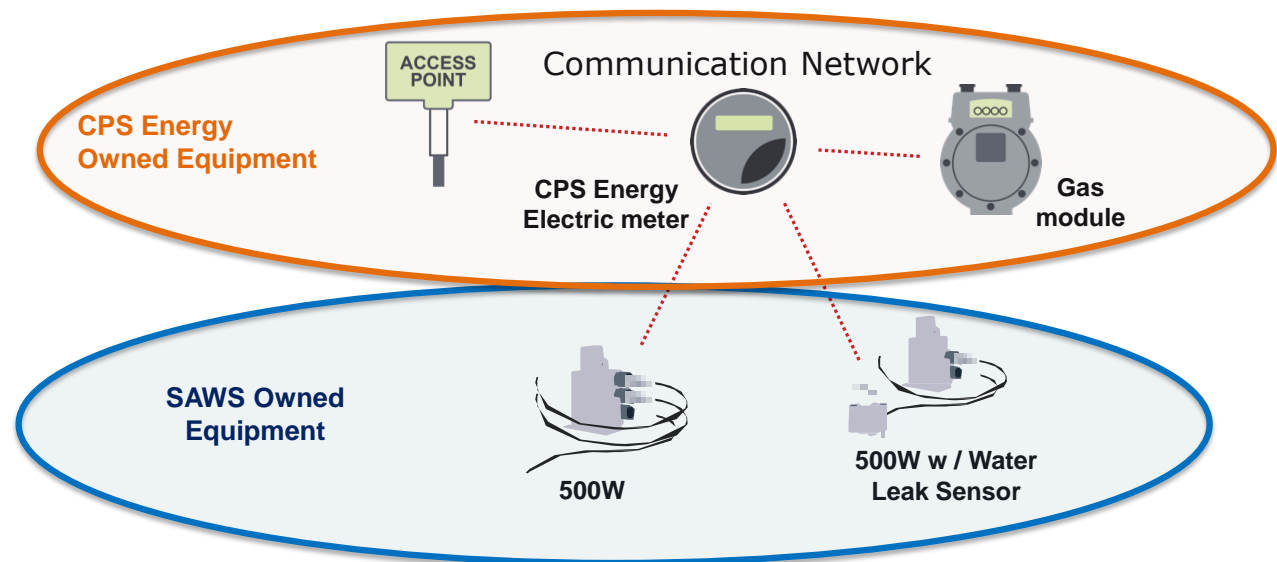
- Expands the intelligence of the SAWS water distribution system
- Promotes the means for better cost management
- Improves water information & services to customers

**The strategic partnership will leverage a community asset that brings value to our shared customer base that enables value & new benefits.**

# CPS ENERGY AS THE NAAS PROVIDER

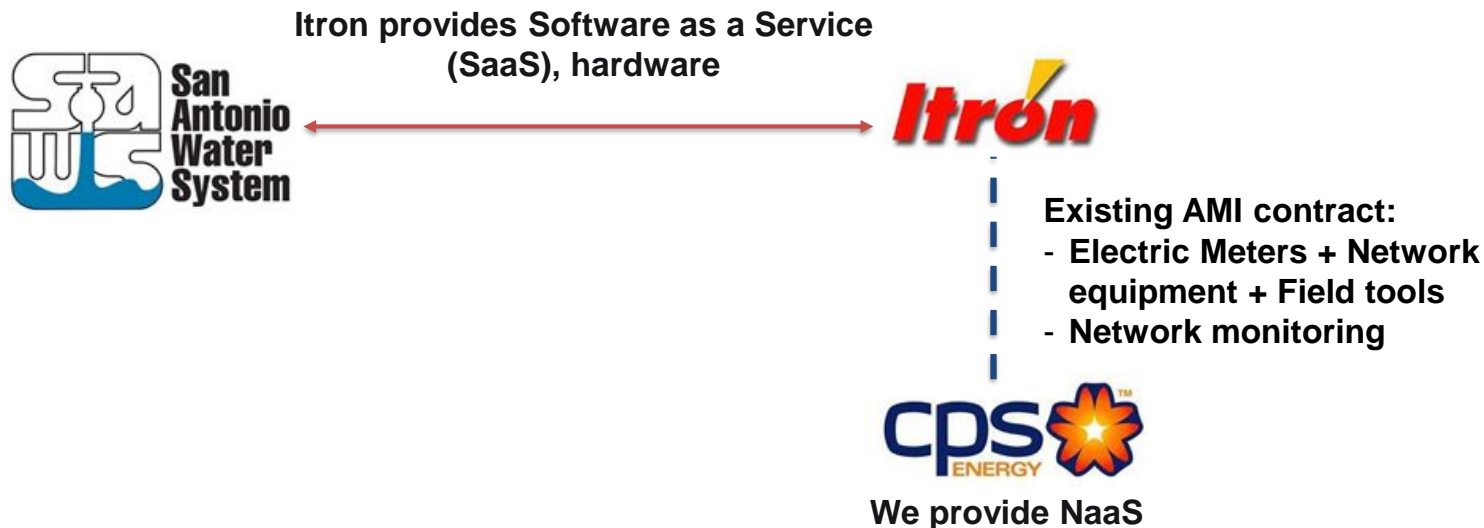


- NaaS provides access to network at attractive terms
- Competitive cost of ownership to SAWS
- Optimizes existing AMI infrastructure



**This partnership expands our ability to maximize our investment for the betterment of our community.**

# DEAL STRUCTURE



**Itron as prime provides SAWS the "single point of contact" for contractual obligations.**

**Unique partnership that leverages our existing AMI network while providing SAWS with a proven, reliable & cost effective water AMI solution.**

# NEXT STEPS



- Come back on August 31, 2020 to ask for resolution support
- Request final approval to begin pilot phase of SAWS AMI Project
  - SAWS Board Meeting, September 1, 2020
  - Begin rollout phase with our expanded partnership
  - Track & test performance of systems
- Keep our Board & key stakeholders up to date on pilot & full deployment efforts





***Thank You***





## ***Appendix***



# GLOSSARY / DEFINITIONS



Acronym or Word	Definition	Acronym or Word	Definition
AMI	Advanced Meter Infrastructure		
NaaS	Network as a service		
SaaS	Software as a service		



# ***TARIFF LANDSCAPE***

*PRESENTED BY:*

**Cory Kuchinsky**

Interim V.P., Strategic Pricing &  
Enterprise Risk Management & Solutions

**Rick Luna**

Director, Technology & Product Innovation

**Chad Hoopingarner**

Sr. Director, Strategic Pricing

August 17, 2020

*Informational Update*

# TODAY'S SPEAKERS



**Cory Kuchinsky**  
Interim V.P.,  
Strategic Pricing  
&  
Enterprise Risk  
Mgmt. &  
Solutions



**Chad Hoopingarner**  
Sr. Director,  
Strategic  
Pricing



**Rick Luna**  
Director,  
Technology  
&  
Product  
Innovation

# OBJECTIVES & TAKEAWAYS



- **REVIEW THE LANDSCAPE OF CURRENT PRODUCTS & ALIGN ON THE NEAR-TERM PRODUCT ROADMAP**
- **SUMMARIZE PROCESS FOR NEW PRODUCTS**
- **DIVE DEEP ON NEW PRODUCTS THAT WE WILL DISCUSS IN AUGUST & SEPTEMBER**





# AGENDA



- **PRODUCT PORTFOLIO & ROADMAP**
- **PROCESS FOR NEW PRODUCTS**
- **ELECTRIC VEHICLE (EV) PILOTS**
- **WHOLESALE DISTRIBUTION SERVICE (WDS)**
- **RESILIENCY SERVICE**
- **CLOSING REMARKS**





# ***PRODUCT PORTFOLIO & ROADMAP***



**Cory Kuchinsky**  
Interim V.P.,  
Strategic Pricing  
&  
Enterprise Risk  
Mgmt. &  
Solutions

# PRODUCT PORTFOLIO



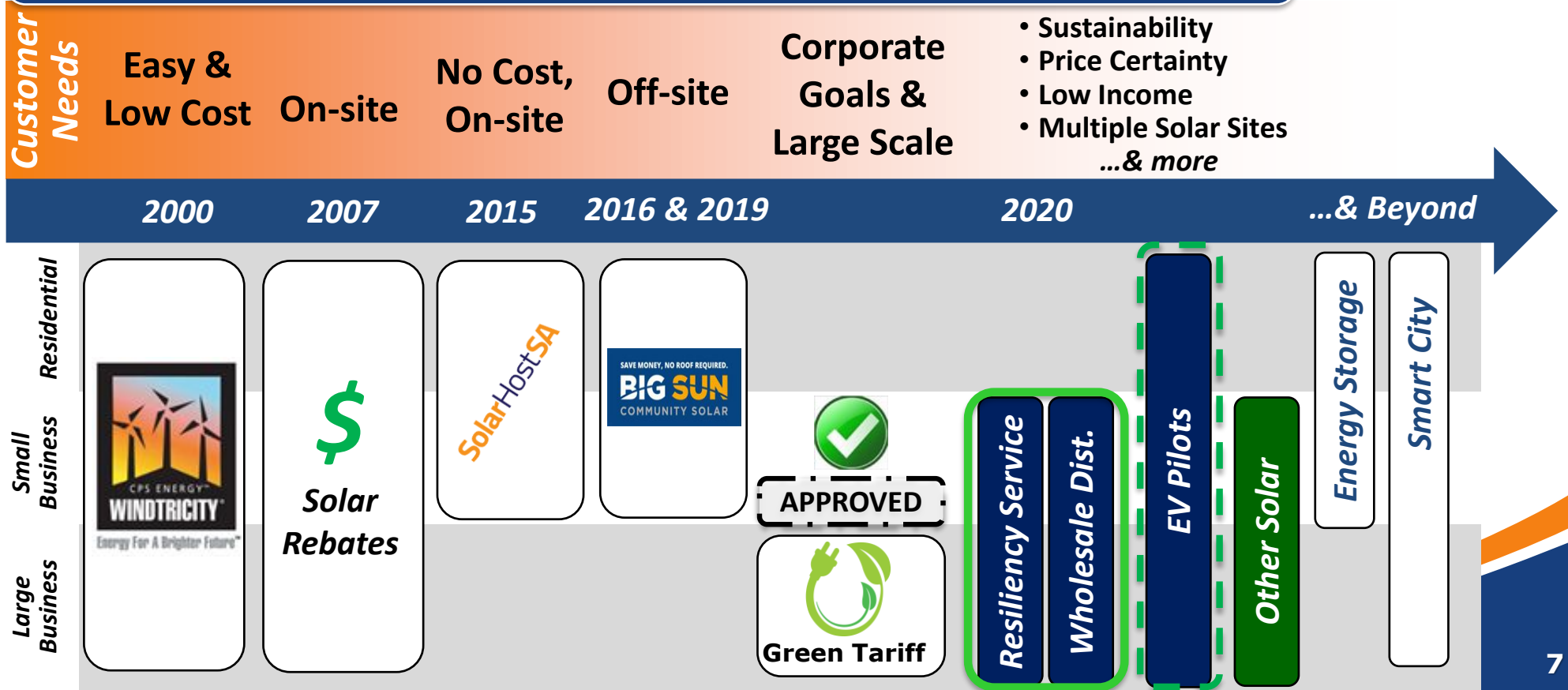
**Our robust product portfolio aligns to customer interest.**

Basic Energy Pricing	Conservation (STEP)	Renewable Energy	Resiliency	Electrification	Other
<ul style="list-style-type: none"> <li>• <b>Electric</b> <ul style="list-style-type: none"> <li>• Residential</li> <li>• Small Com.</li> <li>• Large Com.</li> </ul> </li> <li>• <b>Natural Gas</b> <ul style="list-style-type: none"> <li>• Residential</li> <li>• Commercial</li> </ul> </li> <li>• <b><u>Customer Assistance Programs</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Residential Energy Efficiency</b></li> <li>• <b>Commercial Energy Efficiency</b></li> <li>• <b>Demand Response</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Windtricity</b></li> <li>• <b>Rebates</b></li> <li>• <b>Net Metering</b></li> <li>• <b>SolarHostSA</b></li> <li>• <b>Roofless Solar</b></li> <li>• <b>Big Sun Solar</b></li> <li>• <b>Large Commercial Green Tariff</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Duplicate Feed</b></li> <li>• <b>Resiliency Service</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Rapid Public Charging</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Streetlights</b></li> <li>• <b>Wholesale</b></li> <li>• <b>Line Extension</b></li> <li>• <b>Small Cell</b></li> <li>• <b>Economic Development</b></li> <li>• <b>Advanced Energy Solutions (QSE)</b></li> </ul>
<div>Emerging Needs</div> <ul style="list-style-type: none"> <li>• <b>Fixed Cost Recovery</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Low Income Programs</b></li> <li>• <b>New Technologies</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Other Solar</b></li> <li>• <b>Multi-site</b></li> <li>• <b>Low Income</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Tiered Duplicate Feed</b></li> <li>• <b>Energy Storage</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Home Charging</b></li> <li>• <b>Public Options</b></li> <li>• <b>Workplace</b></li> <li>• <b>Fleet</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Distribution Service</b></li> <li>• <b>Smart Streetlights</b></li> </ul>

# OUR NEWEST INNOVATIONS










New products are developed to meet evolving customer needs.



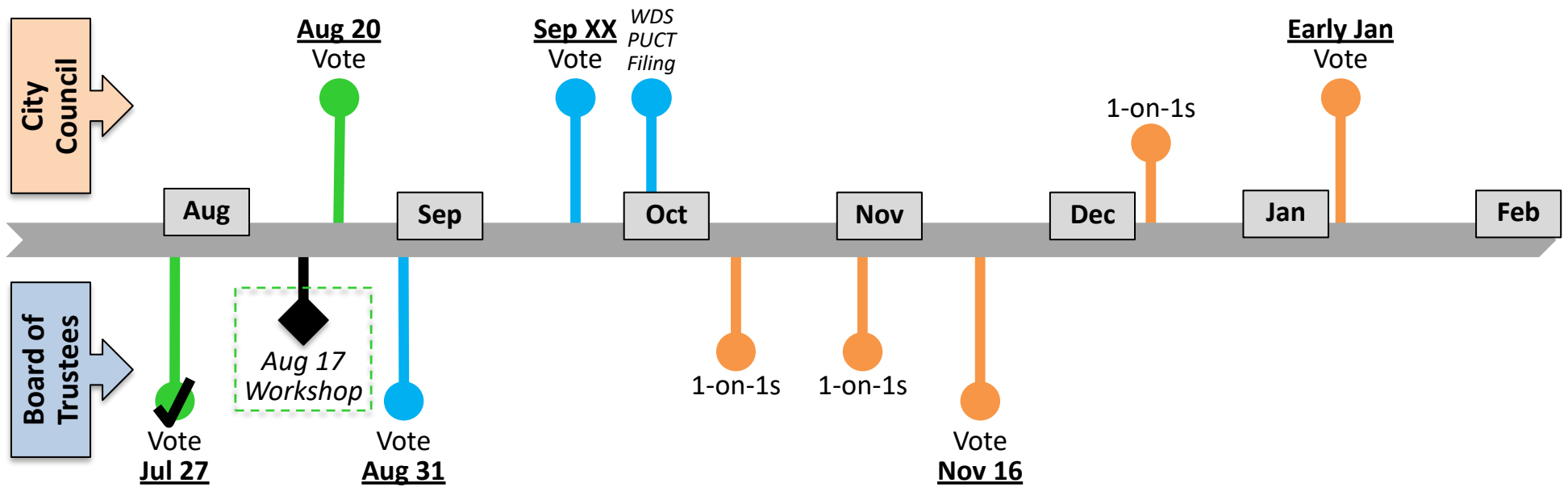
# PRODUCT ROADMAP – FY2021

## ROOTED IN FINANCIAL STABILITY



		Q2	Q3	Q4
Aligned to the GUIDING PILLARS	Environmental Responsibility	 <b>Green Tariff</b>	 <b>PROPOSED FOR APPROVAL</b>	 <b>Other Solar</b>
	Resiliency		 <b>Resiliency – Back Up Gen</b>	
	Reliability		 <b>Wholesale Distribution Service</b>	 <b>Line Extension</b>
	Pilot Programs (Under New Service Options Tariff)		 <b>EV Pilots</b>	

# APPROVAL SEQUENCING



## Key:

- Green Tariff
- EV Pilots, WDS & Resiliency Service
- Other Solar Solutions







# ***PROCESSES FOR NEW PRODUCTS***



**Cory Kuchinsky**  
Interim V.P.,  
Strategic Pricing  
&  
Enterprise Risk  
Mgmt. &  
Solutions

# WE ARE EVOLVING

## INNOVATION & TRANSFORMATION JOURNEY



### Transformation & Innovation: *Flexible Path* + New Products & Services

#### **Flexible Path:**

*Traditional + Renewables +  
Energy Storage + Smart Grid +  
"Fifth Fuel"\**



**Transitioning to Innovation**

**Technology Drives Timing**

**Present**

**Future**

\* "Fifth Fuel" is composed of energy efficiency gains & demand response

# OUR GUIDING PILLARS & FOUNDATION



**Reliability**



**Customer Affordability**



**Security**



**Safety**



**Environmental Responsibility**



**Resiliency**



**FINANCIALLY RESPONSIBLE**

**Our product & rates strategy is supported by our Guiding Pillars.**

# WHAT IS A PRODUCT?



We offer a wide variety of products that provide our customers convenience, help them save energy & money, & promote new technology

## Rebates

### *Examples*

- Cool Roof
- Solar Rebates
- HVAC
- Mow Down Smog



## Programs

- Weatherization
- Budget Payment Plan
- Thermostats



## Tariffs

- Residential Rate
- Affordability Discount Rider
- Line Extension Policy



**A “product” is anything that impacts the energy relationship we have with our customers.**

# DEFINING A TARIFF



- A tariff is a pricing structure or policy that governs how a utility provides services & generates revenue from those services
- Rates, riders & policies are all considered tariffs
- Tariffs are approved by our Board of Trustees & San Antonio City Council
- We have dozens of tariffs that support all of our customers; examples include:

Residential Electric Rate

Commercial Electric Rate

Retail Gas Rate

Line Extension Policy

Residential Affordability  
Discount Rider

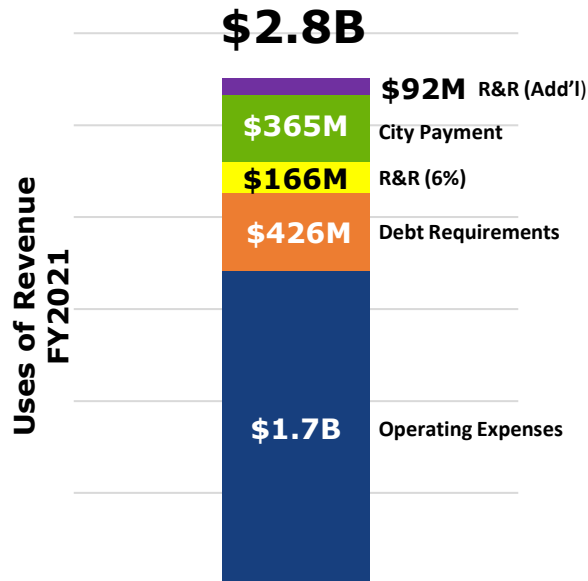
Policy for Miscellaneous  
Customer Charges

**In 2020, management will bring forward several tariff recommendations as part of a series of presentations & requests to stay current with customer trends & interests.**

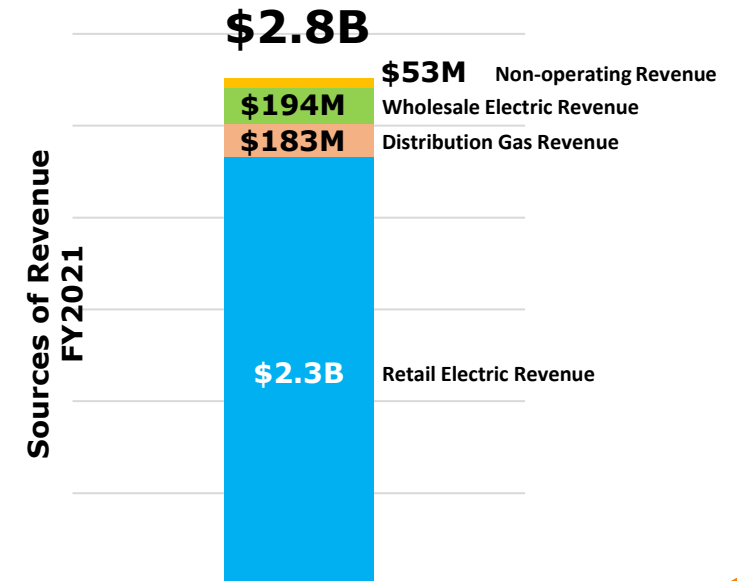
# DELIVERING REVENUE



## COSTS DRIVE REVENUE REQUIREMENTS...



## ...& TARIFFS DELIVER REVENUE.



**The prices in our tariffs are designed to deliver revenue that covers the cost of running the business.**



# DEFINING A PILOT



- Our industry is undergoing significant change, creating opportunities for us to serve customers in new & exciting ways
- To optimize these opportunities, the Board of Trustees & City Council approved the New Service Options (NSO) tariff in 2018
- The NSO tariff grants us the ability to test products & services in order to ensure that we are meeting customer expectations & recovering our costs
- Because these tests, or “pilots”, are not fully approved tariffs, they have very strict operational guidelines including:
  - A “Term Sheet” that defines each pilot must be written according to a defined template
  - The pilot has limited participation & duration (usually 1-2 years)
  - Each pilot is approved by the City of San Antonio’s Office of Public Utilities

**For a pilot to become a permanent tariff, it must be approved by our Trustees & City Council (i.e., it must become a tariff).**

# CHOOSING THE RIGHT PATH

## Go Straight to a Tariff if...

- Cost to serve is known
- Not possible to limit the scope (i.e., number of customers or length)
- Significant strategic implications to our business exist

## Conduct a Pilot First if...

- Cost to provide new offering is not fully known
- Unpredictable customer response
- Technologies rapidly evolving





# ***ELECTRIC VEHICLE (EV) PILOTS***

***(Review & Update Only /  
Not Yet Finalized for  
Separate Tariff Approval)***



**Chad  
Hoopingarner**  
Sr. Director,  
Strategic  
Pricing

# EV PROGRAM STRATEGY



Enable the electrification of transportation in our community by delivering customer options that allow us to optimize our infrastructure while delivering a meaningful customer experience.



## Expand

customer value to increase EV utilization & adoption



## Understand

customer needs through analytics & focus groups to eliminate barriers



## Engage

with customers to create valuable rates & incentives to reduce grid impacts



## Collaborate

& partner with industry, customers & other utilities



## Facilitate

the development of EV infrastructure into our community



### Customer Options

Create customer-centric offerings that increase value for customers & encourage off-peak charging with benefits to customer, community & our grid.



### Operations & Infrastructure

Provide infrastructure solutions to support customer initiatives, facilitate EV adoption & minimize impacts to the electrical grid.



### Education & Marketing

Drive adoption of EV's by educating employees, consumers, businesses & partners.

# EV MARKET RESEARCH INSIGHTS



- Many utilities are in the testing & piloting phase new EV pricing
- Time-based Pricing Structures
  - Are common,
  - Vary greatly from utility to utility & state-to-state
- Pricing programs designed to meet customer charging behaviors
  - @ home, @ work, OR on the go)

**Our team evaluates market best practices & then improves upon these ideas to deliver the best fit for our community.**

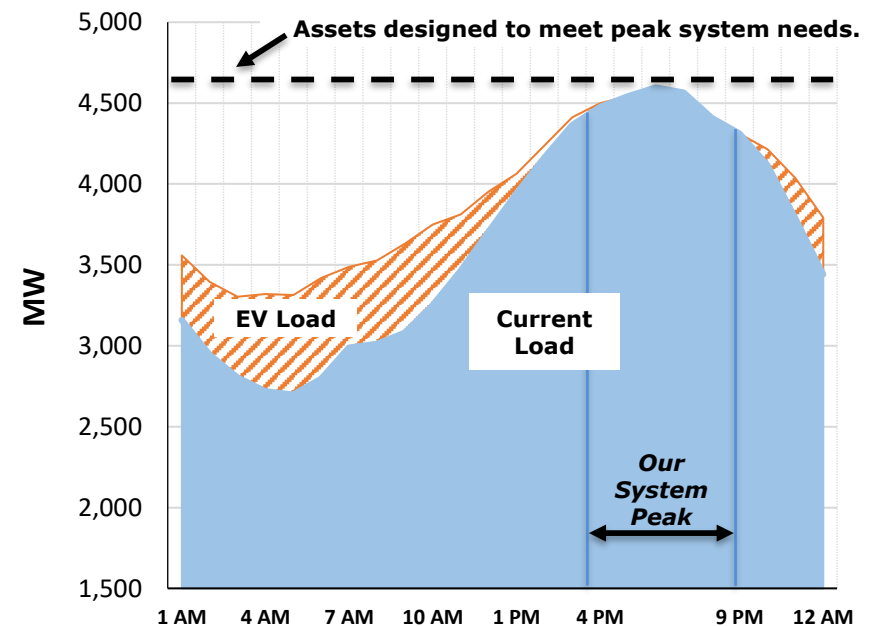
# EV PRICING STRATEGY



## EV Pilots

- We want to enable the positive impacts of EVs on S.A.'s air quality & electric system
- Our strategy is to use time-based pricing to encourage & incentivize "off-peak" usage of our system

### Summer Weekday System Load (Conceptual)



**"Off-peak" load optimizes existing assets & reduces capital investment.**

# HOW THE PILOTS WORK



Our portfolio of EV pilots seeks to encourage adoption & charging infrastructure deployment while protecting the grid.

**4 Time-based Pricing Pilots**  
**Seek to Meet Customers Where**  
**They Charge**

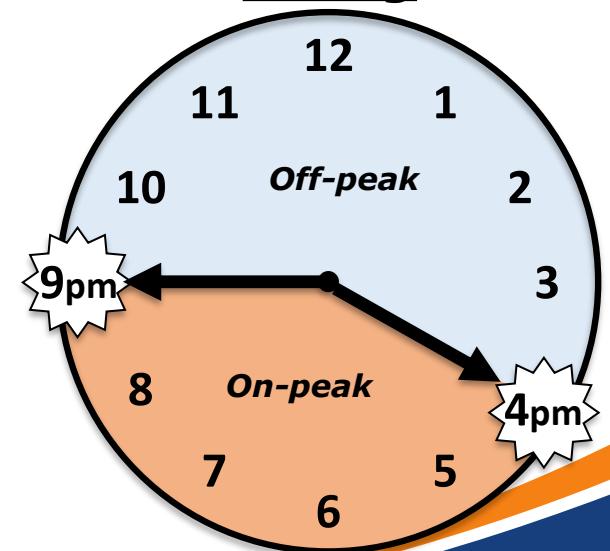


**EV  
Pilots**



★ *New Pilot*

**"Time of Use"**  
**Pricing**





# EV PILOT RATES

Large Commercial Fast Charging (Existing Pilot)	Small Commercial	Residential	CPS Energy Public Network
<ul style="list-style-type: none"> <li>• Service Availability Charge: <b>\$175</b></li> <li>• Demand: <b>\$7/kW</b></li> <li>• On-peak: <b>20¢/kWh</b></li> <li>• Off-Peak: <b>6¢/kWh</b></li> </ul>	<ul style="list-style-type: none"> <li>• Service Availability Charge: <b>\$25</b></li> <li>• Demand: <b>\$3/kW</b></li> <li>• On-peak: <b>20¢/kWh</b></li> <li>• Off-Peak: <b>6¢/kWh</b></li> </ul>	<ul style="list-style-type: none"> <li>• Service Availability Charge: <b>\$25</b></li> <li>• On-peak: <b>22¢/kWh</b></li> <li>• Off-Peak: <b>4¢/kWh</b></li> </ul>	<ul style="list-style-type: none"> <li>• PAYG On-peak: <b>\$2.00/hr (\$3 min.)</b></li> <li>• PAYG Off-peak: <b>\$1.50/hr (\$3 min.)</b></li> <li>• Flat Rate: <b>\$96/year</b></li> </ul>
<p><b><u>On-peak: 4pm-9pm weekdays</u></b>  <b><u>Off-peak: All other times</u></b></p>			

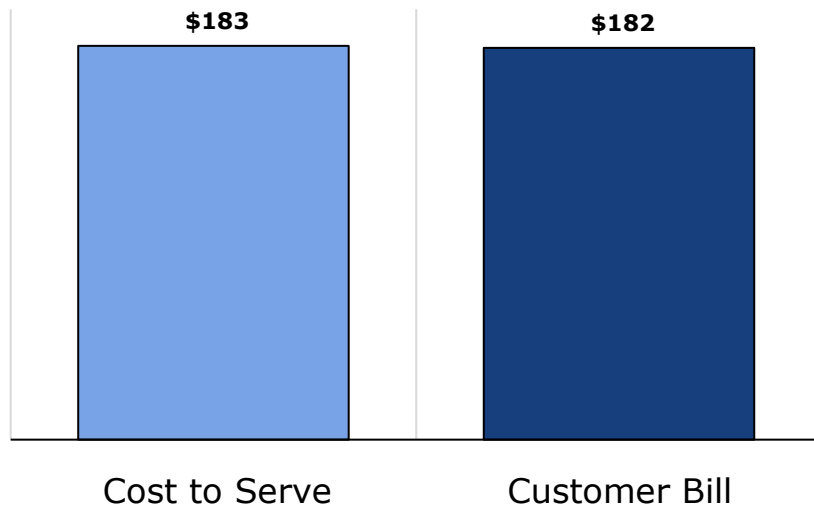
**Our EV pilots are simple & easy to understand.**



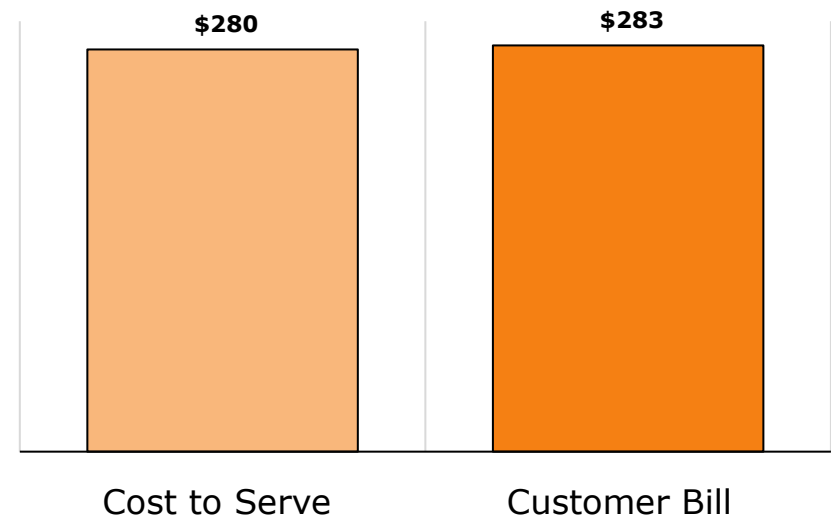
# FINANCIAL ASSESSMENT



**Residential EV TOU Pilot vs.  
Cost to Serve (Monthly Bill)**



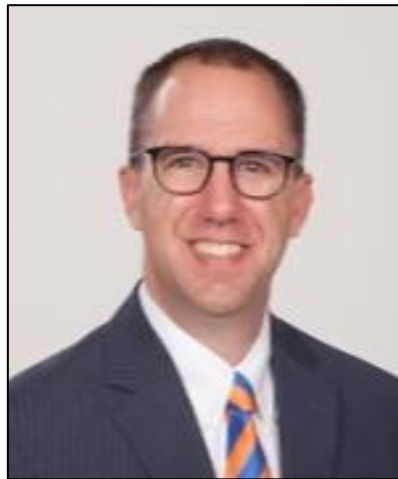
**Small Commercial EV TOU Pilot  
vs. Cost to Serve (Monthly Bill)**



**The pilot EV TOU rates are expected to deliver revenue in line with the cost of serving these customers.**



# ***WHOLESALE DISTRIBUTION SERVICE***



**Chad  
Hoopingarner**  
Sr. Director,  
Strategic  
Pricing

# MEETING OUR CUSTOMERS' NEEDS



## Wholesale Distribution Service (WDS) Tariff

- **NEW TYPES OF CUSTOMERS, SUCH AS ENERGY STORAGE OPERATORS, ARE SEEKING TO USE OUR DISTRIBUTION GRID**
- **WILL ENHANCE** the resiliency & reliability of our community's electric infrastructure
  - Utilities must allow 3<sup>rd</sup> parties to use their distribution grid to access the wholesale market



**We are modernizing our existing WDS tariff to enable new technologies, provide flexibility to our customers & benefit our community.**

# STRATEGIC BENEFITS

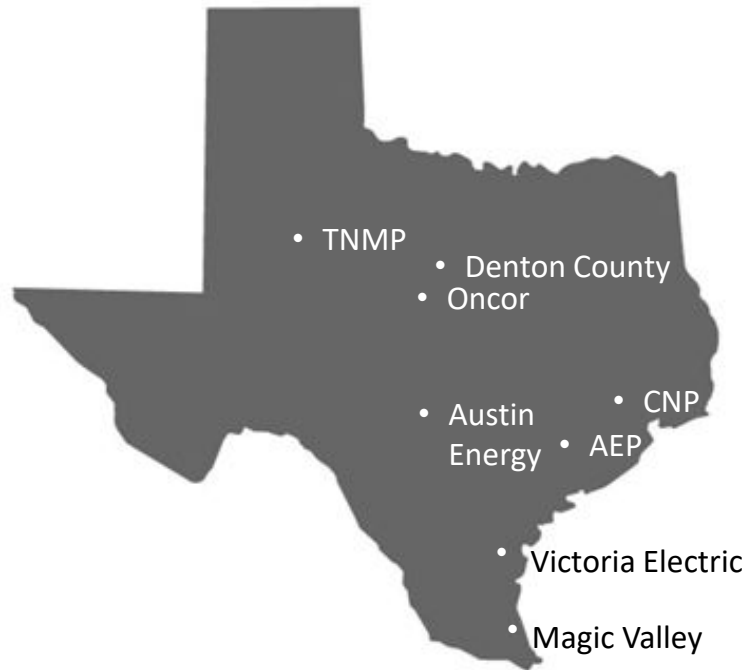


## Wholesale Distribution Service (WDS) Tariff

- **ENABLES** new technologies
- **ENHANCES** resiliency & reliability of our system
- **PROTECTS** our community's investment with modernized pricing, ensuring the cost of assets is fully covered

**Our modernized tariff delivers value, aligns with community goals & protects our community's electric infrastructure investment.**

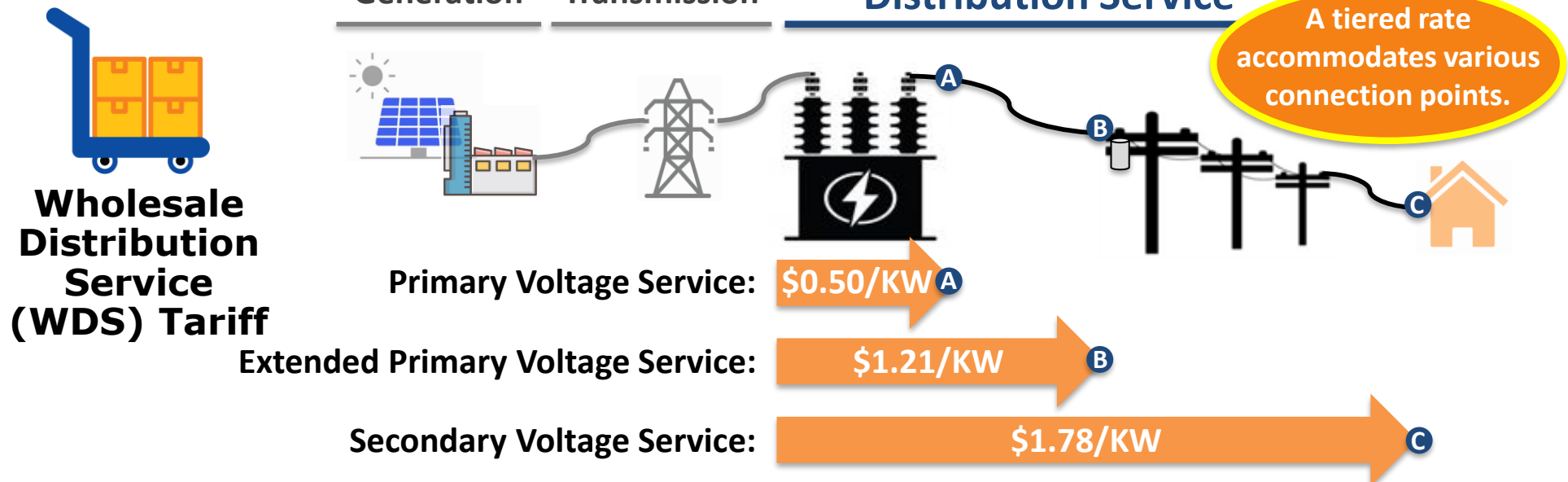
# MARKET RESEARCH OBSERVATIONS



- Utilities in Texas have “distribution wheeling” rates to recover the cost of distribution assets used by these 3<sup>rd</sup> parties
- Historically, these rates have been “one-size fits all,” but we are seeing a trend toward a more tailored approach

**Our proposed tariff uses an enhanced tiered approach.**

# HOW THE PRODUCT WORKS



**The WDS tariff recovers costs based on how much of our distribution system the customer uses.**

# WDS TARIFF UPDATES



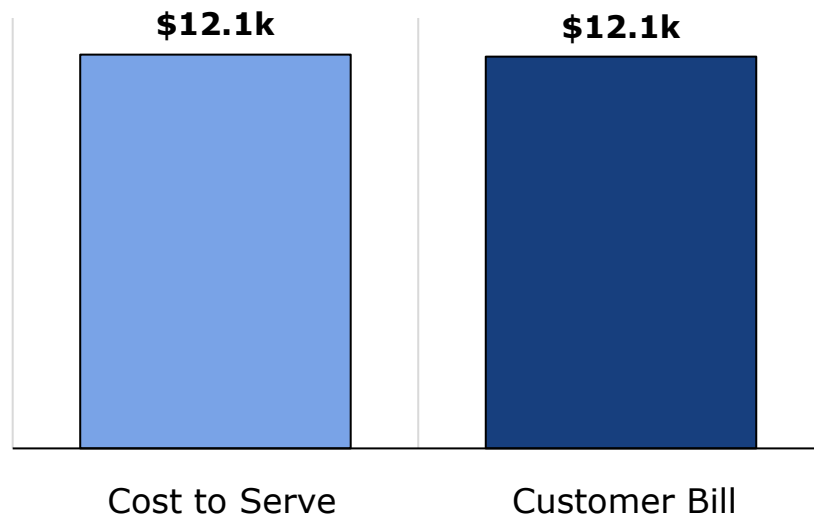
**The WDS Tariff (Rider E-14) is being modernized to recover costs at different service levels.**

Current Rider E-14	Modernized E-14
<p>A “one size fits all” approach that is \$0.50/kW of demand, regardless of where the Customer interconnects</p>	<ul style="list-style-type: none"> <li>• A tiered rate, ranging from \$0.50 to \$1.78, which recognizes that costs differs by where a Customer interconnects</li> <li>• Requires additional payments for non-standard infrastructure</li> <li>• Includes a monthly charge for customer-related &amp; billing costs</li> </ul>

# FINANCIAL ASSESSMENT



## Wholesale Distribution Service Monthly Bill Sample



- Allocation exercise that is validated by a 3<sup>rd</sup> party expert
- Monthly bill for a 10 MW interconnection at extended primary voltage will deliver revenue in line with the cost of serving the customer

**The WDS tiered rate is designed to cover the fixed cost of the distribution infrastructure used by the customer.**

Note: Cost of Service consists of O&M, A&G, debt service, internal funds and city payment





# ***RESILIENCY SERVICE***



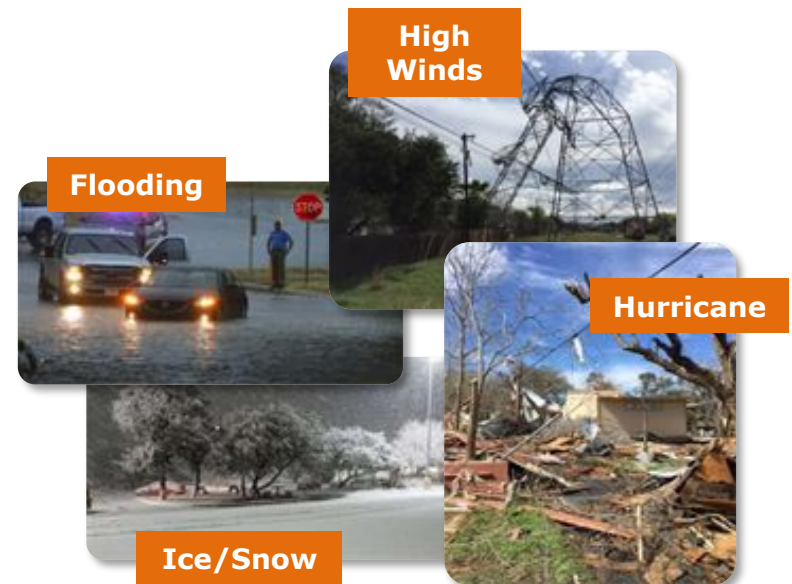
**Rick Luna**

Director, Technology & Product  
Innovation

# MEETING OUR CUSTOMERS' NEEDS



- Commercial customers want a solution for dependable power during critical weather events
- For a monthly fee, we will provide access to onsite generation
- Pilot was launched in mid-2019 & we are ready to finalize the rate for broader customer use



# MARKET INSIGHTS

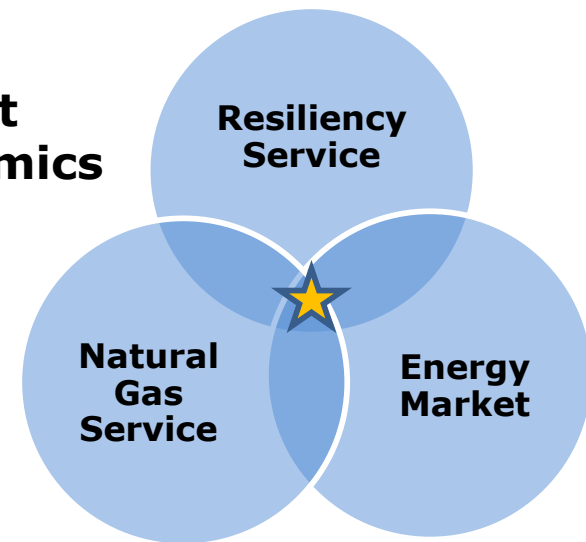


The Resiliency Service model makes it economically feasible to locate generators at customer sites.

**On-site  
Back-up  
Generation**



**Project  
Economics**



**Multiple revenue streams make distributed projects economically feasible.**

# HOW THE PRODUCT WORKS



**In exchange for a monthly Resiliency Service fee, the customer is guaranteed to experience minimal disruption of service.**

# RESILIENCY PILOT



- Pilot customer has agreement for resiliency at 31 sites, 34.8 MW total capacity
- As of August 3, 19 sites (22.8 MW) are live & 6 sites (5.2 MW) are under construction
- Resiliency Service pilot ensured continued operations during the heavy storms over Memorial Day weekend



# PILOT ASSESSMENT



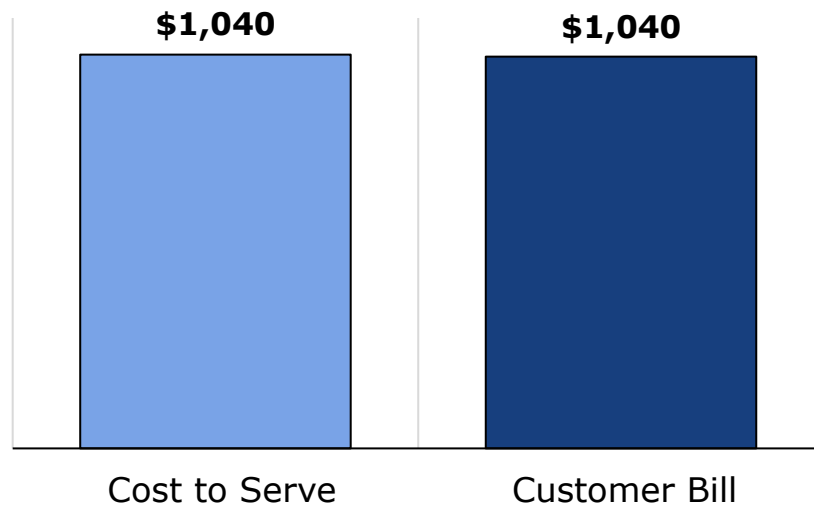
Customer	CPS Energy	3 <sup>rd</sup> Party Solution Provider
<ul style="list-style-type: none"><li>✓ Shorter, less frequent outages</li><li>✓ Ability to operate during disruptive events</li><li>✓ Resiliency at an acceptable price point</li></ul>	<ul style="list-style-type: none"><li>✓ New strategic product offering</li><li>✓ Improved customer satisfaction</li><li>✓ Resiliency fee recovers cost of providing this service</li></ul>	<ul style="list-style-type: none"><li>✓ Adequate return on its invested capital</li></ul>

**The pilot has been highly successful for all parties & we recommend transitioning to a permanent offering to accommodate additional customers.**

# FINANCIAL ASSESSMENT



## Resiliency Service Monthly Bill Sample



- The Resiliency Service fee is designed to recover the cost of:
  - Infrastructure & system costs
  - Operations & maintenance expenses
  - Energy from back-up generation
- Monthly bill for 1 MW of Resiliency Service will deliver revenue in line with the cost of serving the customer

**The Resiliency Service rate is designed to cover the fixed cost of interconnecting with our distribution grid.**



# ***CLOSING REMARKS***



**Cory Kuchinsky**  
Interim V.P.,  
Strategic Pricing  
&  
Enterprise Risk  
Mgmt. &  
Solutions



# CLOSING REMARKS



- We continue to meet our customers' emerging needs by enhancing our product portfolio
- Our roadmap of new products has strategic benefits to the community
- We remain focused on optimizing infrastructure investments by ensuring fixed costs are fully covered
- At the August 31 Board of Trustees meeting, we will respectfully request your approval on 2 tariffs:
  - Wholesale Distribution Service Tariff updates
  - Resiliency Service Tariff following successful pilot



***Thank You***



## ***Appendix***



# GLOSSARY

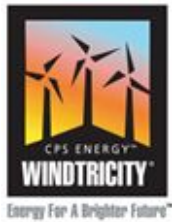


Acronym or Word	Definition
Line Extension	An extension and/or addition of existing distribution lines for the purpose of providing electric/gas service
Tariff	A pricing structure or policy that governs how a utility provides services & generates revenue from those services
Pilot	A program with very strict operational guidelines including that allows for data collection
MW	A megawatt (MW) is 1,000,000 watts of instantaneous power.

# EXISTING RENEWABLE PRODUCTS



We offer a robust portfolio of renewable energy products.



## **Windtricity**

- Easy, low cost way to designate a portion of energy usage as renewable

## **Solar Rebate**

- Improves affordability of solar on a home or business

## **SolarHostSA**

- Customer hosts solar at no cost in return for bill credits

## **Roofless Solar**

- Customer with limited roof availability can purchase panels in a community solar array & earn bill credits

## **Big Sun Community Solar**

- Community solar located on parking structures around the city
- Revenue from shaded parking reduces cost

**SolarHostSA**

**SIMPLY SOLAR™**  
CPS ENERGY

SAVE MONEY, NO ROOF REQUIRED.  
**BIG SUN**  
COMMUNITY SOLAR

# SAMPLE WDS BILL CALCULATION



## Sample Monthly Bill For a 10 MW Battery

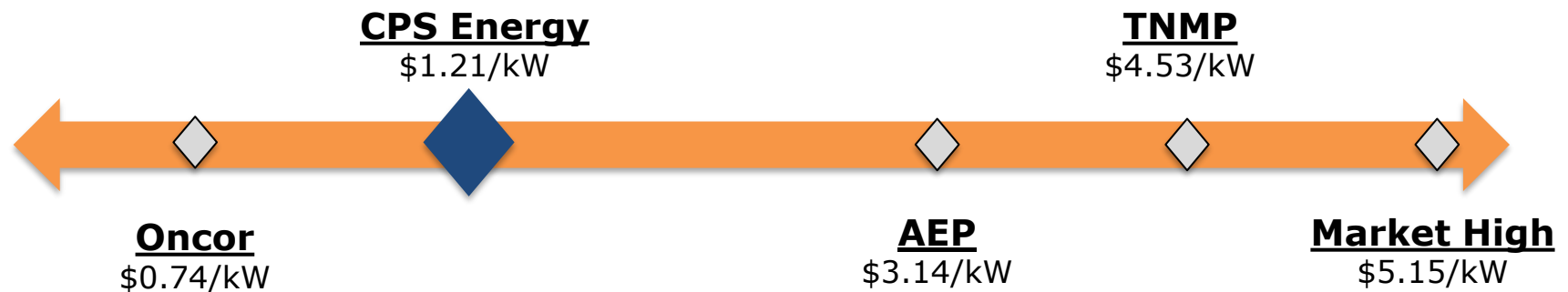
Extended Primary Voltage Service Level	Monthly Charge <sup>1</sup>
Grid Share	\$19.00
Demand Charge	$  \begin{array}{r}  \$1.21 \\  \times 10,000 \text{ kW} \\  \hline  \$12,100  \end{array}  $
<b>Monthly Bill for Grid Share &amp; Demand Charges</b>	<b>\$12,119</b>

**A single 10 MW battery could produce ~\$150K in WDS revenue each year with the revised pricing.**

<sup>1</sup> The monthly charge is per kW of contracted demand or capacity

# WDS MARKET RATE COMPARISON

## EXTENDED PRIMARY SERVICE PRICE COMPARISON



**While market prices vary greatly, we are positioned well due to our favorable cost structure.**



# ***SOLAR ENERGY GLOBAL TRANSITION / LANDSCAPE UPDATE***

*PRESENTED BY:*

**Frank Almaraz**

Chief Administrative & Development Officer (CABDO)

August 17, 2020

*Informational Update*



## OBJECTIVES & TAKEWAYS



- **COVER HISTORICAL CONTEXT**
- **BUILD A COMMON GENERAL VIEW OF THE GLOBAL LANDSCAPE**
- **CONNECT THAT KNOWLEDGE TO OUR PRUDENT INTEREST IN SECURING UP TO 900MW MORE OF SOLAR CAPACITY**



# AGENDA



- **SOLAR PRODUCT JOURNEY**
- **THERE HAVE BEEN STRUGGLES**
- **SOLAR STANDARDIZATION**
- **CHANGE SOLAR LANDSCAPE – GLOBAL PRICES**
- **OUR VISION 2020**
- **OUR ENERGY PROFILE IMPROVING**
- **REGIONAL DIVERSIFICATION**
- **MORE SOLAR – IT IS TIME FOR AN INCREASE**
- **SOLAR RISK MITIGATION**
- **A MEANING STEP FORWARD**
- **FLEX POWER BUNDLE**

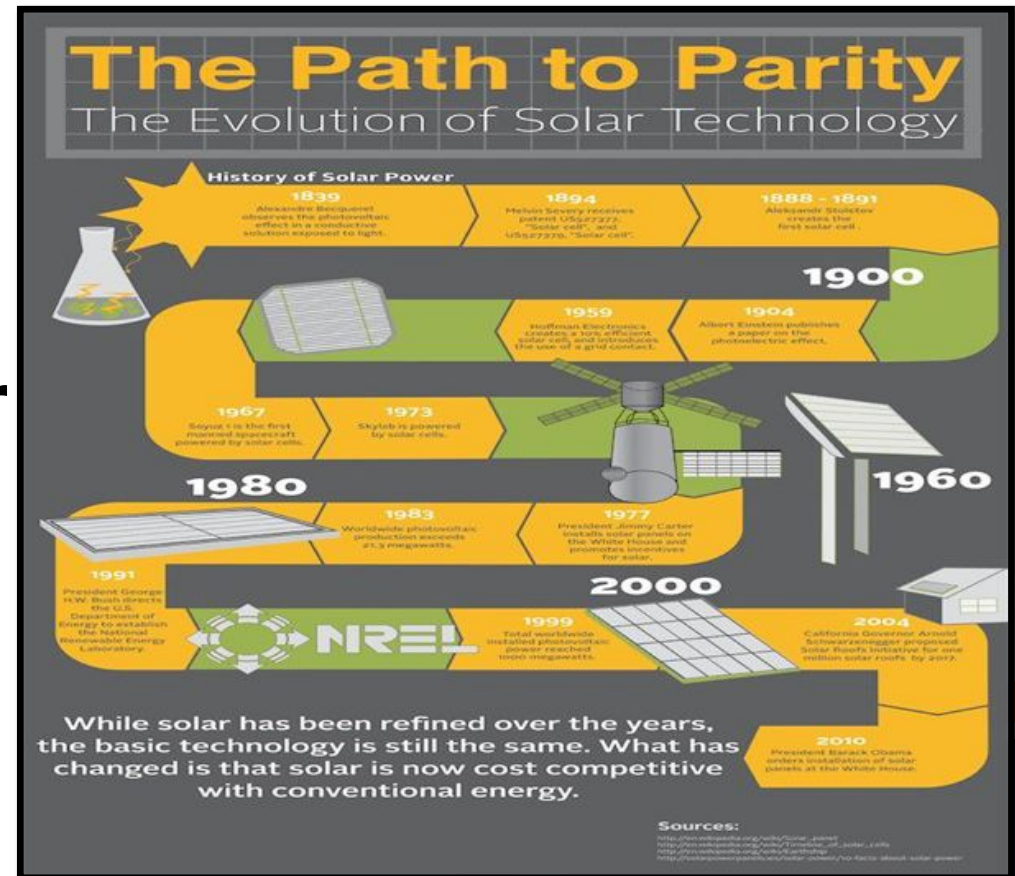


# SOLAR PRODUCTS

## PRODUCT JOURNEY



**Realizing the inherent potential of harnessing energy from the Sun, the road to evolve solar power extends back to 1839.**



# SOLAR PRODUCTS

## PRODUCT VARIATION



### INITIAL VIEW OF VALUE DRIVERS

**N-TYPE**, built on a negative charge:

- More Expensive
- More Efficient

**BI-FACIAL**, Reflects on the front & back of panel:

- Less Common
- More Efficient

**DUAL-AXIS**, Panels Rotates:

- More Expensive
- More Effective

### ACTUAL COMMON CUSTOMER PREFERENCES TODAY

**P-TYPE**, built on a positive charge:

- More Common
- Less Efficient

**MONO FACIAL**, Front only:

- Less Expensive
- More Common

**SINGLE-AXIS**, No Rotation:

- Less Expensive

# SOLAR

## THERE HAVE BEEN STRUGGLES - 1 OF 2



The important goal is to learn from others.

**yahoo!news**

### U.S. solar power plant backed by over \$700 mln in govt loans goes bust -filing

**Nichola Groom**

July 30, 2020, 1:16 PM

By Nichola Groom

July 30 (Reuters) - The owner of a big Nevada solar-thermal power plant that received \$737 million in loans from the U.S. Department of Energy filed for bankruptcy on Thursday, according to a court filing, potentially leaving U.S. taxpayers with a whopping bill.

6

# SOLAR

## THERE HAVE BEEN STRUGGLES – 2 OF 2



**The important goal is to learn from others.**

**yahoo!news**

Tonopah's 110-megawatt plant in the Nevada desert was billed as the first to be able to store solar energy. But its technology, which uses more than 10,000 mirrors to focus the sun's heat on a tower to create steam, was both unreliable and expensive.

Soon after it began operating in 2015, the facility suffered a string of leaks in its hot salt tank, a key component of its energy storage system. It has not operated since April of 2019.

The plant had been selling power at \$139 per megawatt-hour, the company said. Solar energy contracts for large photovoltaic projects today are generally below \$30 per MWh.

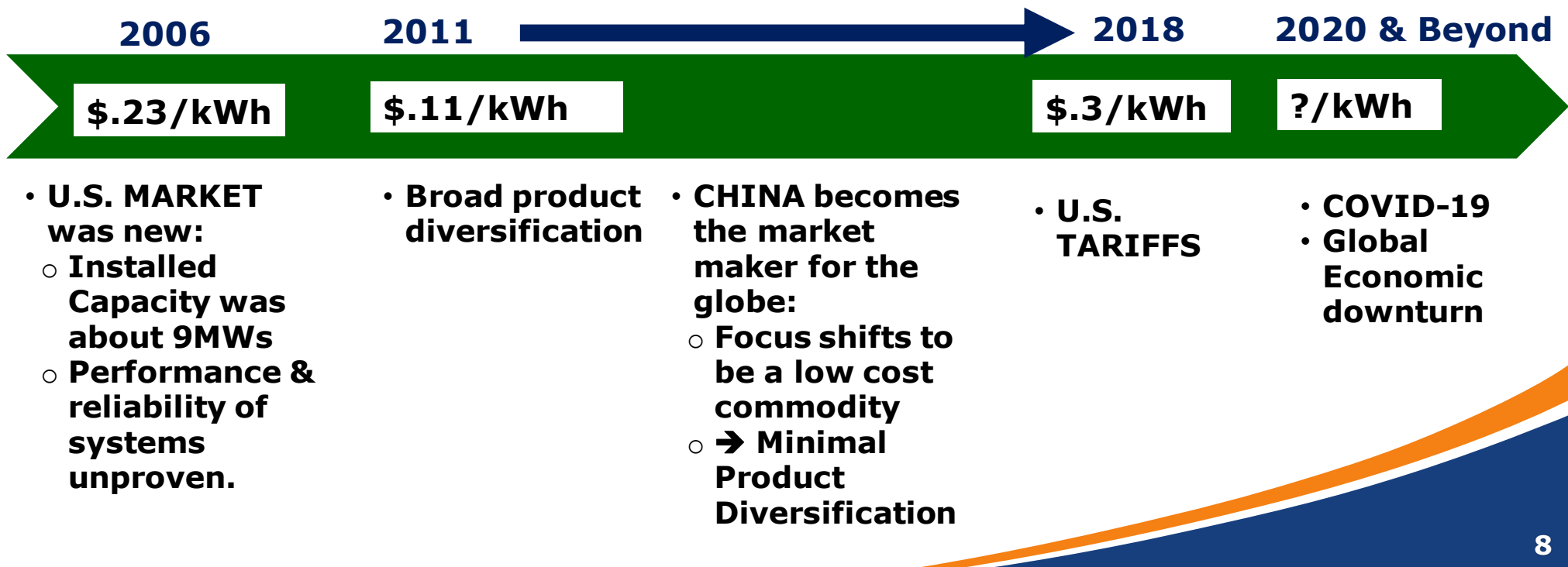
7

# CHANGED SOLAR LANDSCAPE

## GLOBAL - PRICES



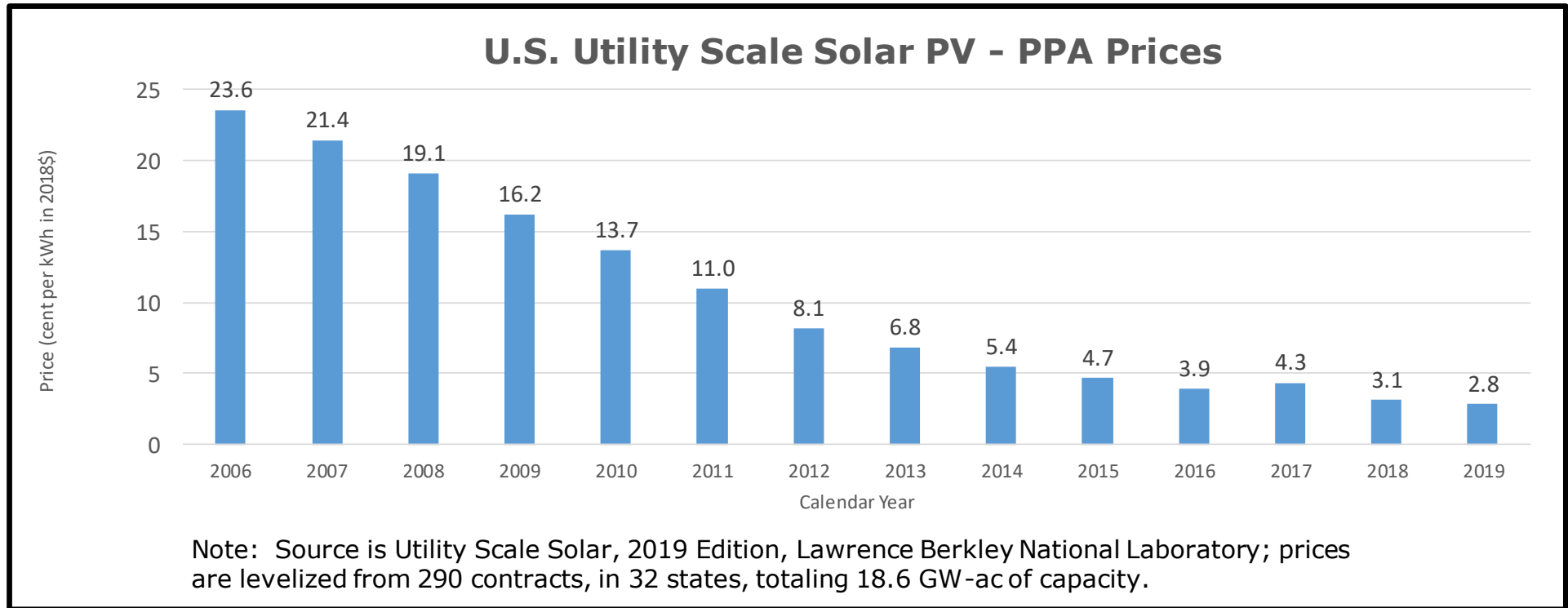
- Solar prices have declined 88% since 2006!
- Low cost panels from China dominate the market.



# UTILITY SCALE SOLAR PRICE DECLINES OVER TIME



**While their efficiency has not risen significantly over time, standardization & investment from China's government have driven solar prices down attractively.**



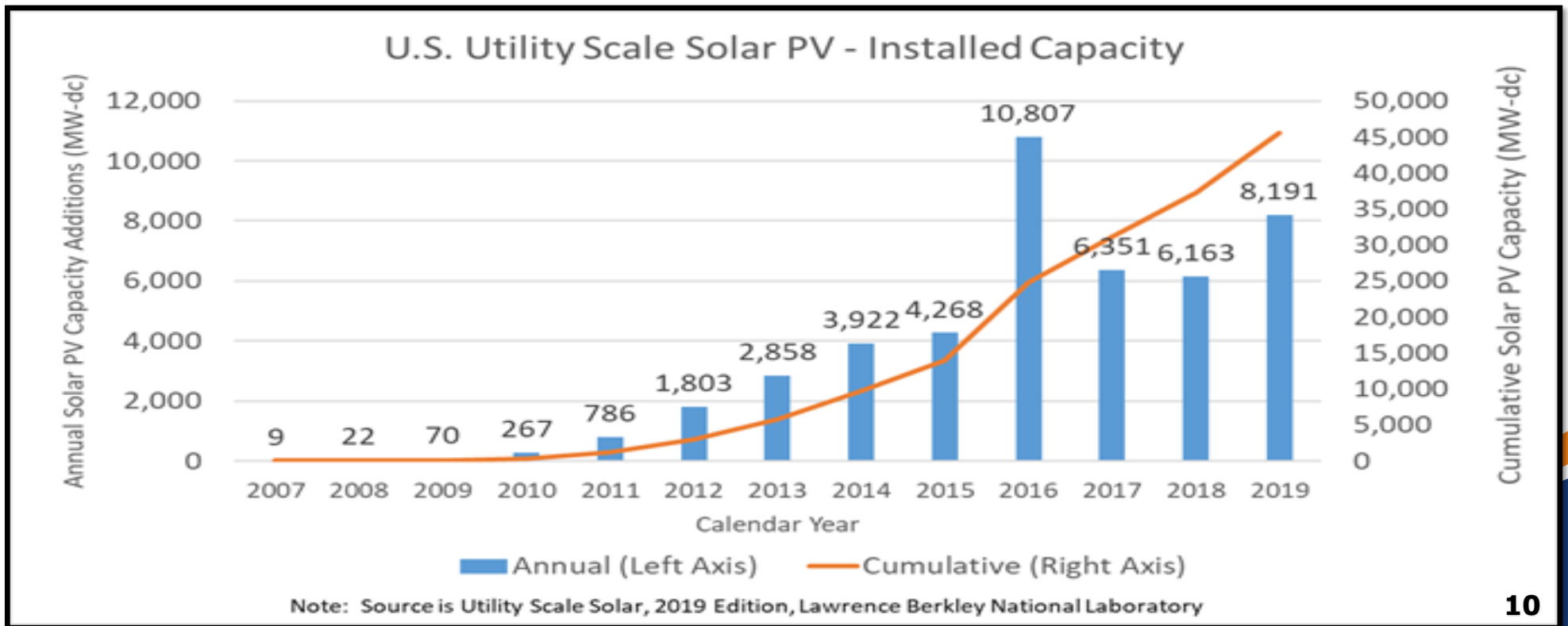


# UTILITY SOLAR

## GROWTH - INSTALLED CAPACITY



Global interest has driven increased solar penetration nationally.



# VISION 2020

## THE GOALS WERE ACHIEVED



**Before 2010, we established VISION 2020, which was our commitment to add more low-to non-emitting capacity.**



**20% RENEWABLE ENERGY CAPACITY**



**65% LOW-TO NO-CARBON GENERATION**



**771 MW ENERGY EFFICIENCY & CONSERVATION**

**BY 2019, WE HIT ALL OUR TARGETS!**

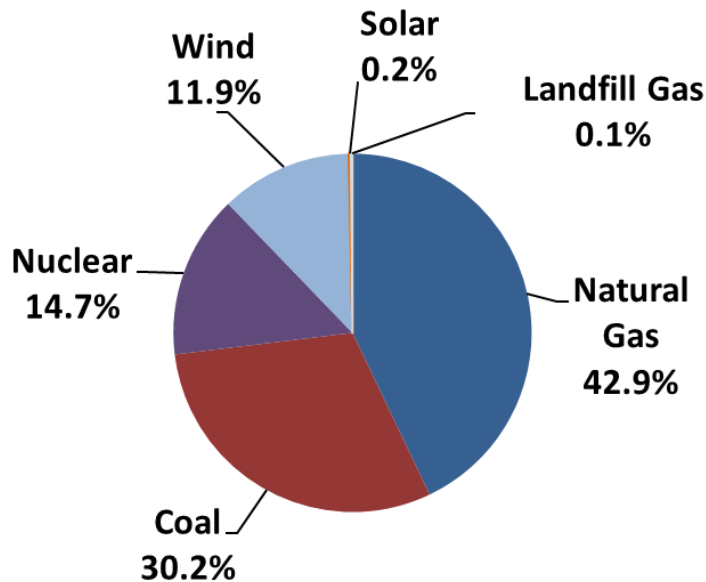
# OUR GENERATION PROFILE

## IMPROVING CAPACITY MIX (MW)

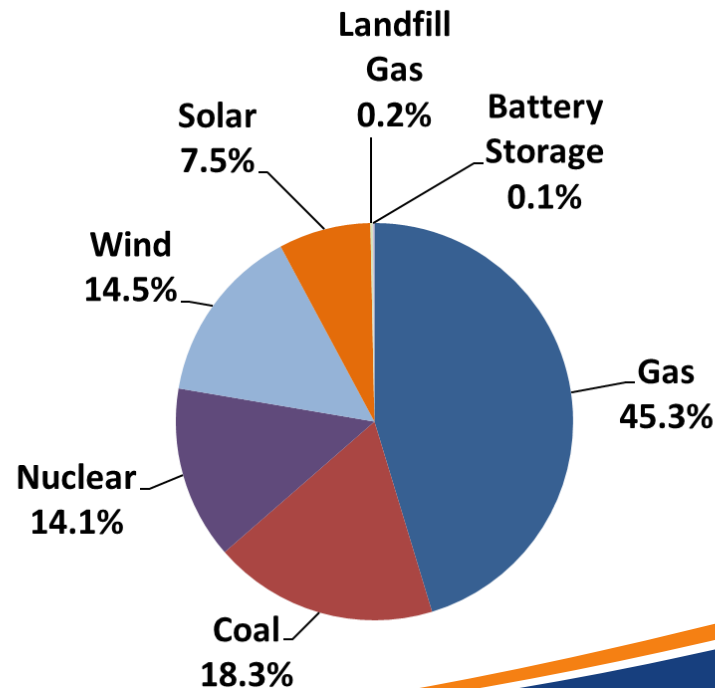


**Now, approximately 80% of the capacity is low-to non-emitting!**

**CY 2010**



**CY 2019**



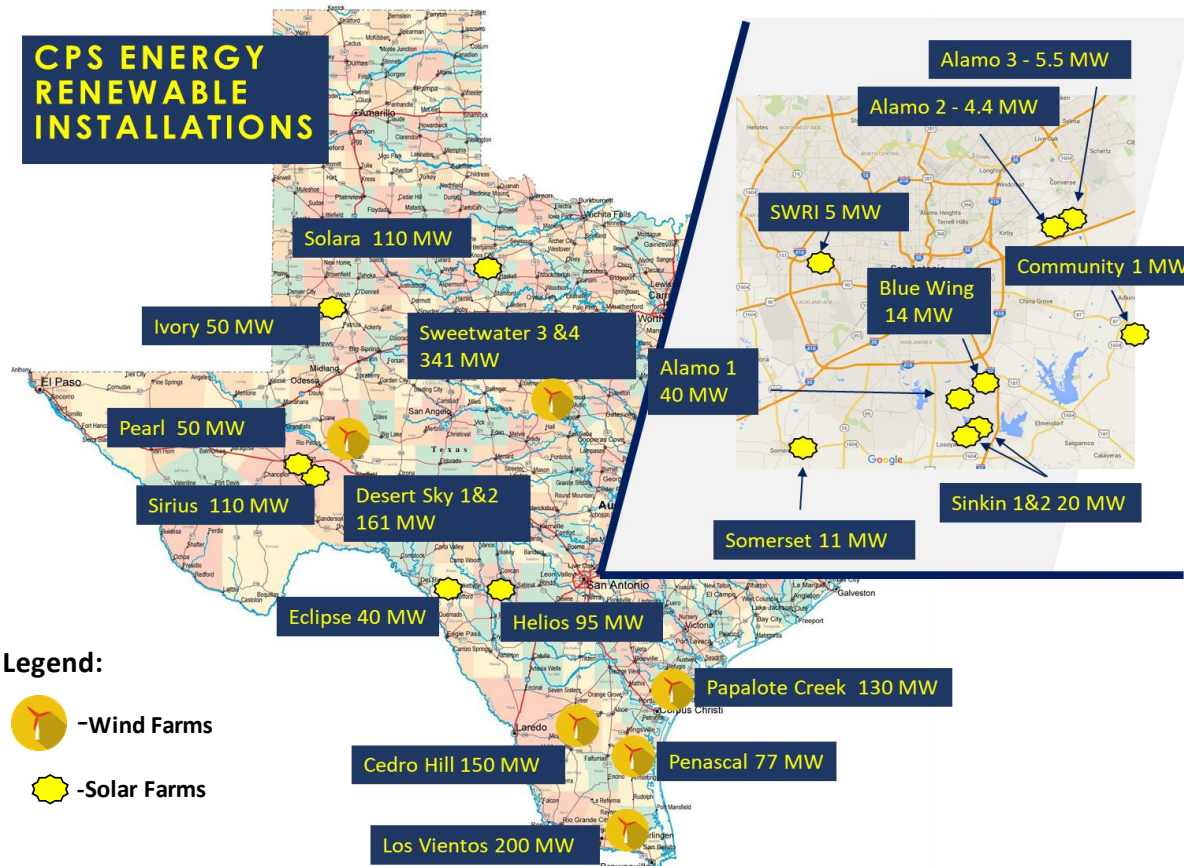
**LOW-EMITTING**

- Gas

**NON-EMITTING**

- Nuclear
- Wind
- Solar
- Landfill Gas
- Battery

# REGIONAL DIVERSIFICATION



**COMBINED:**  
**Over 20% of our capacity comes from solar & wind across Texas.**

## MORE SOLAR

ITS TIME IS TIME FOR AN INCREASE



- Solar comprises 7.5% of our capacity
- In light of our new RFI → RFP...



- ... a substantial increase will benefit S.A. & TX

# SOLAR RISK MITIGATION



SOLAR GENERATION			
BENEFITS	ZERO EMISSIONS	FAVORABLE PRICING	EXPERIENCE WITH MANAGING ASSET
CHALLENGES	WEATHER & TIME DEPENDENT RESOURCE	REQUIRES BACK UP GENERATION	PANEL PERFORMANCE & EFFICIENCY

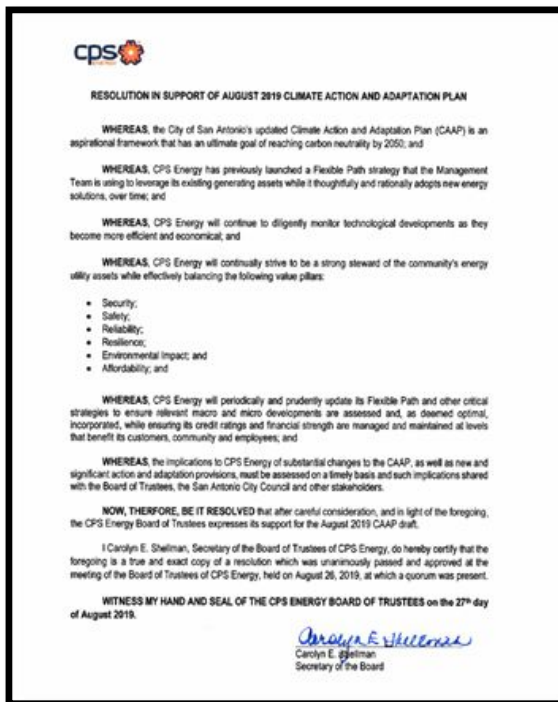
**THESE RISK CAN BE MITIGATED WITH FIRING CAPACITY**

# MEANINGFUL STEP FORWARD



## Aug. 2019 Board of Trustees Resolution of Support for CAAP

**FlexPOWER Bundle envisions adding Solar, Storage & Firming Capacity, which aligns with Board of Trustees' Resolution supporting lower emissions.**



**900MW Solar**



**50MW Storage**



**FIRMING CAPACITY  
Searching For  
Open / All-Source Solutions**





**FLEXPOWER**  
BUNDLE

THINKING GLOBAL  
ACTING LOCAL

*RFI issued in 10  
languages!*

**cps** ENERGY

[cpsenergy.com/RFI](https://cpsenergy.com/RFI)

ENERGY  
STORAGE

*FlexPOWER* Bundle RFI

The advertisement features a background image of a city skyline with solar panels in the foreground and white energy storage containers. The containers have 'ENERGY STORAGE' written on them. The text 'FLEXPOWER BUNDLE' is prominently displayed in the upper left, with 'FLEX' in blue and 'POWER' in orange. Below it, the tagline 'THINKING GLOBAL ACTING LOCAL' is written. To the right, there is a call to action: 'RFI issued in 10 languages!' followed by the 'cps ENERGY' logo and the website 'cpsenergy.com/RFI'. At the bottom, a blue banner contains the text 'FlexPOWER Bundle RFI'.





***Thank You***





# ***NEW ENERGY ECONOMY (NEE) UPDATE***

*PRESENTED BY:*

**Frank Almaraz**

Chief Administrative & Business Development Officer (CABDO)

August 17, 2020

*Informational Update*



# OBJECTIVES & TAKEAWAYS



- **PROVIDE BACKGROUND ON NEE**
- **CREATE FOUNDATION TO POTENTIALLY EVOLVE THE PROFILE OF THE NEE**



# AGENDA



- **OUR BROAD PILLARS**
- **STRATEGIC EVOLUTION**
- **NEE: APPROACH, PARTNERS, & JOURNEY**
- **STRATEGIC ENHANCER**



# OUR BROAD PILLARS ARE BALANCED

**As we continue to evolve our business with new energy solutions, our team will balance all of our VALUE PILLARS.**

**Reliability**



**Customer Affordability**



**Security**



**Safety**



**Environmental Responsibility**



**Resiliency**



**FINANCIALLY RESPONSIBLE**

# STRATEGIC EVOLUTION



## VISION 2020

(Started Prior To 2010)



**Strategic Enhancer  
NEE**



**(Started in 2017)**

**QUESTION: How should we update the NEE going forward, especially as we are launching the**



# NEE APPROACH LAUNCHED IN 2011



## **STRATEGIC ENHANCER DRIVERS:**

- **THE NEE ENHANCED OUR PATHWAY TO VISION 2020 GOALS, VIA RENEWABLE GENERATION & ENERGY EFFICIENCY**
- **Fostering NEE Ecosystem Growth**: To bring additional value to our local community & establish SA as a hub for clean energy innovation
- **Support Economic Development** To create jobs, economic development & educational opportunities in community



# NEE PARTNERS



## EARLY PARTNERS



## UTILITY-SCALE SOLAR



## ADVANCED METERS

## LED LIGHTING



## ADDED PARTNERS



## DISTRIBUTED SOLAR

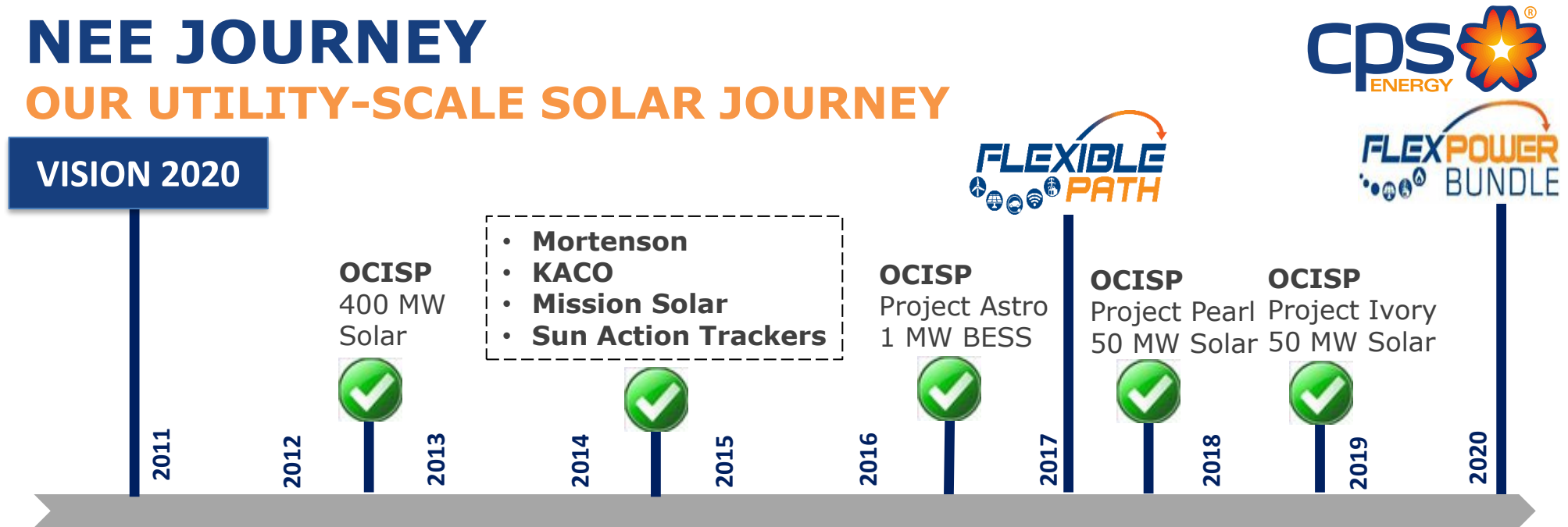
## ENERGY EFFICIENCY

**PROVEN PRODUCTS & SERVICES:**  
We have a wide range of international & national companies in our ecosystem.



# NEE JOURNEY

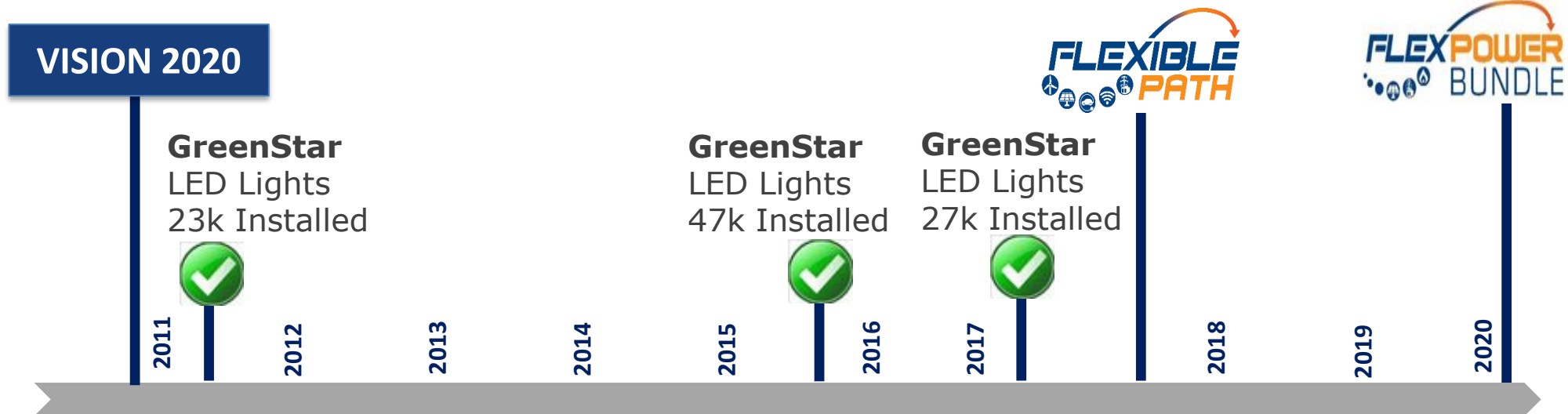
## OUR UTILITY-SCALE SOLAR JOURNEY



**OCISP successfully delivered 500MW of Solar to S.A. & TX!  
We are now a recognized National Solar Leader!!  
This capacity has helped us reduce our emissions!!!**

# NEE JOURNEY

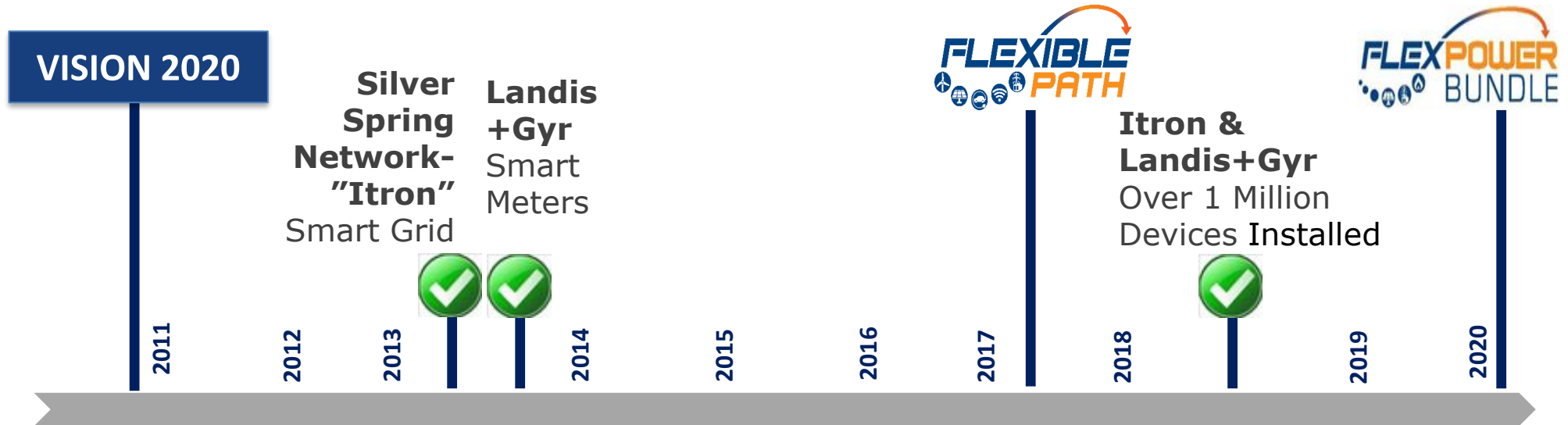
## OUR LED LIGHTING JOURNEY!



**GreenStar has delivered 100k streetlights!**  
**LED's greatly improve our community's energy efficiency!!**  
**A PLUS: GreenStar has shared its innovation with us & created a helpful Solar Security Light product for our REAP-funded & other customers!!!**

# NEE JOURNEY

## OUR ADVANCED METERS JOURNEY!



**We successfully built a new technical communication network that is helping us to be more efficient!**

**System reliability performance has been excellent!!!**

# STRATEGIC ENHANCER

## NEE COMPONENTS



### PRIMARY SOLUTIONS:

- ✓ Embraced Changes in New Technology
- ✓ To Reduce Emissions
- ✓ Promoted Energy Conservation
- ✓ Pilot Projects



### SECONDARY BENEFITS:

- Start SA Reputation as a Evolving Energy Hub
- S.A. Manufacturing
- Long-term jobs
- Scholarships

# STRATEGIC ENHANCER

## ADDITIONAL CONSIDERATIONS



### SECONDARY BENEFITS:

- Start SA Reputation as a Evolving Energy Hub
- S.A. Manufacturing
- Long-term jobs
- Scholarships



TECHNOLOGY PILOTS

SKILLS TRAINING

OTHERS

# STRATEGIC ENHANCER

## NEE IN THE FUTURE



**VISION 2020**

**NEE**

**(Created  
Before 2010)**

- **OPTION 1: KEEP AS IS**
- **OPTION 2: UPDATE**



**(Created in 2017)**

**In light of our new RFI → RFP:**

**We will re-visit the SECONDARY  
asks for the partners.**

**More to come ...**





***Thank You***





## ***Appendix***





# GLOSSARY / DEFINITIONS



Acronym or Word	Definition	Acronym or Word	Definition
NEE	New Energy Economy		
Distributed Solar	Small grid solar connected devices to our electrical system		
VISION 2020	Pre-2010 strategic vision to reduce emissions and achieve energy efficiency		

# NEE

## CURRENT MEMBERS



- 550 MW utility scale solar
- 200 MW cell & panel manufacturing plant
- North American HQ for OCISP, Mission Solar Energy and KACO



- Permanent jobs
- Capital investment
- Educational investments



- Grid Optimization Program
- Partner Solutions Testing & Certification facility in SA
- Permanent, high-tech jobs
- Capital investment
- Educational investments
- Internships



- 800k+ electric smart meters
- Local office
- Permanent jobs
- Educational investment



- 60K LEDs (light-emitting diodes)
- Local HQ with manufacturing facility
- Educational investments



- Solar Panel Covered Parking Spaces
- Community Owned



- Educational investment
- Local office



WHEN *Experience* MATTERS



- Energy efficiency programs
- Local offices

**While we peaked at \$1.4 Billion in 2018, as reported in the June 2019 report, our NEE partners are generating a direct annual impact of \$432 million into our local economy.**