



PEDERNALES ELECTRIC COOPERATIVE

OPTIMIZING NEW TECHNOLOGIES

John Hewa,
Chief Executive Officer

PEC HISTORY IN THE MAKING

- Established 1938 with help from local congressman Lyndon B. Johnson
- REA granted PEC a loan to build nearly 1,800 miles of line to serve 3,000 Families and Rural Ranches
- Today Serving Some of the Fastest Growing Counties in the US
- 250+ Subdivisions Underway
- Heavy Commercial Growth
- Rapidly Evolving Expectations



PEC'S PRO-CONSUMER TERRITORY

MEMBER-OWNER FOCUSED



 Austin

 San Antonio

ORGANIZATIONAL TRAJECTORY



- Over the Past 2 Years PEC has Successfully Added Approximately **21,000 NEW SERVICES**
- Marking Achievement as one of the **FASTEST GROWING ELECTRIC COOPERATIVES IN THE US**
- Aggressively Introducing & Advancing Many New **STRATEGIC INITIATIVES**
- Producing Among the Strongest **RELIABILITY** Records Nationally
- Improving **FINANCIALS** and **LOWERING RATES**
- Powering up with **700 EMPLOYEES – MATCHING THE COOPERATIVE’S 2002 STAFFING LEVEL**

PEC BY THE NUMBERS



284,000
Active Accounts



24
Counties



44
Franchise
Cities



12,000 Meters
Est. 2016 Growth



700
Employees



8,100
Square Miles



\$165 Million
2016 CIP Budget



\$606,859,238
Revenue in 2015

kWh

5,343,266,603
kWh Sold in 2015



REDUCTIONS/OPTIONS MEMBER RATES

Series of Consecutive Rate Reductions FUEL & BASE

- Rate Plan Options
- Beneficial Advanced Rates
- Extensive Member Involvement
- Promotes on Peak DER Contributions
- Returns any Excess Margin to Consumers



PEC has been taking extensive member input and is now proposing a rate plan that provides members more rate options.

PEC wants your feedback on a proposed rate plan

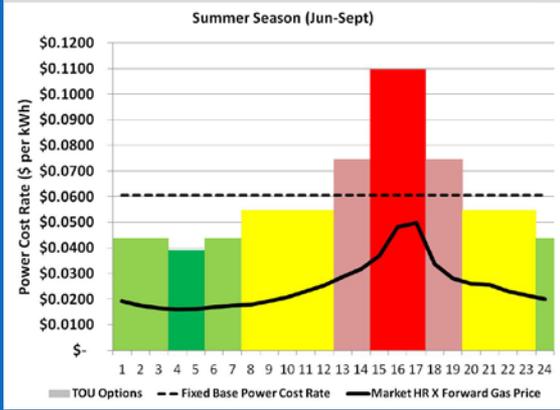
Please visit pec.coop/RateProposal and review the plan. Then give your feedback by taking our survey posted there, by attending a forum or by utilizing the other options posted on the page.

It's your Co-op — we want to hear from you!




PEC's new Revenue Adjustment Factor

- Only a credit — never used as a rate increase
- Activated temporarily by the PEC Board as needed
- Used to reduce higher-than-forecasted revenue
- Helps PEC serve members uniquely as a not-for-profit cooperative
- Applicable to all rate classes with the exception of Industrial and Power Plant Start Power
- Effective on bills issued Dec. 1 to Dec. 31 as a \$0.0056 per kwh credit; returns to \$0.0 per kwh on Jan. 1, 2016
- Estimated \$2 million credit is the result of cost containment and higher-than-forecasted electric sales



Got a few minutes?

PEC wants to know what you think about rates and fees.

PEC is your Co-op. As a member, your input helps guide PEC's direction, and member feedback is an essential part of the cost-of-service study the Co-op is working on.

What kind of rates do you want? Do you have an opinion about PEC's fees? What else do you want your Co-op to consider?

Let PEC know by taking its brief survey at pec.coop/survey. The survey will be open **January 28 - February 28, 2015.**

Member forums

You are also invited to come to a member forum for informative presentations.

2/18/15
PEC Kyle/Buda office
1810 FM 150 W

2/25/15
PEC Headquarters
201 S Avenue F

RESIDENTIAL COST & RATE CHANGE HISTORY

STARTING AT \$127

12/2014

1

\$122.70

3/2015

2

\$118.70

5/2015

3

\$116.20

12/2015

4

\$112.20/\$106.60

4/2016

5

\$109.70

6/2016

6

\$107.20 (eSaver Rate)

8/2016

7

\$105.20 (eSaver Rate)



Monthly bill at
1,000 kWh

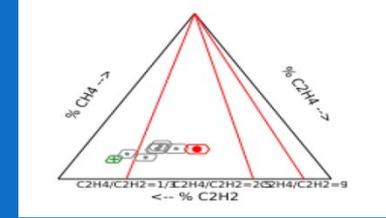
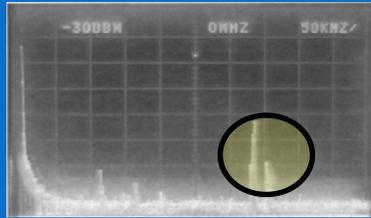
Also in December 2015, PEC
Distributed \$8.8 Million in Capital
Credits and Invoked Revenue
Adjustment Factor (RAF) Saving
Members \$2.2 Million

OPTIMIZING GRID / OPERATIONS

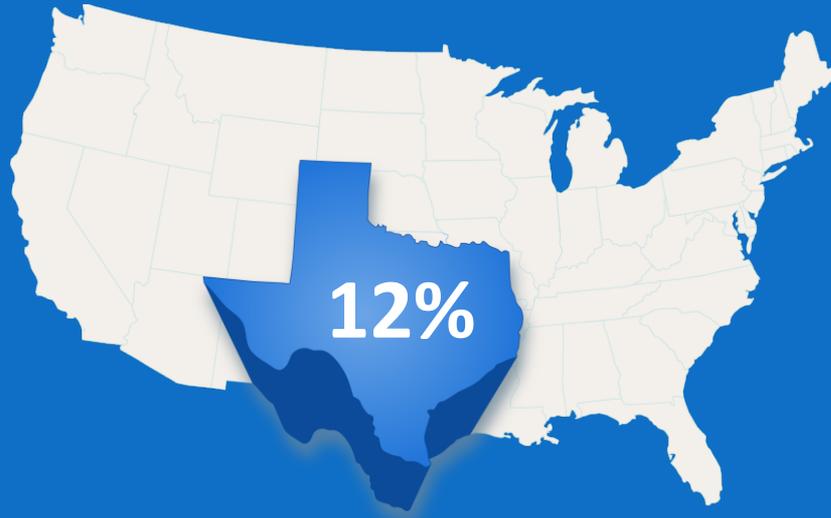
- ✓ Specialized Staffing
- ✓ Enterprise Software Overhaul
- ✓ Massive Investment in New Tools
- ✓ New GIS Inventory >500,000 Nodes
- ✓ Full Device Connectivity & Analysis
- ✓ New OMS in Development
- ✓ Advanced Volt Var Optimization
- ✓ Distribution Fault Anticipator
- ✓ Mobile Re-Fueling & Maintenance
- ✓ Multi-Campus Facility Build



OPERATIONAL EFFICIENCIES & ADVANCED MAINTENANCE



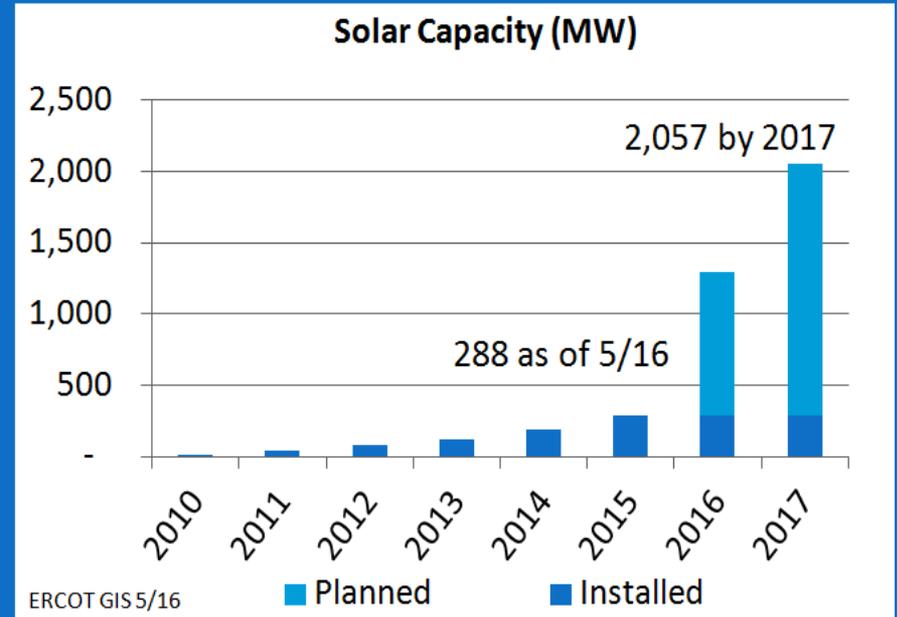
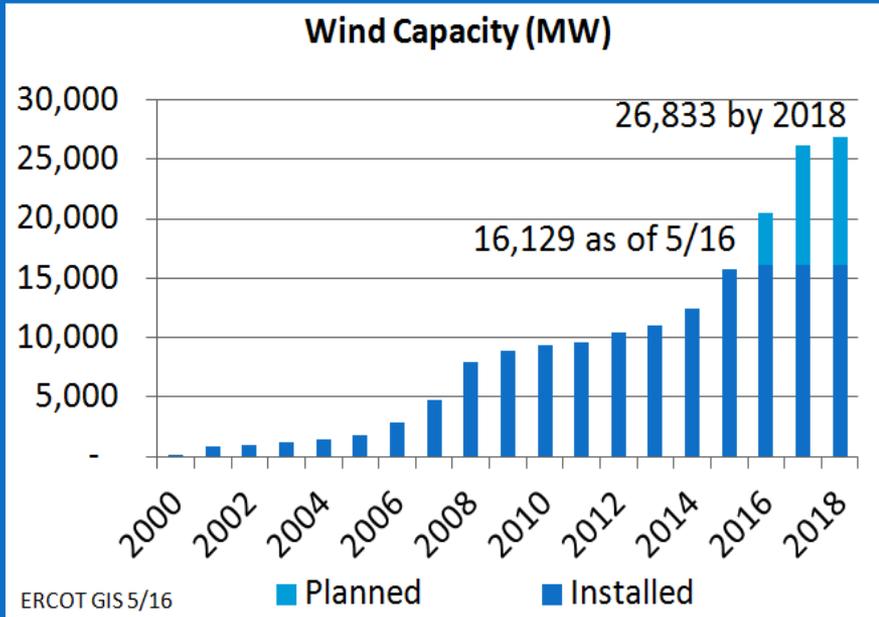
ENERGY IN TEXAS



- Texas leads the nation in energy consumption, accounting for approximately 12% of the nation's energy use and is one of the largest energy consumers in the world
- Demand for electricity has increased >20% since 2000
- **PEC Transmission Cost has increased 94% since 2010**

WIND & SOLAR IN TEXAS

Total ERCOT Generating Capacity 74,000 MW



Today Renewable Generation makes up 22% of all Capacity and is Providing over 12% of all Energy

NAVIGATING THE TEXAS MARKET

\$9,000

375 x

\$24

Average 2015 Price (MWh)

2015 Market Cap (MWh)

Texas Energy Only Market Allows Scarcity Pricing of Energy to Escalate 200-400 Normal Cost

Cooperatives must Increasingly Employ Sophisticated Technologies / Communications to Manage Costs

COMPETITIVE TEXAS

78628

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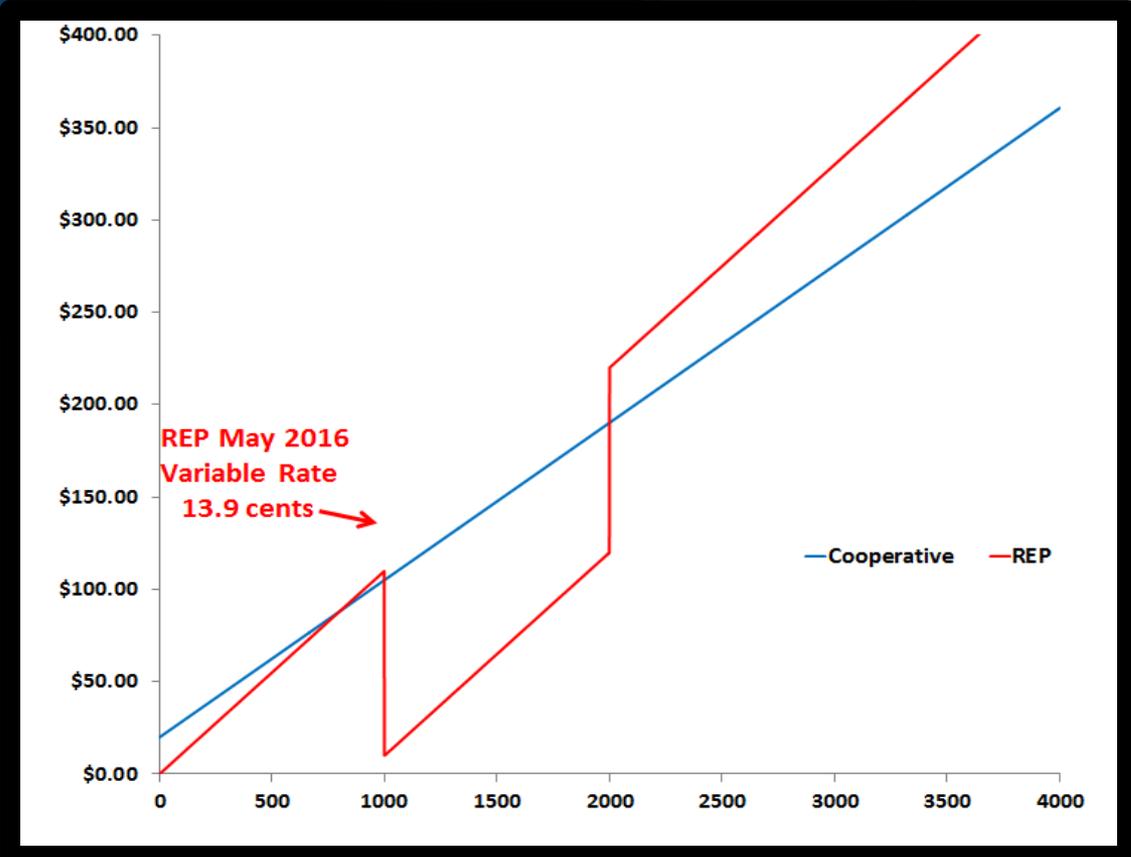
REFRESH RESULTS

COMPARE Company Plan Details Price/kWh Pricing Details Ordering Info

TDU Area **ONCOR ELECTR...**

COMPLAIN

Plan Details	Price/kWh	Pricing Details	Special Terms
<ul style="list-style-type: none"> Prime 12-Month Fixed Rate 12 Months 6% Renewable 	1,000 kWh 1¢ 500 kWh 2000 kWh 11¢ 11¢	Minimum Usage Fees / Credits Cancellation Fee: \$150.00 Fact Sheet Terms of Service	(877) 928-8766 OR SIGN UP
<ul style="list-style-type: none"> PTC True Blue Infusion 12 Fixed Rate 12 Months 11% Renewable NEW CUSTOMERS 	1,000 kWh 1¢ 500 kWh 2000 kWh 11.7¢ 8.2¢	Minimum Usage Fees / Credits Cancellation Fee: \$200.00 Fact Sheet Terms of Service	(844) 463-8732 OR SIGN UP
<ul style="list-style-type: none"> Extra Saver 12 	1,000 kWh	Minimum Usage Fees /	Special Terms



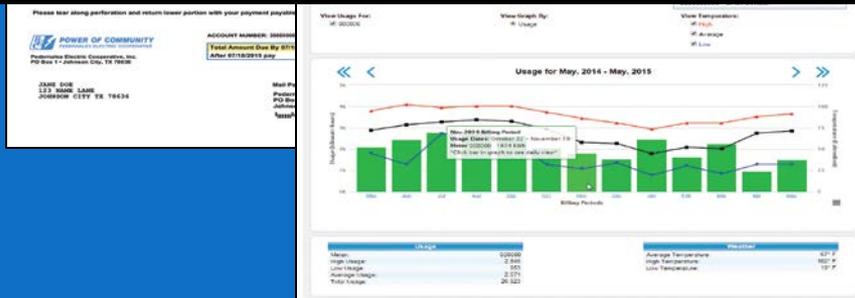
- Retail Deregulation 2002
- Power to Choose Website
- Over 100 REPs
- Hundreds of Brokers
- Co-Ops & Munis Exempt
- Irrevocable Opt-In Option
- Highly Debated
- PUC Concern - Deceptive Rates

INNOVATIVE SERVICES

PHASE I

70,000 on Paperless Billing
50,000 on Auto Bank Draft

Lower Monthly Facility Charge With PEC's New eBill & eSaver Rates



Enhanced Security

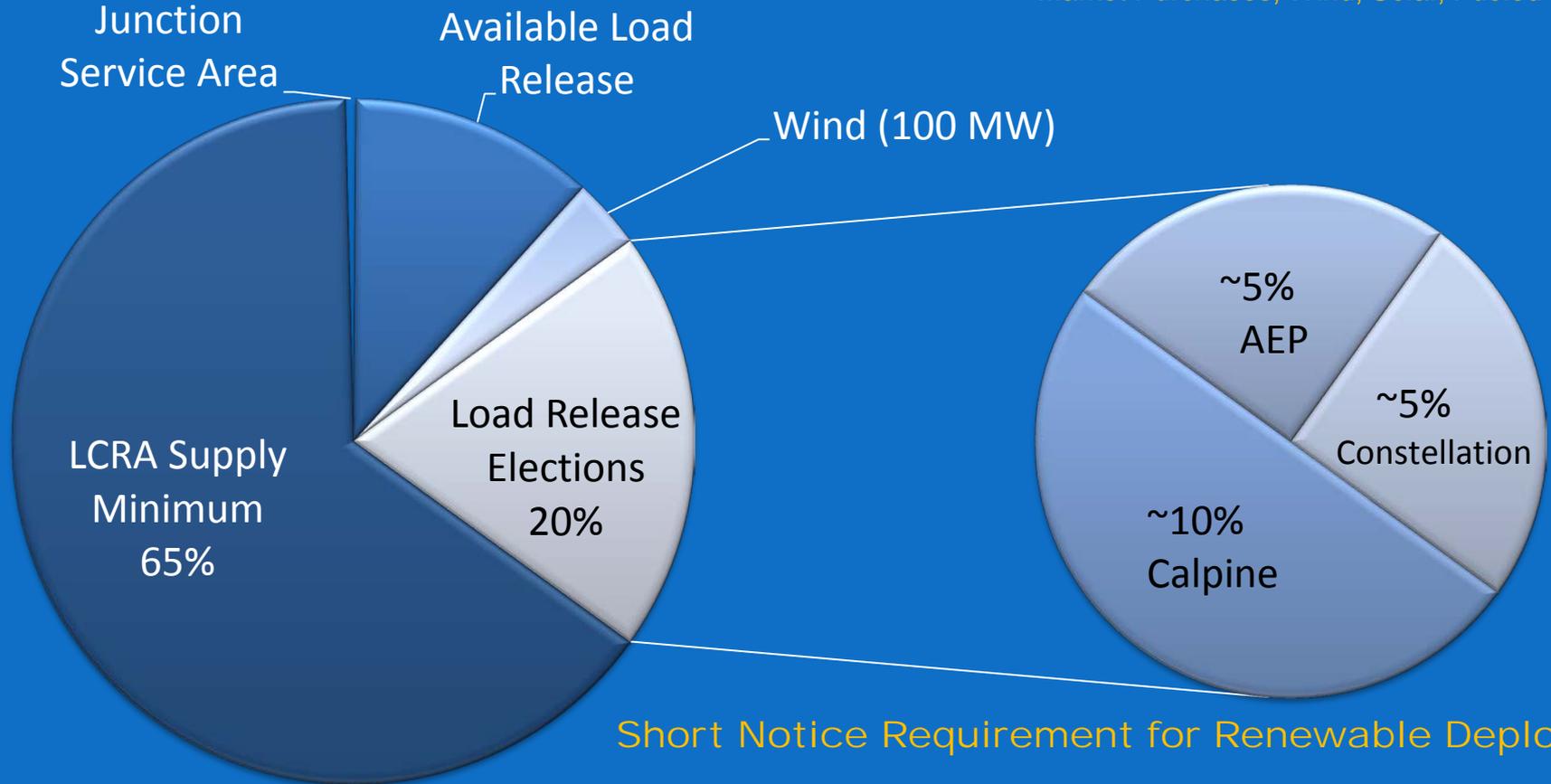
IN PROGRESS

- Online, Real-Time Outage Map
- Pre-Pay Compatible



PEC POWER SUPPLY

Available Wholesale Load Release Options
Market Purchases, Wind, Solar, Fueled Generation



Short Notice Requirement for Renewable Deployment

INTEGRATED RESOURCES PLAN

- Consider Deployment 50 -100 MW Wind and/or Solar
- Explore Advanced Business Models DSM & DER
- Continue EE Programs
- Enhance Energy Portfolio Modeling/Management
- Implement Core Capabilities beneficial to Today's Operations and Necessary in the Event of Retail Competition

ENERGY INSPECTIONS

HOME ENERGY ANALYSIS REPORT



Prepared for:

Ingmar Sterzing
6530 Needham Lane
Austin, TX 78739

Prepared by:

Brian Curtsinger
PEC
Phone:

Email: brian.curtsinger@pecitest.com

201 Ave F
Johnson City, TX 78636

Brought to
you by:



Ingmar Sterzing's Report

Dear Ingmar Sterzing,

Thank you for the opportunity to visit your home. I've performed a thorough assessment of your home to test for overall energy performance and to address your primary concerns.

As always, if you have any questions please feel free to contact me.

Brian Curtsinger

In This Report

- Solutions for your home
- Estimated Savings
- Solution Details
- Health & Safety Issues

TAKE THE NEXT STEP >>>

Call Brian Curtsinger at

HOME ENERGY ANALYSIS REPORT

Audit Date: 8/21/2014

Estimated Energy Savings

\$392

Est. Total Project Cost

\$2,500

Est. Total Rebate

Fuel	Cost	Est. Savings
Electric	\$1,250	\$90
Gas	\$1,200	\$302
Other		

Recommended Improvements with Available Rebates

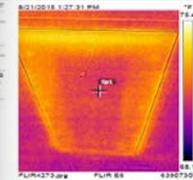
Improvements	First Year Savings	Cost
Reduce Dust Leakage for Ducts	\$207	\$600
Electric Water Heater 0.94 Energy Factor (40-gal tank) (1.0)	\$10	\$900
Reduce the house air leakage from 3500 CFM50 to 2700 CFM50.	\$115	\$1,000

Improvements Installed During Audit

Improvements	First Year Savings
Kitchen Aerator (1.0)	\$28
Interior Compact Fluorescent Fixture 13W (5.0)	\$20
Smart Strip (1.0)	\$9

powered by COMPASS

Ingmar Sterzing
6530 Needham Lane
Austin, Texas 78739



New energy assessment tool provides members with direct ways to evaluate and improve the way they use energy

RENEWABLE & DISTRIBUTED ENERGY

Shaping member options without subsidy through community solar and on-bill financing for individual members to make solar options more cost effective

- ✓ **On-Bill Financing**
- ✓ **Community Solar**
- ✓ **Commercial Member Solar**
- ✓ **Implementing Advanced Rate Designs**



5th ANNUAL PEC HILL COUNTRY SOLAR TOUR



Installer Fair/Exhibits

- 370 Attendees
- Local Installers
- PEC Energy Advisors
- Solar Car Workshop
- Texas Solar Energy Society

Home Exhibits

- Four Home Sites
- Homeowner, Solar Installer & PEC Staff at Each Location
- 263 Member Visits to Homes



507 Marquie Lane, Cedar Park



236 Norcia Loop, Liberty Hill



316 Chadwick Drive, Georgetown



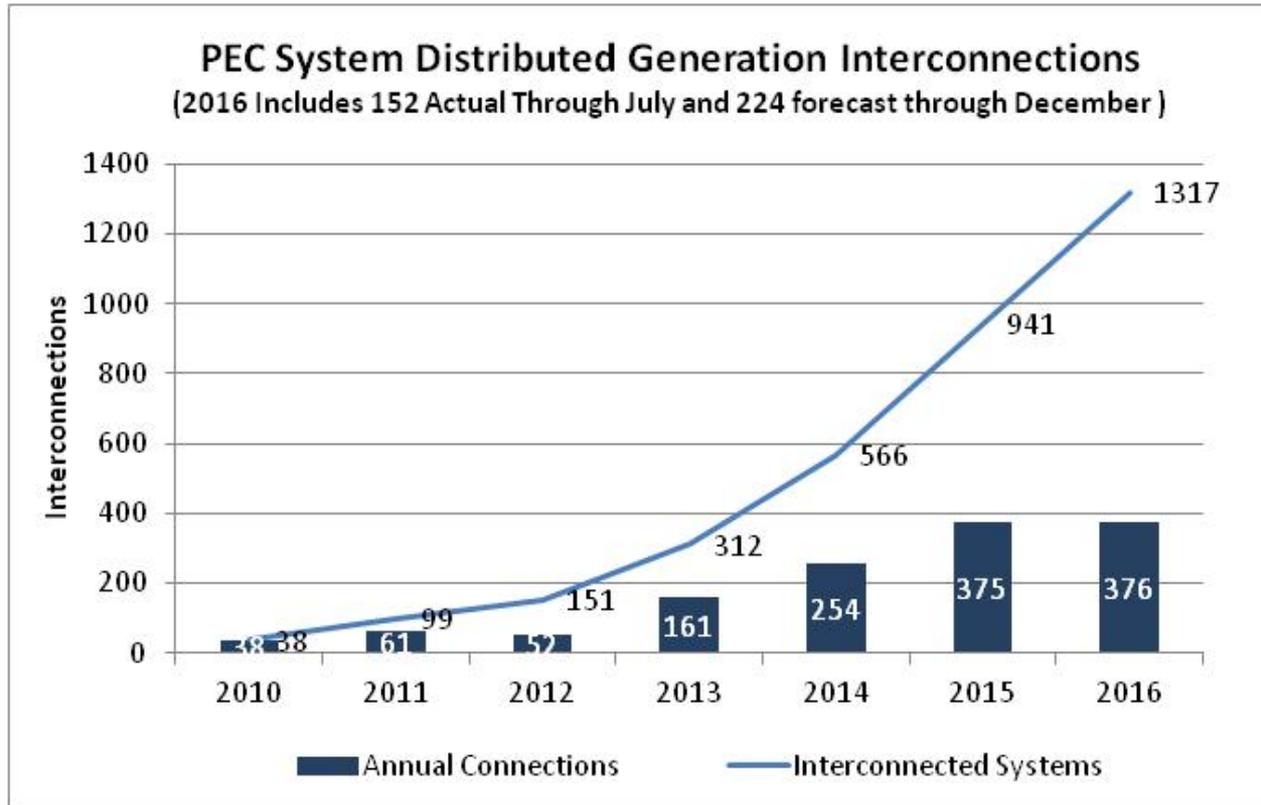
126 Green Valley Drive, Leander

FACILITATING MEMBER-OWNED SOLAR

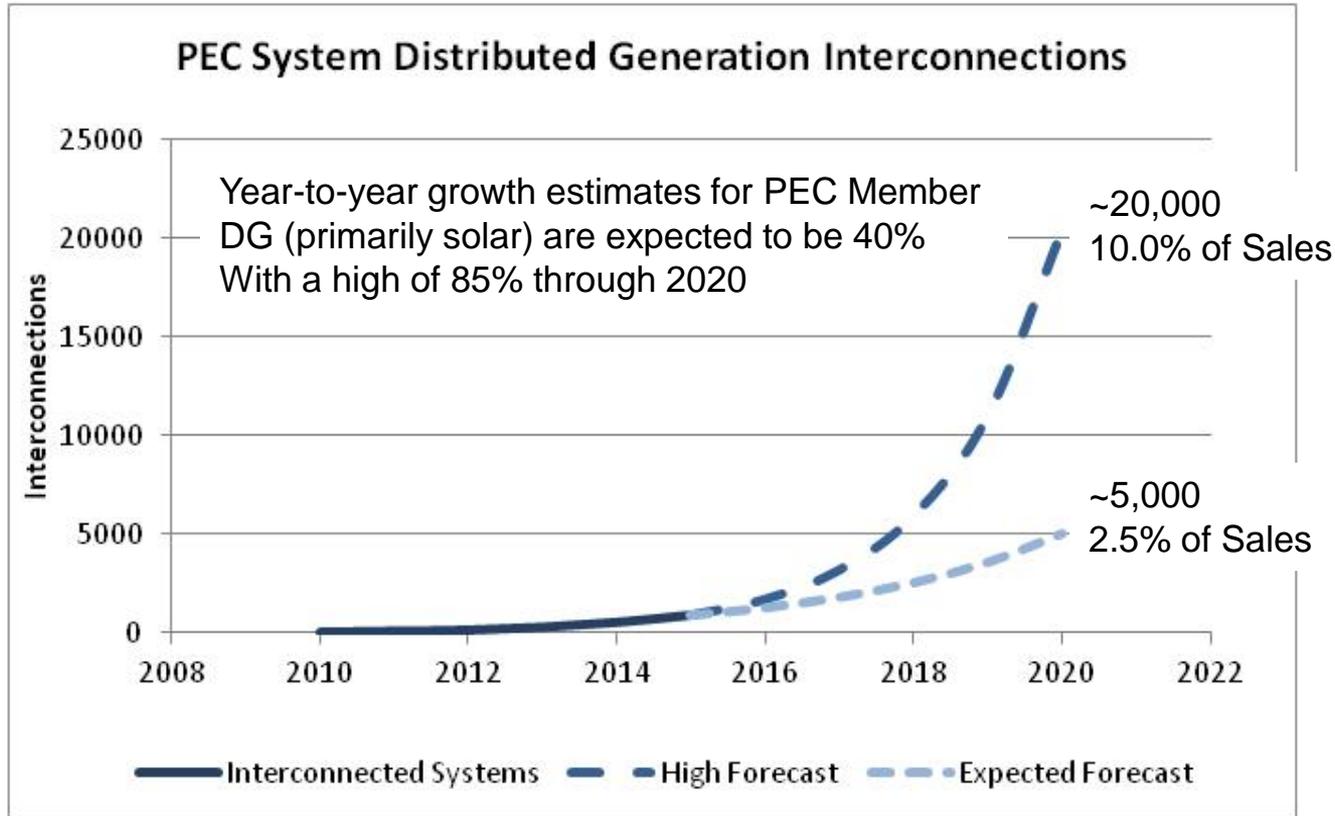


- 1,200 Interconnections
- Typical size residential: 7kW
- Annual production 9,738 kWh
- Avg. cost per watt: \$2.85
- Levelized Cost \$0.12 (w/o ITC)
- Levelized Cost \$0.088 (with ITC)

PEC Net Metering Connections



PEC Net Metering Connections



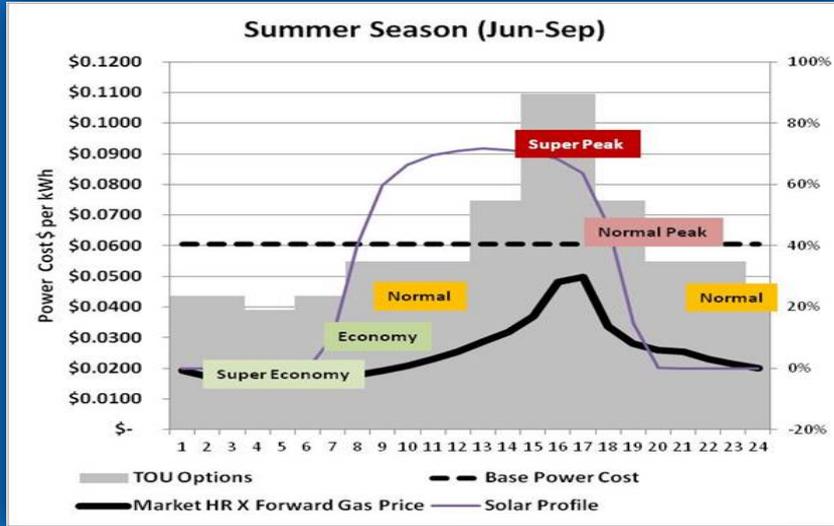
EMPOWER LOANS

SOLAR + STORAGE

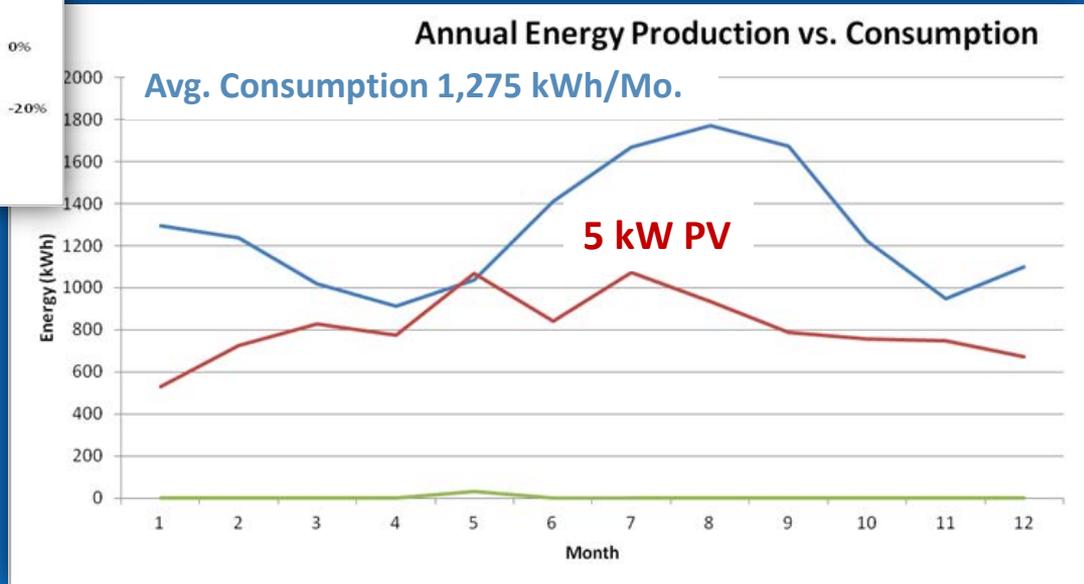


- ✓ Loan Amount up to \$20,000
- ✓ Term Up to 10 years
- ✓ Residential & Commercial
- ✓ Competitive Interest Rates
- ✓ Conveniently Presented on Bill
- ✓ RUS EECLP Package

PRODUCTION & BUSINESS OPPORTUNITY



Residential Annual Consumption 15,300 kWh
 Annual Power Bill W/O PV \$1,703
 Annual PV Production 6,956 kWh (45%)
 Annual Power Bill With PV \$1,051
 Reduction Annual Bills \$652 (38%)



Annual Margin Reduction due to
 Loss of Incremental Sales \$41

Financing Premium 1%

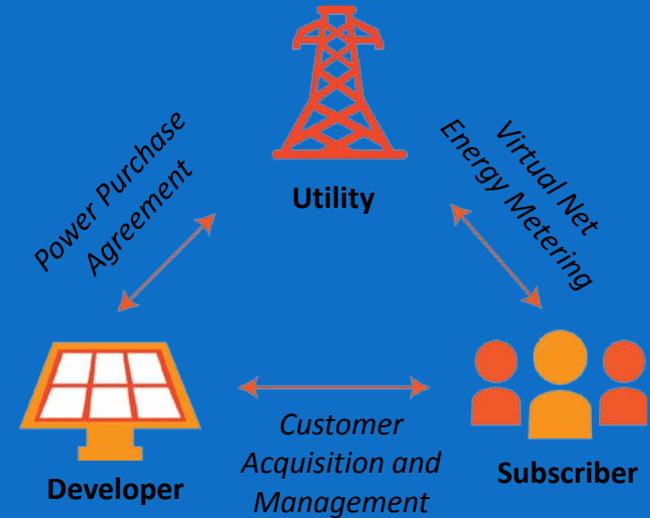
Annual Financing Margin
 Contribution \$80

COMMUNITY SOLAR PROGRAM

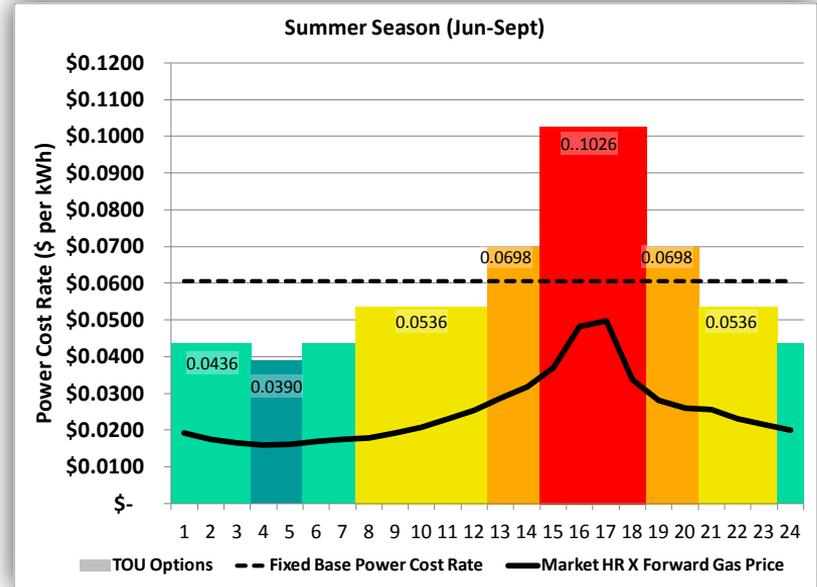
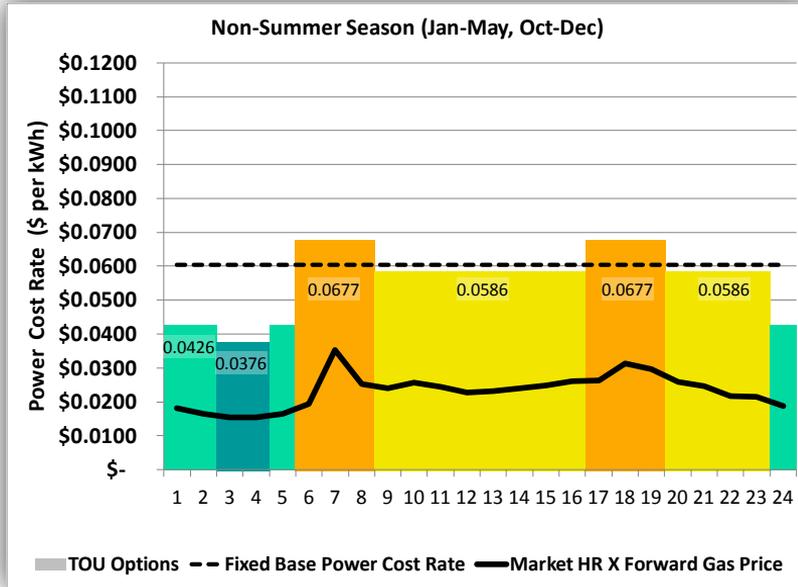


- Only 22-27% Rooftops Suitable
- Benefits of Scale
- Virtual Net Metering Tariff

- ✓ 15 MW Deployment
- ✓ Purchase Power Agreement (RES)
- ✓ Fractured Distribution



TIME OF USE RATE DESIGN



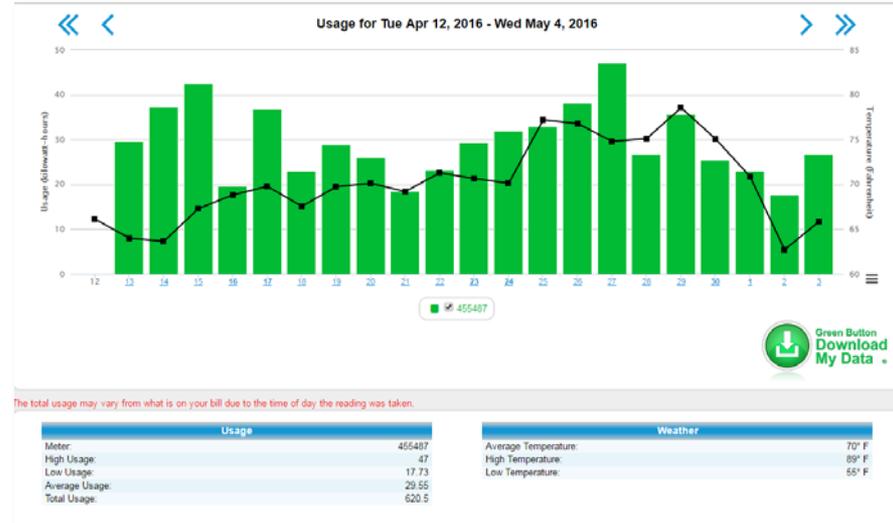
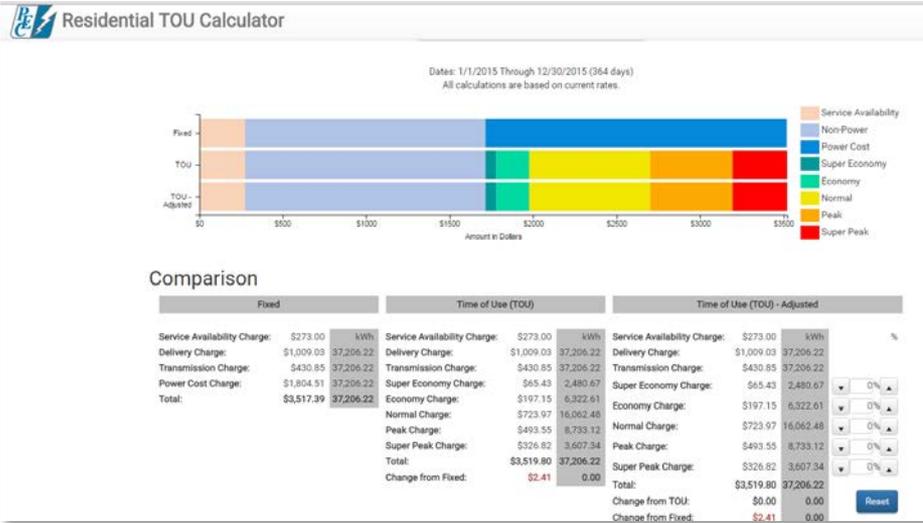
TOU rates are designed to closely match PEC's exposure to ERCOT market prices and to send a rate signal to PEC's members allowing members the option to control and manage their energy use and cost

GROWING COMPLEXITY: THE NEW NORM



SEASON	TIME OF USE PERIOD			RATE (\$/kWh)
Non-Summer (Jan - May and Sep - Dec)	Super Economy	2:01 am - 4:00 am		\$0.0376
	Economy	11:01 pm - 2:00 am 4:01 am - 5:00 am		\$0.0426
	Normal	8:01 am - 4:00 pm 7:01 pm - 11:00 pm		\$0.0586
	Peak	5:01 am - 8:00 am 4:01 pm - 7:00 pm		\$0.0677
Summer (Jun - Sep)	Super Economy	3:01 - 5:00 am		\$0.0390
	Economy	11:01 pm - 3:00 am 5:01am - 7:00 am		\$0.0436
	Normal	7:01 am - 12:00 pm 8:01 pm - 11:00 pm		\$0.0536
	Peak	12:01 pm - 2:00 pm 6:01 pm - 8:00 pm		\$0.0698
	Super Peak	2:01 pm - 6:00 pm		\$0.1026

MEMBER TOOLS: RATE CALCULATOR AND USAGE DATA



Rate calculators and usage tools will help members evaluate rate options and stay on top of how they are using energy



PEDERNALES ELECTRIC COOPERATIVE

pec.coop

