

# Take Control of Your Energy Destiny:

## Manage Rising Costs through Efficiency and Renewable Energy

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Energy for What's Ahead®

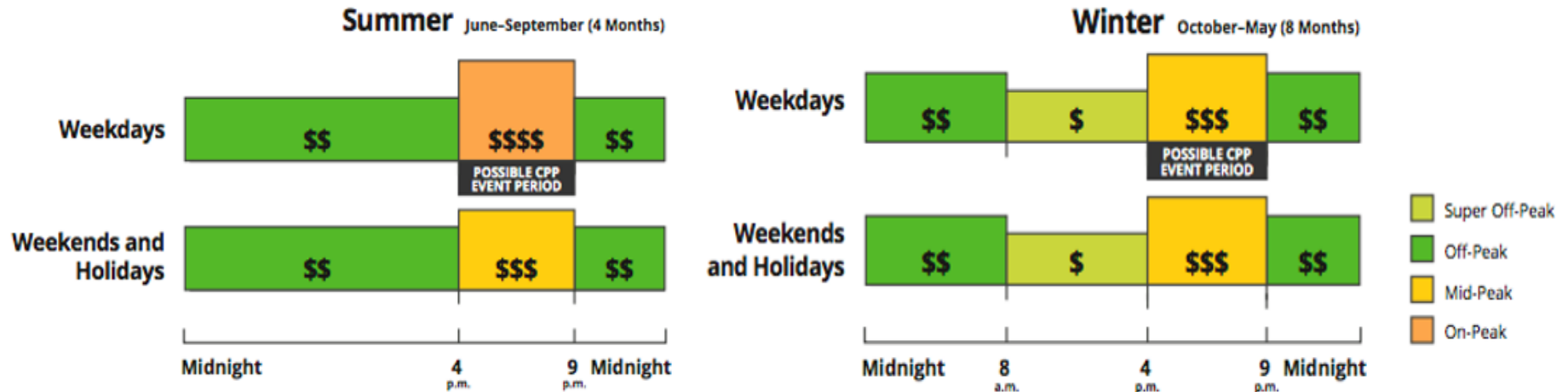


# Rate Update

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# Upcoming Changes in TOU Peak Periods



- Shifts daily “peak” period to 4-9pm (currently noon to 6pm)
- Introduces “super off-peak” period from 8am-4pm on all winter days
- Introduces time-differentiated weekend charges
- Maintains existing seasonal definitions (Summer: June-Sept; Winter: Oct-May)

New Time-of-Use (TOU) peak period applies to “standard” TOU rates defined as follows: TOU-8, TOU-GS-3, TOU-GS-2, TOU-GS-1, TOU-PA-3, & TOU-PA-2. CPP events occur on weekdays and will take place 12 times per year.

# Integrating TOU Peak Period Changes

- Evaluate your usage to identify operations primarily between 4 p.m. - 9 p.m. (most likely to be impacted)
- Talk to your Account Manager about load control, energy efficiency, rate options, energy management solutions, and how to shift peak load to lower cost periods
- Plan and prepare for operational changes that might be required in anticipation of future time period and rate changes

***Saving Tip** - You can save on your electric bill if you are able shift most of your energy use to the Off-peak hours in the summer and super off-peak hours in the winter.*

# Demand Response Update

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# Policy Details

- Starting January 1, 2019, the following list of resources are prohibited to be used for load reduction during demand response events:
  - Distributed generation technologies using diesel, natural gas, gasoline, propane, or liquefied petroleum gas, in topping cycle Combined Heat and Power (CHP) or non-CHP configuration.
- The following resources are exempt from the list of prohibited resources:
  - Pressure reduction turbines and waste-heat-to-power bottoming cycle CHP
  - Energy storage resources not coupled with fossil-fueled generation
  - Resources using renewable fuels (i.e. renewable gas, renewable diesel, and biodiesel) certified by the California Air Resources Board
- Programs included in the prohibition:
  - API, BIP, CBP, DRAM and any third party bilateral contracts(LCR and PRP)

# Changes to Critical Peak Pricing (CPP) Program

CPP Program	Current Program	Proposed Program
Eligible Accounts	TOU-GS-3 and TOU-8 only	TOU-PA-3, TOU-GS-1, TOU-GS-2, TOU-GS-3, and TOU-8*
Bill Protection	Offered to new CPP customers as long as they participate on program for entire 12 month period. Early termination leads to loss of bill protection and forfeiting of any accrued credits	Offered to new CPP customers where customers can terminate participation at any time within the 12 month period without loss of accrued credits for time period on the program
Default Timeframe	Eligible accounts default upon 60 days of turn-on	1 <sup>st</sup> default in March 2019* Annual default in October for accounts with 24 months of TOU experience (Starting in 2020)
Event Charges	≈ \$1.37/kWh	Phased-in approach: Year 1: 50% of charge (≈ \$0.40/kWh) Year 2: 100% of charge (≈ \$0.80/kWh)
Non-Event Credits (Demand Metered)	\$/kW reduction on On-Peak Demand charges	\$/kW reduction on <u>On-Peak</u> Demand charges. Phased-in approach, with full credits in 2nd year: Year 1: 50% of credit Year 2: 100% of credit
Non-Event Credits (Non-Demand Metered)	\$/kWh reduction to all summer energy charges	\$/kWh reduction to summer <u>On-Peak</u> energy charges. Phased-in approach, with full credits in 2nd year: Year 1: 50% of credit (≈ \$0.07/kWh) Year 2: 100% of credit (≈ \$0.14/kWh)

\*Customers defaulted to CPP in March 2019 are only TOU-GS-1, TOU-GS-2, and TOU-PA-3 accounts with 24 months of usage

# Distributed Energy Resources

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# Distributed Generation / Storage

- Solar (Photovoltaic)

- NEM (2.0) – Aggregation - With NEM Aggregation, a customer with multiple meters can elect to aggregate the electrical load of the meters located on the property where the Renewable Electrical Generating Facility is located and on all property adjacent or contiguous to that property, provided those properties are all solely owned, leased or rented by the eligible customer-generator.
- Rate Option R will be replaced by Option E for all intents & purposes

- Energy Storage

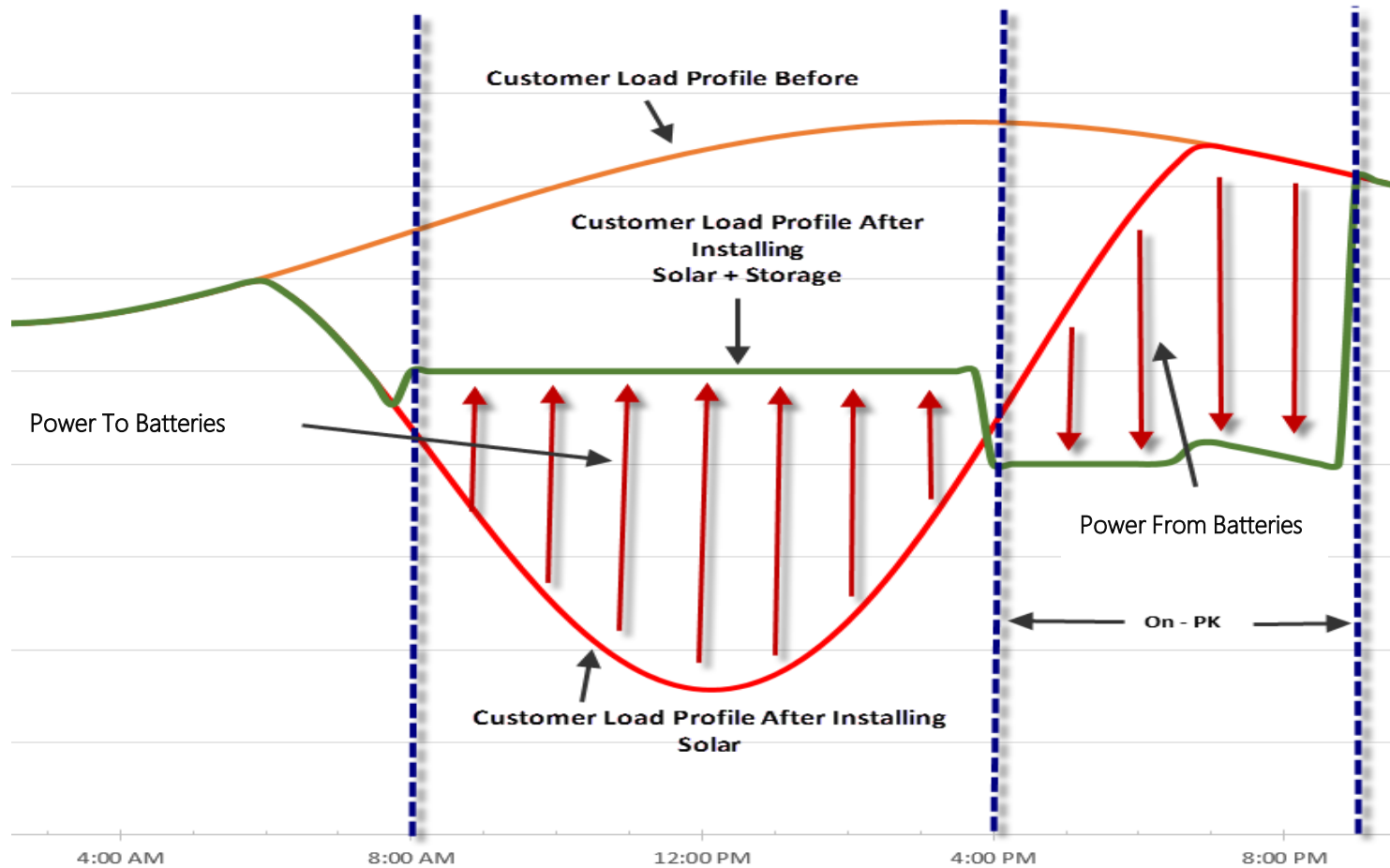
- Battery
- Paired Systems

- Digesters

- On-site Generation
- Clusters



# Paired Solar and Energy Storage



# Self-Generation Incentive Program (SGIP)

- Program Goals:

- Provide financial incentives for the installation of new qualifying technologies
- Contribute to Greenhouse Gas (GHG) emission reductions
- Demand reductions and reduced customer electricity purchases



- Incentive Rates:\*

- Energy Storage Incentive Rates:
  - Large Scale Storage: \$0.35/Wh
  - Non-Res Storage Equity: \$0.45/Wh
- Generation Incentive Rates:
  - Wind: \$0.90/W
  - Other Generation: \$0.60/W
  - Max Biogas Adder: \$0.60/W



\*Data as of 11-19-2018 / Incentive is lower for projects that will receive the Investment Tax Credit / Incentive declines over 1MW & Ends at 3MW / Terms & conditions apply

# Energy Efficiency

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# Efficiency Upgrades

Upgrade	Description
Vacuum Pump VFD	Eliminate vacuum controllers which regulate the vacuum pressure by allowing air into the system
LED Lighting	LED lighting is now a proven technology with multiple benefits
Lighting Controls	Timers or switches to turn lights on ONLY when needed – For example, when cows are out of the barns being milked
Modulating Water Valve	Install modulating water valve on the well water supply to the plate heat exchanger
Pulsation-Off Controls	Controls to turn off the pulsators when the milking claw is detached
High Efficiency Fans	The trend is to go with larger panel style fans, or shrouded style fans, with higher CFM/Watt
Fan VFDs	Install VFDs on the fan motors to reduce the speed of the fans at lower temperatures (note that the temperature setpoints matter)
Cooling Towers	Replace well water cooling with cooling towers (the trend is towards air-cooled which may not save energy)
Fan Stop Button	Turns the freestall barn fans off when the cows are out of the pen being milked
Pump VFDs	Saves on pumps that have varying conditions. Does not typically save on the dairy pressure pump
Subsurface Irrigation	Alternative to flood irrigation on Alfalfa/Wheat/Corn - increases yield and reduces the amount of water/ton produced
Pump Efficiency Improvements	Overhaul or replace pumps that are inefficient

# Express Program

- Program Structure

- Line item menu of rebates
- Application submitted after the install
- Pays up to 100% of the material cost

- Express Projects for Dairies

- VFDs on Ag Irrigation Pumps
- Circulating Block Heaters
- High Efficiency Pumps



# Customized Program

- Program Structure

- Onetime payment of \$.06/kWh, or \$.12/kWh, saved in one year (depending on technology), & \$150 per DEER On-Peak kW
- Up to 50% of the incremental upgrade cost, or project cost (depending on technology)
- Application MUST be approved prior to construction or ordering of equipment
- SCE MUST have influence
- \$2,200 minimum incentive threshold for eligibility

- Customized Projects for Dairies

- High Efficiency Fans
- Fan VFDs
- Refrigeration System Upgrades
- Subsurface Irrigation



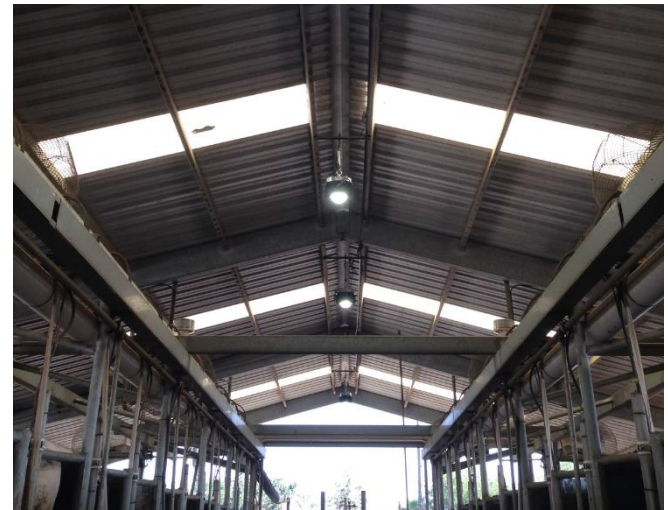
# Midstream Point of Purchase Program

- Program Structure

- Reduced cost of qualifying product purchased through an approved distributor (list available online) [www.sceonlineapp.com](http://www.sceonlineapp.com)
- Line item menu of rebates
- No application - Save money instantly by receiving a point of purchase discount on qualifying LED products

- Projects for Dairies

- LED High Bay / Low Bay Lighting
- LED Exterior Pole-Mounted Lighting
- LED Troffer Fixtures and Retrofit Kits
- LED Tubes





# Savings by Design

- Program Structure

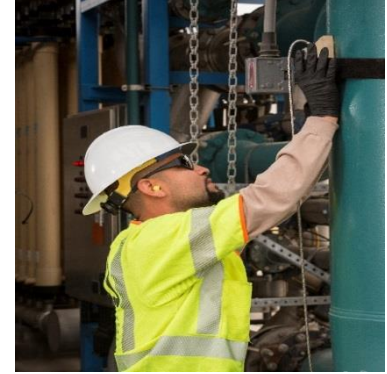
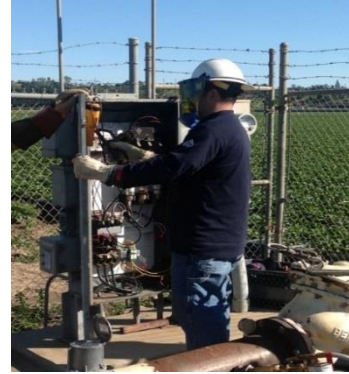
- The program encourages high-performance, non-residential building design and construction by providing financial incentives, detailed analysis, and design support
- Whole Building – Sliding incentive rate scale
- Systems Approach – Similar to the Customized program - Onetime payment of \$.10/kWh saved in one year (depending on technology), & \$150 per DEER On-Peak kW

- Savings by Design Projects for Dairies

- New Building Construction
- New Freestall Barns
- New Milking Parlors



# SCE Pump Test & Hydraulic Services



- Designed to help pumping customers make informed decisions about improving inefficient pumping systems and operations.
- The solutions are communicated in a technical report providing recommendations derived from onsite pump tests and/or direct observations of processes.
- Also offering fee based predictive maintenance services.

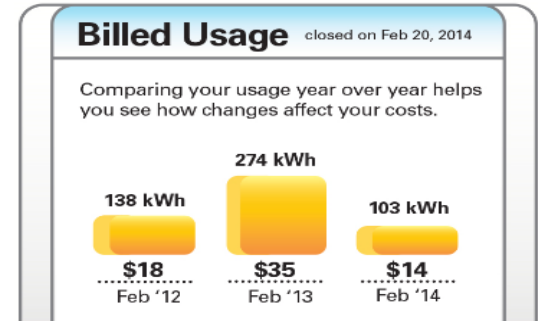
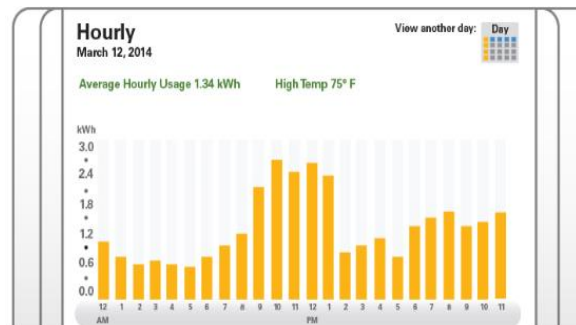
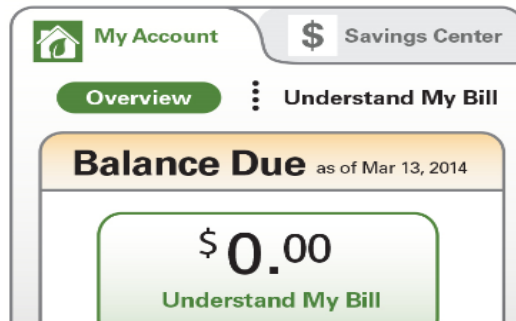
*Since 1911, a comprehensive water and energy management service for the efficient delivery of water for SCE customers*

# Self Service Tools

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# My Account



## Energy Manager

Basic Usage Report

Register @ SCE.COM



# Tool Lending Library

The Tool Lending Library offers the tools and knowledge you need to make your home or business more energy efficient. You can browse our Tool Catalog or view one of our videos below. To make a tool request contact us at (800)-772-4822.

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34	AIR, WATER AND GAS FLOW

Remember... You can't manage it if you don't measure it...

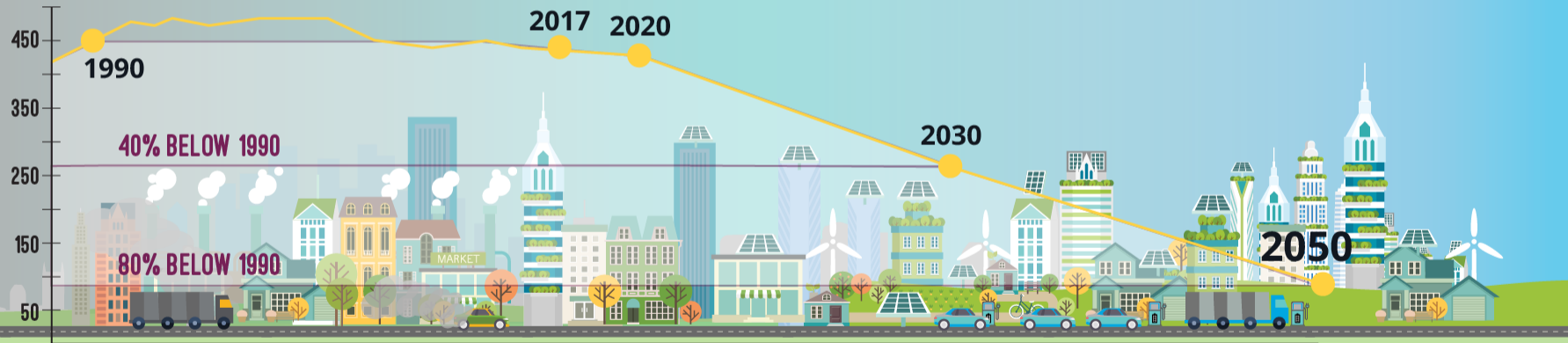


# The Clean Power & Electrification Pathway

## Goals to improve

- California set a goal to **reduce emissions 40%** below 1990 levels by 2030, and 80% by 2050.

Million Metric  
Tons of CO<sub>2</sub>



If we want to get to **zero emissions**, eventually we have to **replace** many of the things we rely on today that require combustion.

 SOUTHERN CALIFORNIA  
**EDISON**  
Energy for What's Ahead<sup>SM</sup>

# How Can SCE Help?

- Contact your SCE Account Manager
- Discuss your operations and strategy
  - Do you need to pump during the On-Peak period?
- Self Service Rate Analysis Tool
- Look at Demand Response options
- Use SCE's Pump Testing services to identify energy efficiency opportunities and prioritize pumping
- Use SCE Products and Services
  - My Account/Energy Manager
  - Tool lending Library
  - Energy Education Centers



# Thank you!

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