Item 7 - Agenda

- Background
- Comparison of RTOU rates across California
- Financial impact of RTOU on VCE
- CCA decisions to-date
- PG&E delivery charges compared to generation charges
The investor owned utilities are required by the CPUC to develop and implement residential time of use rates (RTOU).

PG&E is working with the CCAs to implement the rates over a 13-month schedule beginning October 2020 – Yolo scheduled for Feb 2021.

CCAs can choose whether or not to participate.

CCAs can choose whether or not to offer 1st year bill protection.
## CA RTOU Rates

### SMUD Time of Day Rates

| Season          | 8 am  | 9 am  | 10 am | 11 am | 12 pm | 1 pm  | 2 pm  | 3 pm  | 4 pm  | 5 pm  | 6 pm  | 7 pm  | 8 pm  | 9 pm  | 10 pm | 11 pm | 12 am | 1 am  | 2 am  | 3 am  | 4 am  | 5 am  | 6 am  | 7 am  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| **Summer Weekdays** | $0.1166 | $0.1611 | $0.2835 | $0.1611 | $0.1166 | | | | | | | | | | | | | | | | | | | | |
| **Holidays/Weekends** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Winter** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Holidays/Weekends** | | | | | | | | | | | | | | | | | | | | | | | | | | |

### SCE TOU-D 4-9 & 5-8

| Season          | 8 am  | 9 am  | 10 am | 11 am | 12 pm | 1 pm  | 2 pm  | 3 pm  | 4 pm  | 5 pm  | 6 pm  | 7 pm  | 8 pm  | 9 pm  | 10 pm | 11 pm | 12 am | 1 am  | 2 am  | 3 am  | 4 am  | 5 am  | 6 am  | 7 am  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| **TOU-D 4-9 Summer** | $0.230 | $0.350 | | | | | | | | | | | | | | | | | | | | | | | | |
| **Weekends** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **TOU-D 4-9 Winter** | $0.208 | $0.302 | | | | | | | | | | | | | | | | | | | | | | | | |
| **TOU-D 5-8 Summer** | $0.218 | $0.437 | | | | | | | | | | | | | | | | | | | | | | | | |
| **Weekends** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **TOU-D 5-8 Winter** | $0.208 | $0.354 | | | | | | | | | | | | | | | | | | | | | | | | |

### SDG&E TOU-DR1 & DR2

| Season          | 8 am  | 9 am  | 10 am | 11 am | 12 pm | 1 pm  | 2 pm  | 3 pm  | 4 pm  | 5 pm  | 6 pm  | 7 pm  | 8 pm  | 9 pm  | 10 pm | 11 pm | 12 am | 1 am  | 2 am  | 3 am  | 4 am  | 5 am  | 6 am  | 7 am  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| **TOU-DR1 Summer** | $0.350 | $0.570 | | | | | | | | | | | | | | | | | | | | | | | | |
| **Weekends/Holiday** | $0.190 | $0.240 | $0.460 | $0.240 | | | | | | | | | | | | | | | | | | | | | | | |
| **TOU-DR1 Winter** | $0.360 | $0.370 | | | | | | | | | | | | | | | | | | | | | | | | |
| **Summer TOU DR-2** | $0.340 | $0.530 | | | | | | | | | | | | | | | | | | | | | | | | |
| **Winter TOU DR-2** | $0.360 | $0.370 | | | | | | | | | | | | | | | | | | | | | | | | |

### PG&E E-TOU-C

| Season          | 8 am  | 9 am  | 10 am | 11 am | 12 pm | 1 pm  | 2 pm  | 3 pm  | 4 pm  | 5 pm  | 6 pm  | 7 pm  | 8 pm  | 9 pm  | 10 pm | 11 pm | 12 am | 1 am  | 2 am  | 3 am  | 4 am  | 5 am  | 6 am  | 7 am  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| **E-TOU-C Summer** | $0.262 | $0.326 | | | | | | | | | | | | | | | | | | | | | | | | |
| **E-TOU-C Winter** | $0.275 | $0.292 | | | | | | | | | | | | | | | | | | | | | | | | |
Item 7 - Residential Load Profile
## Item 7 - Bill Protection Impacts

<table>
<thead>
<tr>
<th></th>
<th>TOU MORE expensive than Tiered Rate</th>
<th>TOU LESS expensive than Tiered Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Annual Generation Bill Difference ($)</td>
<td>$300,934</td>
<td>$141,697</td>
</tr>
<tr>
<td>Number of Customers Impacted</td>
<td>13,784</td>
<td>8,970</td>
</tr>
<tr>
<td>Annual Bill Impact/Customer</td>
<td>$21.83</td>
<td>$15.80</td>
</tr>
</tbody>
</table>

**If we provide Bill Protection—**
- We will credit customers $300,934 at year-end – this is an overpayment by customers and would essentially be net-zero to VCE
- Net benefitting customers would cumulatively get lower bills amounting to $141,697 – this is lost-revenue to VCE
- Future years – no Bill Protection, so VCE would see a net increase of revenues of $159,237 assuming conditions remain the same
- PG&E will recover “lost” revenues through rate change the following year
Item 7 - CCA Decisions To-Date

- Redwood Coast Energy Authority has approved
- Staff recommendations in favor of RTOU have come from:
  - Sonoma Clean Power
  - Peninsula Clean Energy
  - East Bay Community Energy
  - Silicon Valley Clean Energy
- “Other CCAs seem favorable, but have not given me those additional details or insight”
Item 7 - PG&E Delivery/Generation Charges

- Current PG&E TOU Rate, E-TOU-C3

<table>
<thead>
<tr>
<th>Energy Rates by Component ($ per kWh)</th>
<th>PEAK</th>
<th>OFF-PEAK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Generation:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer (all usage)</td>
<td>$0.17178</td>
<td>$0.10834</td>
</tr>
<tr>
<td>Winter (all usage)</td>
<td>$0.11532</td>
<td>$0.09799</td>
</tr>
<tr>
<td><strong>Distribution</strong>:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer (all usage)</td>
<td>$0.10758</td>
<td>$0.10758</td>
</tr>
<tr>
<td>Winter (all usage)</td>
<td>$0.07695</td>
<td>$0.07695</td>
</tr>
</tbody>
</table>

- Current rate does not have a Distribution differential
• The CPUC Proposed Decision of 6/7/2019 requires a rate differential on distribution charges
• The price differential between peak and off-peak will be 6.3 cents/kWh during the summer
• The winter differential will be 1.7 cents/kWh
• The differential will be divided between distribution and generation—proportions unknown
• Even if CCAs opt-out of the rate, the delivery portion of the bill will be on TOU
Item 7 - Next Steps

- PG&E presentation to VCE board (July 11)
- CAC recommendation (Aug or Sept)
- Board decision on VCE participation (Sept or Oct)
- VCE staff continues to participate on regular calls with the TOU working group
Item 10 - PRESENTATION OVERVIEW – EE PROGRAMS

- Program paths for CCAs (ATA, ETA, IOU, self-funded)
- CPUC methods for adopting measures
- Measure types & deployment methods
- Third party programs
- PG&E offerings
- What other CCAs are doing
- VCE opportunities & discussion

Information assembled with the assistance of Frontier Energy staff
HOW CALIFORNIA CLEAN ENERGY POLICY IS MADE GOING FORWARD

Credit: Gridworks
Apply to Administer and Elect to Administer Programs - General Requirements

- Comply with CPUC policies, procedures, auditing and reporting requirements
- Conform to CPUC evaluation, measurement, and verification protocols (Standard Practice Manual)
- Must include performance metrics
- Efficiency measures must pass cost-effectiveness test of 1.0 for first three years and 1.25 thereafter
Apply to Administer

• Advantages
  o Can serve all customers, including opt-outs and customers outside CCA service territory
  o Provides the CCA with access to all IOU non-bypassable charges

• Disadvantages
  o Lumped into rolling portfolio timeline after initial application
  o Requires a large, detailed business plan which is a component of the application (MCE’s is 36 pages)
  o Must define sectors, requires extensive analysis and market segmentation, proof that administration is highly qualified
Elect to Administer

• Advantages
  o After checking off boxes can be approved through Tier 2 advice filing within 60 days (in theory)
  o Can be implemented anywhere in a program cycle
  o Provides the CCA with access to certain IOU non-bypassable charges
  o Provides the CCA with access to IOU non-bypassable charges

• Disadvantages
  o Excludes access to non-bypassable charges for statewide and regional programs authorized by the CPUC
  o Limited to CCA customers – not opted out customers
Existing IOU Programs

• Advantages
  o Range of offerings for residential and commercial sectors
  o Three methods of deployment
  o Measures documented by work papers

• Disadvantages
  o Limited scope
  o Low uptake due to small incentives
  o Tailored to meet needs of entire service area
Programs Funded from CCA Reserves

• Advantages
  o Not restricted to deemed measures
  o New measures do not have to be developed using the CPUC work paper process nor must they meet CPUC cost-effectiveness tests
  o EM&V methods do not have to follow the Standard Practice Manual
  o Can run in parallel with IOU programs
  o No “double-dipping” restrictions

• Disadvantages
  o No access to non-bypassable funds
  o Must develop discretionary procedures for evaluating and proving cost-effectiveness, measure adoption, incentive levels, and other program details
CPUC Process for Developing EE Measures

• Work Papers
  o Technical engineering documents that prescribe pre-determined values for energy savings, measure costs, and other ex ante (predetermined) values
  o Typically developed by program administrators, more rarely third parties

• DEER & eTRM
  o Database for Energy Efficiency Resources (“DEER”) maintains ex ante values
  o DEER is very challenging to navigate, difficult to find supporting documentation
  o DEER is actively being transitioned to an electronic technical reference manual (eTRM) under development by the California Technical Forum (CalTF)
CPUC/IOU Measure Types & Deployment

• Deemed measures
  o Use values from DEER or CPUC approved work papers
  o Used for homogenous, high volume interventions

• Deployment methods for deemed measures
  o Upstream: To manufacturers. Must be statewide.
  o Midstream: To distributors, suppliers, retailers. Must be statewide.
  o Downstream: To end use customers, or a qualifying customer segment such as multifamily renters. By service territory.
  o Direct install: To contractor. By service territory.

• Custom measures
  o Developed for measures not specifically included in DEER
  o Require work papers
  o Normalized meter-based energy consumption (NMEC) verification is an option
Third Party Programs

• Under Decision 18-01-004 the CPUC required IOU’s to allocate 60% of energy efficiency funds to third-party designed and delivered programs by the end of 2022

• IOUs have issued RFAs targeted at the residential, commercial, industrial, agricultural, and public sectors (vary by utility)

• Proposals cannot include programs that overlap with or duplicate program offerings from IOUs, CCAs, and RENs

• Programs that go beyond EE and include demand response will not be considered part of the third party 60% requirement*

*Per the Conclusion of Law: 27. This round of strategic energy management programs and the staff-proposed programs for limited integration of energy efficiency and demand response should not count towards the third party percentage requirements ordered in this decision.
# PG&E Program Overview

<table>
<thead>
<tr>
<th>SINGLE FAMILY</th>
<th>MULTIFAMILY</th>
<th>COMMERCIAL</th>
<th>CROSS-CUTTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Home Upgrade</td>
<td>Multifamily Upgrade</td>
<td>HVAC Optimization</td>
<td>Energy Advisor</td>
</tr>
<tr>
<td>California Advanced Homes</td>
<td>Multifamily EE Rebates</td>
<td>Savings by Design</td>
<td>Calc/Deemed Incentives</td>
</tr>
<tr>
<td>Energy Savings Assistance</td>
<td>CA Multifamily New Homes</td>
<td></td>
<td>Direct Install</td>
</tr>
<tr>
<td>Plug Loads &amp; Appliances</td>
<td></td>
<td></td>
<td>Continuous Improvement</td>
</tr>
<tr>
<td>Residential HVAC</td>
<td></td>
<td></td>
<td>On-Bill Financing</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Codes and Standards</td>
</tr>
</tbody>
</table>
## PG&E Downstream Residential Program Offerings

<table>
<thead>
<tr>
<th>Rebate Code</th>
<th>Description</th>
<th>Rebate</th>
</tr>
</thead>
<tbody>
<tr>
<td>HV359</td>
<td>ENERGY STAR® Smart Thermostat replacing manually operated thermostat</td>
<td>$50/household</td>
</tr>
<tr>
<td>HV360</td>
<td>ENERGY STAR Smart Thermostat replacing programmable thermostat</td>
<td>$50/household</td>
</tr>
<tr>
<td>BW031</td>
<td>ENERGY STAR High-Efficiency Electric Heat Pump Storage Water Heater Uniform Energy Factor (UEF) of 3.09 or greater and/or Energy Factor (EF) of 3.24 or greater</td>
<td>$300/unit</td>
</tr>
</tbody>
</table>
PG&E Midstream Residential Program Offerings

- Full ACCA Standard 4 HVAC System Assessment with Condenser Coil Cleaning - $40 initial
  Refrigerant Charge Adjustment - $50
- Efficient Fan Delay Rebate - $70
- Replacement Blower Motor Rebate - $220
- Additional Incentive (Must complete any two of the following: Refrigerant Charge Adjustment, Efficient Fan Delay, and Blower Motor Replacement) - $100
Other Residential Programs

• Energy Upgrade California
  o Energy assessment by selected contractor
  o Select improvements
  o Rebates up to $5,500

• Energy Savings Assistance Program
  o Must meet income qualifications
  o Covers attic insulation, lighting, weather stripping, appliance replacement, building sealing, water heater blankets

• CAHP & CMFHP
  o For new single & multifamily residential buildings
  o Incentives based on Delta EDR (> 3.0)
What other CCAs are doing

• Marin Clean Energy: Apply to Administer
  o Residential: Energy Upgrade California, Advanced Energy Rebuild Napa
  o Multifamily: Energy assessments, rebates, technical assistance, loans
  o Commercial: Energy assessments, rebates, project management, financing

• Lancaster Choice Energy: Elect to Administer
  o Lancaster Choice Energy is a member of CalChoice
  o Energy Advisor program – personalized energy advice for residential customers
  o Small Commercial Direct Install program – free or low-cost retrofits

• Sonoma Clean Power: funded through reserves
  o Lead Locally: CEC EPIC funding, brick and mortar Advanced Energy Center
  o Induction cooling: “borrow a cooktop”
  o Advanced Energy Rebuild: Help for rebuilding efficient, sustainable homes
VCE Residential Program Opportunities

• Electrification

• Tailored EE improvements
  o Duct leakage testing & sealing
  o Attic/duct insulation
  o HVAC tune-ups – coil cleaning, duct upgrades & airflow improvements
  o Window replacement & shading

• Indoor air quality improvements
  o Sealing at garage walls
  o Eliminate indoor combustion appliances
  o Mechanical ventilation

• Food for thought
  o How to return savings to the program so that they can be used to fund additional incentives
  o Partnering with third party programs