Commercial Time of Use Tariffs

2018 Pilot Programs

March 19, 2018
Time of Use (TOU) rates are based on the time of day that you use power and Austin Energy’s cost of supplying power to you during that time period.

Theory is that higher power supply costs occur during “On-Peak” hours when demand is high and electricity is expensive and lower power supply costs occur during “Off-Peak” hours whenever demand is lower and electricity is less expensive.

To maximize benefits, businesses should shift as much of their electricity usage as possible to “off-peak” hours.
Background

• Pilot TOU rates were developed during the 2017 retail rate case.

• Austin Energy engaged in multiple stakeholder meetings.

• Stakeholder input further molded the pilot TOUs.

• Two commercial TOU pilots available in January 2018.
General Service Time of Use Pilots

Nights & Weekends

Time of Use Options

Critical Peak Pricing
Who is eligible and how does it work

- Limited to participation of 100 individual meters on a first-come, first-served basis per pilot.

- Applies to non-residential metered general service at secondary voltage or primary voltage with demand less than 3MW.

- Receive service under standard rates.

- Pilot TOU rates only in lieu of applicable Power Supply Adjustment (PSA) – GreenChoice® Rider in addition to TOU PSA.

- Participating HOWs will forfeit weekday “Billable kW” demand feature and be billed on peak demand whatever day that occurs.

- No less than a 12 consecutive billing cycles. If less than 12 consecutive billing cycles, back billed at applicable standard terms if higher.
Nights and Weekends

OFF-PEAK

- Nights and Weekends

- PSA = $.00000

ON-PEAK

- Weekdays 7:00 AM through 10:00 PM
- PSA = $.03994
Critical Peak Pricing

Monday through Friday - Afternoons

On-Peak
- Weekdays
- 4 PM to 6 PM
- Seasonal TOU

Power Supply Adjustment

<table>
<thead>
<tr>
<th></th>
<th>Summer</th>
<th>Winter</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Peak</td>
<td>$0.06573</td>
<td>$0.04128</td>
</tr>
<tr>
<td>Off-Peak</td>
<td>$0.02840</td>
<td>$0.02643</td>
</tr>
</tbody>
</table>
## Comparative PSA

<table>
<thead>
<tr>
<th></th>
<th>Summer</th>
<th>Winter</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2018 PSA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Secondary</td>
<td>$0.03007</td>
<td>$0.02936</td>
</tr>
<tr>
<td>- Primary</td>
<td>$0.02939</td>
<td>$0.02870</td>
</tr>
<tr>
<td><strong>Nights &amp; Weekends</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- On-Peak</td>
<td>$0.03994</td>
<td>$0.03994</td>
</tr>
<tr>
<td>- Off-Peak</td>
<td>$0.00000</td>
<td>$0.00000</td>
</tr>
<tr>
<td><strong>Critical Peak</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- On-Peak</td>
<td>$0.06573</td>
<td>$0.04128</td>
</tr>
<tr>
<td>- Off-Peak</td>
<td>$0.02840</td>
<td>$0.02643</td>
</tr>
</tbody>
</table>
• Pilot TOU Tariffs became available January 2018.

• Pilot programs may be administratively suspended or modified to the number of individual meters allowed to participate.

• Pilot TOUs are contingent upon Austin Energy’s operational feasibility, system configuration, availability of appropriate meters, and the customer’s premise.

• At Austin Energy’s sole discretion, during extreme unforeseen circumstances, the customer may be allowed to prematurely stop receiving service pursuant to these riders without being back billed or have the termination fee waived.

• Designed to
  – gauge interest in the programs;
  – ascertain metering capabilities;
  – determine ability to bill;
  – assess load shift; and
  – discern any unintended consequences.
If you are interested...

• Contact your key account representative.

• Analyze your energy consumption.

• Determine if either TOU pilot is viable.

• Evaluate options to shift load and maximize benefit.

• Sign up!
Questions
Load Profiler Tool

Customer Energy Solutions | Austin Energy

March 2018
Electric metering

- Commercial metering
  - Multiple service types
  - Metering upgrades
- Billing determinates
  - Monthly demand and energy
- Metering systems
  - AMR, AMI, and MV90
- Metering data collected
  Monthly, daily, 15 minute
Load Profiler / Energy Profiler On-line

- On-line system for understanding energy usage patterns and cost
- Utilizes 15 minute energy usage data
- Displays graphs and charts
- Users can setup customized dashboards
- Provided Green Button and Green Button Connect functions
- AE sets up IDR meter
- AE sets up EPO user account
EPO User Functionality

- Demand profiles
  - Daily, weekly, monthly
- Energy usages
  - Daily, weekly, monthly
- Heat maps
- Diagnostic visualizations
- Historical comparisons
- Preconfigure reports in dashboards
- Setup and manage subscriptions
Subscriptions and possible uses

• Reports automatically update with new usages
• Setup report to be emailed daily to designated user
• Setup automated summary reports to management
• Setup load profile or usage reports to be delivered to building engineer or operations staff, daily, weekly, monthly
Groupings and usages

• Account groupings
  – Buildings/campus served by multiple accounts
  – Consolidated view of accounts

• Meter groupings
  – Group like meters such as photovoltaic
  – Aggregate meters into single profile/analysis
• Secure access over SSL
• 24x7 availability
• User ID and password provided by administrator or account manager
Load Profiles

• Provides valuable information about how and when energy is used in your facility.
• Allows you to isolate points in time and probe into equipment operations.
• Can help you identify what equipment or practices create the largest impact on your utility bill.
Average Profiles

- The average profile graphs show average weekday, weekend, and peak day load profiles. Ideally, the peak day should match the average day.
• The Usage History chart shows the total amount of energy consumed and the peak demand. This chart provides a way to compare consumption versus usage on a daily, weekly, or monthly basis.
Summary Statistics

- These statistics provide a summarized account of energy and demand data based on the rate Time of Use definitions, if available

<table>
<thead>
<tr>
<th>Description: Office</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Energy Usage (kWh)</td>
<td>779,206</td>
</tr>
<tr>
<td>Total Weekday Energy Usage (kWh)</td>
<td>695,499</td>
</tr>
<tr>
<td>Total Weekend Energy Usage (kWh)</td>
<td>83,707</td>
</tr>
<tr>
<td>Weekday Maximum Demand (kW)</td>
<td>1.498</td>
</tr>
<tr>
<td>Weekend Maximum Demand (kW)</td>
<td>297.5</td>
</tr>
<tr>
<td>Load Factor</td>
<td>35.54%</td>
</tr>
<tr>
<td>On-Peak - Total Energy (kWh)</td>
<td>371,505</td>
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<tr>
<td>On-Peak - Maximum Demand (kW)</td>
<td>1.498</td>
</tr>
<tr>
<td>On-Peak - Maximum Demand Time</td>
<td>10/27/2005 11:45</td>
</tr>
<tr>
<td>Off-Peak - Total Energy (kWh)</td>
<td>407,701</td>
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<tr>
<td>Off-Peak - Maximum Demand (kW)</td>
<td>1.428</td>
</tr>
<tr>
<td>Off-Peak - Maximum Demand Time</td>
<td>11/22/2005 07:00</td>
</tr>
</tbody>
</table>

Selected Date Range: Saturday, October 01, 2005 through Wednesday, November 30, 2005
The account comparison reports are helpful for comparing more than one similar facility.
A load duration curve represents the percentage of time the load persists at a given level. This type of graph can be used to evaluate whether load management or energy efficiency measures, such as lighting and motor retrofits, should be pursued to lower energy costs.
• Meter data can be exported from EPO into a variety of formats
• This allows for further analysis using MS Excel or custom tools
• Green Button/Green Button Connect capable
Dashboards/Preconfigured Reports

- User can setup up to 10 reports on a dashboard
User managed automated reports

Setup automated emails to building engineers or management
Identify Savings Opportunities

Example of Using Interval Data to Save Energy and Money

Unnecessary Demand Charges?
~55 kW or $766/Mo

Potential to Reduce kWh Charges?
~ 12,000 kWh/Mo or $655/MO
Spread Your Good Energy

Chris Fischer
512-482-5377
Christopher.Fischer@AustinEnergy.com

spread your good energy
Commercial Rebate Program and Houses of Worship

David Hood, P.E.
Energy Efficiency Services
Austin Energy
Rebates

• HOWs Qualify for Small Business Lighting Program
• HOWs Qualify for 30% Bonus on All Other Rebates
• Lowers Bills

Trusted Energy Advisor

• Bill Analysis
• Walk Through Audits and Recommendations
• Reduces Green House Gases and Pollution
Rebates are incentives to go above and beyond Austin Energy Code which is currently the IECC 2015 Code and Local Amendments.
Small Business Lighting Program

- Customers with Peak Summer Demand <300 kW or Less Than 30,000 Square Feet, Non-Profit, HOW

- Use Registered Lighting Contractors

- Pays ~ Twice as Much as Standard Commercial Rebates

- Up To 80% of Installed Costs
<table>
<thead>
<tr>
<th><strong>Business</strong></th>
<th><strong>House of Worship</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Square Footage</strong></td>
<td>10,224 sf</td>
</tr>
<tr>
<td><strong>Peak Demand</strong></td>
<td>28 kW</td>
</tr>
<tr>
<td><strong>Existing Lighting</strong></td>
<td>116- 4 lamp T-12 Fixtures</td>
</tr>
<tr>
<td><strong>New Lighting</strong></td>
<td>116 – 4 foot linear LED fixtures</td>
</tr>
<tr>
<td><strong>Total Project Cost</strong></td>
<td>$17,021</td>
</tr>
<tr>
<td><strong>AE Rebate</strong></td>
<td>$9,832</td>
</tr>
<tr>
<td><strong>AE Portion</strong></td>
<td>58%</td>
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<tr>
<td><strong>Energy Savings/Yr</strong></td>
<td>$12,395</td>
</tr>
<tr>
<td><strong>Simple Payback</strong></td>
<td>0.8 Years</td>
</tr>
</tbody>
</table>
Commercial Rebates – You Qualify If You:

- Are an Austin Energy commercial customer
- Comply with the Energy Conservation Audit and Disclosure (ECAD) ordinance
- Operate during Austin Energy’s Peak Demand Period
- Small business (<300 kW or 30k sf), tax-exempt 503(c) small non-profit, or houses of worship qualify for a 30% bonus rebate on our standard commercial rebates.
Energy Efficiency Incentives

- Cooling and Heating
  - Chillers
  - Cooling Towers
  - Direct Expansion (DX) Air Conditioning
  - Energy Recovery Ventilators
  - Thermal Energy Storage

- Electrical Equipment
  - Transformers
  - Uninterruptible Power Supply (UPS)
  - Variable Speed Drives (VSD)
  - ECM Motors (Fans, etc)
Energy Efficiency Incentives

• Building Envelope
  – Ceiling and Roof Insulation
  – Reflective Roof Coating
  – Window Tints and Window Replacements

• Lighting
  – Light Emitting Diode (LED’s)
  – LED Exit Signs
  – T-8 & T-5 High Efficiency Lighting Systems
  – High Intensity Discharge (HID) to Fluorescent or LED’s
  – Lighting Controls
### Example of Chiller Rebate

#### Air Cooled Chiller

<table>
<thead>
<tr>
<th>Make</th>
<th>TRANE</th>
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<tbody>
<tr>
<td>Model</td>
<td>CGAM-100</td>
</tr>
<tr>
<td># of Units</td>
<td>2</td>
</tr>
</tbody>
</table>

| Total rebate = | $5,816.35 | $10,330 |
| With 30% Bonus | $7,561.25 |         |

estimated by: DAVID HOOD  
Date: 12/7/2015

Air Cooled Chiller
Congregation Beth Israel

With 30% Bonus $7,561.25
Went from clear glass to windows that block 84% of sun’s heat

<table>
<thead>
<tr>
<th>Technology</th>
<th>Rebate $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window Treatment</td>
<td>$3,079.70</td>
</tr>
<tr>
<td>Window Treatment</td>
<td>$582.40</td>
</tr>
<tr>
<td>Window Treatment</td>
<td>$157.30</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>$3,819.40</strong></td>
</tr>
</tbody>
</table>

**$1,066.92 Savings per Year**
## HOW Rebate Participation is Trending Up

### FY 2017 HOW Rebates

<table>
<thead>
<tr>
<th>Metric</th>
<th>YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of HOWs</td>
<td>16</td>
</tr>
<tr>
<td>kW Saved</td>
<td>327</td>
</tr>
<tr>
<td>kWh Saved</td>
<td>794,441</td>
</tr>
<tr>
<td>Rebates Paid</td>
<td>$199,949</td>
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</table>

### FY 2018 HOW Rebates Q1

<table>
<thead>
<tr>
<th>Metric</th>
<th>YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of HOWs</td>
<td>9</td>
</tr>
<tr>
<td>kW Saved</td>
<td>283</td>
</tr>
<tr>
<td>kWh Saved</td>
<td>631,039</td>
</tr>
<tr>
<td>Rebates Paid</td>
<td>$156,921</td>
</tr>
</tbody>
</table>
Trusted Energy Advisor

- Bill Analysis
- Walk Through Audits
- Identify Rebate Opportunities
- Make No-Cost and Low-Cost Recommendations
Bill Analysis

- Look for High Months, Anomalies
- Compare Years
- Analyze Power Factor
- Opportunities to Get Below Sanctuary Rate
Use Interval Data to Identify Savings Opportunities

Example of Using Interval Data to Save Energy and Money

Unnecessary Demand Charges?
~55 kW or $766/Mo

Potential to Reduce kWh Charges?
~ 12,000 kWh/Mo or $655/MO
Contact Us

David Hood, P.E.
Energy Efficiency Services Manager –
Commercial & Multifamily

Customer Energy Solutions
811 Barton Springs Road
Mailing Address: 721 Barton Springs Road
Austin, TX 78704-1145

Office: (512) 482-5314
Mobile: (512) 468-2608
Fax: (512) 505-4026
Email:david.hood@austinenergy.com

• Thank You!
The first PACE beneficiary in Texas is Congregation Beth Israel in Austin. PACE financing enables the synagogue to address critical HVAC failures without diverting charitable dollars from its core mission.

THE PROBLEM:
After years of spending $15 to $20k annually for chiller and boiler repairs with obsolete chiller and boiler parts becoming difficult to locate, Congregation Beth Israel (CBI) was finally forced to replace them. When the chiller failed last summer, children in the child development center were moved several times to nap and play in the chapel and sanctuary. On many mornings, The Way Companies’ trucks were the first to arrive at CBI to get the chillers back online before the children arrived to school. Even when the chillers were working, they couldn’t keep up with the Texas heat in the rooms facing the sun.

THE PACE SOLUTION:
Long term PACE financing with no out-of-pocket expenses enabled the synagogue to solve several critical issues. An energy audit was used to analyze all aspects of the building and identify potential energy savings. The final PACE project enabled CBI to finance new chillers and boilers, controls, and window film from a cash flow positive position. Through the PACE program, CBI is able to solve major energy, mechanical reliability, and comfort issues in a financially responsible way.

COMMUNITY IMPACT:
A well-known Jewish quote from the Babylonian Talmud asserts that, “You’re not required to complete the work, but neither are you free to abstain from it.” While no single individual, organization or community can complete the task of Tikkun Olam, mending and transforming the world, we all must take responsibility and play our part. Reducing our congregation’s carbon footprint and living with lightened impact on God’s earth through the vision and ingenuity of the PACE program not only makes economic sense, but also represents a sacred act of both responsibility and hope in the future.

– Rabbi Steven Folberg

PACE IN TEXAS
PACE is an innovative program enabling 100% financing for energy and water efficiency projects on commercial property.

FOR MORE INFO CONTACT
The Texas PACE Authority
admin@texaspaceauthority.org
www.texaspaceauthority.org
HOW DOES PACE WORK?
Property Assessed Clean Energy (PACE) is an innovative financing program that offers commercial, industrial, and large multi-family property owners a voluntary program to obtain up to 100% financing for water conservation, energy-efficiency, and distributed generation retrofits. PACE has great potential to directly affect a business’ bottom line; a project’s savings in utility costs offsets the cost of installing the project. In most instances, this will result in an immediate positive cash flow.

TRAVIS COUNTY
Travis County established Texas’ first PACE program in March 2015. The economic development tool is a voluntary program that allows property owners to obtain long-term financing from private lenders without the use of taxpayer dollars or risk to the county treasury. Loans are repaid to private lenders through an assessment and senior lien placed on the improved property. The Travis County Tax Assessor Collector oversees the PACE program and projects.

www.traviscountytx.gov/pace

TEXAS PACE AUTHORITY
The Travis County program is administered by the Texas PACE Authority (TPA), a non-profit organization that administers Texas’ new PACE statute by taking a market-based approach to energy finance and economic development. TPA works with all parties – property owners, contractors, and lenders to bring energy and water improvements that are both economically sound and environmentally friendly.

www.texaspaceauthority.org

LENDER CONSENT GRANTED
The Texas PACE statute requires that if the property has a mortgage, then the property owner must obtain the written consent of the mortgagee in order to use PACE financing. CBI received lender consent from its mortgagee.

AUSTIN ENERGY
Austin Energy’s Commercial Energy Efficiency Rebate program provides energy efficiency consultation and rebates for Austin Energy’s mid-to-large sized commercial customers and nonprofits in the Austin Energy service area. These incentives enhance PACE project cash flow.

PETROS PACE FINANCING
Petros PACE Finance, LLC is the first specialty finance firm in the U.S. to dedicate all of its resources to the commercial PACE market nationwide. Petros PACE has projects in Michigan and Texas, and is working on projects in California and Florida as well. The principals of Petros PACE Finance have substantial experience in structured finance and lending, and bring significant value to all parties involved in the transactions in which they participate.

www.petros-pace.com

THE WAY COMPANIES
Founded in 1918, the Way Companies retain in-house design, engineering, and field service personnel specializing in operational cost reduction, comfort control, and infrastructure renewal. Since the 1980s, Way develops and implements building retrofits paid for with reductions in owning & operating costs. Way’s customers range from a university in North Texas to the Statue of Liberty and the Ellis Island Museum. Retrofits include, but are not limited to, HVAC & Lighting Upgrades, Water Conservation and Building Envelope Upgrades.

www.thewaycompanies.com

FOR MORE INFO CONTACT
The Texas PACE Authority
admin@texaspaceauthority.org
www.texaspaceauthority.org
Interested in upgrading your nonprofit property with energy/water efficiency and distributed generation technologies but lack the needed capital?

The Texas PACE program (Property Assessed Clean Energy), enables nonprofit property owners to obtain affordable, long-term financing covering up to 100 percent of the cost for energy efficiency, water conservation, and on site generation technologies. PACE secures private financing for a term as long as the projected useful life of the improvements, resulting in utility cost savings that exceed the amount of the repayment.

**Typical examples of qualified improvements:**
- High efficiency chillers, boilers, and furnaces
- Mechanical system modernization
- Energy system sensors and controls
- Systems to capture, treat and use other on-site sources of water (condensate, rainwater, etc.)
- High efficiency lighting
- Water conservation equipment
- Building enclosure/envelope improvements (insulation, new windows, cool roofs, etc.)
- On site generation such as solar and CHP (resiliency benefits)
- Fuel switching
- Wastewater onsite reuse systems

**CASE STUDIES:**

**CONGREGATION BETH ISRAEL SYNAGOGUE, AUSTIN, TX**
The nonprofit financed a $460,000 project which included major chiller replacements and other holistic energy saving improvements. The synagogue experienced several air conditioning outages last summer, and was continuing to expend money into cooling an uninsulated and inefficient area. Through PACE financing, the facilities have new mechanical systems and reduced their energy consumption by 9,000 kilowatt hours in the first month of operation and an annual utility savings of approximately $15,000.

**FAMILY ELDERCARE, AUSTIN, TX**
Family Eldercare is a Central Texas nonprofit organization that has been serving seniors and adults with disabilities for more than 30 years. It needed to increase net operating income and lower business expenses in order to provide for clients. Long term PACE financing enabled Family Eldercare to complete comprehensive energy efficient upgrades including a new cool roof and solar panels without compromising its operating budget. This resulted in an energy reduction of approximately 20% and 140,000 kWh in electricity savings annually, leading to a positive cash flow.
THE FINANCIAL IMPACT OF NONPROFIT PACE

This example compares self funding and conventional funding with PACE financing:

- Church
- Project involves a $450,000 replacement of chillers, boilers, controls and window film
- Annual energy and maintenance savings of $45,000 (11.3 years simple payback)
- PACE funding available for 20 years at 6.0%.
- Conventional Funding for 5 years at 4.0% (with 20% down payment).

<table>
<thead>
<tr>
<th>Financing Scenario Comparison Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Out-of-Pocket Investment</td>
</tr>
<tr>
<td>Savings (First Year)</td>
</tr>
<tr>
<td>Annual Payment</td>
</tr>
<tr>
<td>Cash Flow Impact Year 1</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Net Project Cash Flow Year 2</td>
</tr>
<tr>
<td>Years to Positive Project Cashflow</td>
</tr>
<tr>
<td>Debt Service Over Finance Term</td>
</tr>
</tbody>
</table>

YOUR CONVENIENT PACE LOAN ASSESSMENT CAN INCLUDE:

- Cost of materials and labor necessary for the installation of a qualified improvement
- Permit fees
- Inspection fees
- Lender fees
- Program development and engineering fees
- Independent third party reviewer audit fees, including verification fees
- Any other fees or cost that may be incurred by the property owner incidental to the installation, modification or improvement
- Legal, consulting and other fees on an actual cost basis
- Changes to the existing property incidental to the installation

“The financial impact of non-profit PACE project not only makes economic sense, but also represents a sacred act of both responsibility and hope in the future.”

–Rabbi Steven Folberg of Congregation Beth Israel

Contact us to discuss your potential PACE project or to learn more about establishing a PACE program in your community.

Toll Free: 1-855-738-PACE (7223)
Visit our website: www.TexasPACEAuthority.org
Email us at Admin@TexasPACEAuthority.org