



RESOURCE MANAGEMENT COMMISSION

November 16, 2021 6:30 p.m.

Austin Energy Headquarters; 1st Floor; Shudde Fath Conference Room

4815 Mueller Blvd, Austin, Texas 78723

(Note: Some members of the Resource Management Commission may be participating by videoconference.)

AGENDA

Members:

Jonathan Blackburn, Chair (District 8)

Kaiba White, Vice Chair (District 2)

Sam Angoori (District 3)

Shane Johnson (District 4)

Tom “Smitty” Smith (District 5)

Louis Stone (District 6)

Kelly Davis (District 7)

Dana Harmon (District 9)

Rebecca Brenneman (District 10)

Lisa Chavarria (Mayor)

Vacancy (District 1)

For more information, please visit: www.austintexas.gov/rmc

CALL MEETING TO ORDER

CITIZEN COMMUNICATION: GENERAL

Speaker must be present and will be allowed up to three minutes to provide their comments.

APPROVAL OF MINUTES

1. Approve minutes of the August 17, 2021 Meeting of the Resource Management Commission.
2. Approve minutes of the September 21, 2021 Meeting of the Resource Management Commission.

STAFF REPORTS AND BRIEFINGS

3. Generation Portfolio Announcement Briefing.

ITEMS FROM COMMISSIONERS

4. Briefing from Arushi Frank of the ERCOT Innovation Caucus on demand response technologies and opportunities. (Sponsors: Blackburn; Chavarria)
5. Discussion and possible action regarding forming a Fayette Power Plant Resource Plan Working Group jointly with the EUC. (Sponsors: Blackburn; Chavarria)
6. Discussion and possible action regarding a resolution on the Texas Gas Service Conservation Programs. (Sponsors: Stone; Harmon)
7. Discussion and possible action regarding a resolution on the establishment of a community benefit charge for Texas Gas Service. (Sponsors: Stone; Harmon)

The City of Austin is committed to compliance with the American with Disabilities Act. Reasonable modifications and equal access to communications will be provided upon request. Meeting locations are planned with wheelchair access. If requiring Sign Language Interpreters or alternative formats, please give at least two days (48 hours) before the meeting date. TTY users route through Relay Texas at 711. For more information on the Resource Management Commission, please call Natasha Goodwin (512) 322-6505.

OTHER BUSINESS

8. Discussion and possible recommendation to Council on CenterPoint Energy Resources Corporation proposed Energy Efficiency Rate Tariff (Rate Schedule EE- Austin).
9. Discussion and possible action regarding the 2022 Resource Management Commission Meeting Schedule.

FUTURE AGENDA ITEMS

10. Discuss potential future agenda items.

ADJOURN



RESOURCE MANAGEMENT COMMISSION MEETING MINUTES Tuesday, August 17, 2021

The Resource Management Commission convened via videoconference on Tuesday, August 17, 2021 in accordance with social distancing protocols necessitated by the COVID 19 pandemic.

Commissioners in Attendance: Jonathon Blackburn, Chair (District 8); Kaiba White, Vice Chair (District 2); Sam Angoori (District 3); Shane Johnson (District 4); Tom “Smitty” Smith (District 5); Kelly Davis (District 7); Dana Harmon (District 9); Rebecca Brenneman (District 10); Lisa Chavarria (Mayor); Vacancy (District 6)

Commissioners Absent: Nakyshia Fralin (District 1)

CALL TO ORDER – Chair Blackburn called the meeting to order at 5:33 p.m.

CITIZEN COMMUNICATION:

Paul Robbins commented on green building and natural gas programs.

Consent Items:

APPROVAL OF MINUTES

1. Approve minutes of the June 22, 2021 meeting.

A motion to recommend was on Commissioner Chavarria’s motion, Commissioner Harmon’s second; passed on a 7-1-1 vote, with Commissioners Angoori abstaining, Commissioner White voting against, Commissioners Fralin absent, and one vacancy.

STAFF REPORTS AND BRIEFINGS

2. Quarterly update from Texas Gas Service.
Jasmine King-Bush, Energy Efficiency Program Supervisor of Texas Gas Service presented the Quarterly update from Texas Gas Service along with Larry Graham, Community Relations Manager.
3. Quarterly update from Austin Water.
Kevin Kluge, Environmental Conversation Division Manager presented the Quarterly update from Austin Water.
4. Commercial Solar Incentives Program, Shared Solar, and Solar Meter and Permit Fees Presentation.
Tim Harvey, Customer Renewable Solutions Manager presented the Commercial Solar Incentives Program, Shared Solar, and Solar Meter and Permit Fees Presentation.

ITEMS from COMMISSIONERS

5. Discussion and possible action regarding solar meter and permit fees.
No action taken.

FUTURE AGENDA ITEMS

6. Discuss potential future agenda items
 - Texas Gas Service Climate Gas Inventory
 - EV Ready Update
 - CES Budget
 - Water Loss

ADJOURN

The meeting adjourned at 7:38 p.m.

DRAFT



RESOURCE MANAGEMENT COMMISSION MEETING MINUTES Tuesday, September 21, 2021

The Resource Management Commission convened in-person on Tuesday, September 21, 2021 in accordance with social distancing protocols necessitated by the COVID 19 pandemic.

Commissioners in Attendance: Jonathon Blackburn, Chair (District 8); Kaiba White, Vice Chair (District 2); Shane Johnson (District 4); Louis Stone (District 6); Dana Harmon (District 9); Lisa Chavarria (Mayor) Vacancy (District 1)

Commissioners Absent: Sam Angoori (District 3); Tom “Smitty” Smith (District 5) Kelly Davis (District 7), Rebecca Brenneman (District 10)

CALL TO ORDER – Chair Blackburn called the meeting to order at 6:47 p.m.

CITIZEN COMMUNICATION:

Paul Robbins- Texas Gas Service conservation programs.

Consent Items:

APPROVAL OF MINUTES

1. Approve minutes of the August 17, 2021 meeting.

A motion to recommend was made on Commissioner Harmon’s motion, Commissioner Chavarria’s second; failed on a 4-1-1 vote, with Commissioner White voting against, Commissioner Stone abstaining, Commissioners Angoori, Brenneman, Davis, and Smith absent, and one vacancy.

NEW BUSINESS – CONSENT

() = Target Council Meeting Date; [] = RCA Type

2. (9/30) [Austin Energy] Authorize issuance of energy efficiency program rebates by Austin Energy during Fiscal Year 2021-22, in an amount not to exceed \$2,700,000 for multifamily energy efficiency rebates and \$3,350,000 for commercial and small business energy efficiency rebates, for a total combined amount not to exceed \$6,050,000.

A motion to recommend was made on Commissioner White’s motion, Commissioner Harmon’s second; passed on a 6-0 vote, with Commissioners Angoori, Brenneman, Davis, and Smith absent, and one vacancy.

3. (9/30) [Austin Water] Approve a resolution authorizing Austin Water to continue a pilot program and issue incentives during Fiscal Year 2021-2022 for alternative onsite water reuse systems for large new commercial and multi-family developments under the utility’s new regulatory framework, in a total aggregate amount not to exceed \$1,000,000, and not to exceed \$500,000 for each individual project.

A motion to recommend was made on Commissioner Harmon’s motion, Commissioner Chavarria’s second; failed on a 5-1 vote, with Commissioner Stone voting against, Commissioners Angoori, Brenneman, Davis, and Smith absent, and one vacancy.

STAFF REPORTS AND BRIEFINGS

4. Briefing from Texas Gas Service on weatherization, climate, and energy efficiency programs. **Jasmine King-Bush, Energy Efficiency Program Supervisor presented the Energy Efficiency Programs Proposed Budget from Texas Gas Service along with Larry Graham, Community Relations Manager and Consultant Paul Raab. Consultant Jason Ketchum presented on weatherization and climate.**
5. Water Loss and Mitigation Briefing. **Matt Cullen, Managing Engineer of Austin Water presented the Water Loss and Mitigation Briefing.**
6. Fiscal Year 2021-2022 Customer Energy Solutions Proposed Budget Presentation. **Manuel Garza, Energy Efficiency Services Manager of Austin Energy presented the Fiscal Year 2021-2022 Customer Energy Solutions Proposed Budget Presentation.**

FUTURE AGENDA ITEMS

7. Discuss potential future agenda items
 - **Paul Robbin's Toxic Building Presentation**
 - **EV Ready/Electric Update**
 - **Solar RFP Update**

ADJOURN

The meeting adjourned at 9:07 p.m.

Generation Portfolio Update

Fayette Power Project, Decker Unit 2 and
Nacogdoches Power Project

Pat Sweeney

Vice President, Power Production



Nov. 16, 2021

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Announcement Highlights

- Negotiations stall over Fayette Power Project
- Decker 2 steam unit to shut down in March 2022
- Nacogdoches biomass plant to be available year-round



Fayette Power Project

Photo courtesy LCRA



Decker Creek Power Station



Nacogdoches Power Project



Negotiations stall over Fayette Power Project (FPP)

- Background: Austin Energy co-owns FPP with LCRA; Austin Energy's portion is 50% of two of the three units; LCRA manages the plant.
- Joint ownership agreement does not set out how one party can retire only its share of the project.
- Unable to reach terms that would allow Austin Energy to shut down its share.



Negotiations stall over Fayette Power Project



- What's next?
 - Austin Energy will continue to run its portion of FPP but will minimize scheduled output using REACH
 - The REACH strategy considers the cost of carbon in utility's offers to sell generation from FPP.
 - Continue to negotiate with LCRA to retire Austin Energy's share of FPP.

Decker Steam Unit 2 to Close March 2022

City Council approved closure in 2017



Age

Increasing difficult to maintain, secure replacement parts and technical expertise



Less Efficient

Requires more natural gas per megawatt hour of power compared to newer, more efficient units



Lower Carbon Emissions

Part of comprehensive resource plan and commitment to lower carbon footprint



Decker Steam Unit 2 to Close March 2022

City Council approved closure in 2017

- Notice of Suspension of Operations (NSO) to ERCOT
 - Required at least 150 days prior to anticipated retirement date.
 - Effective retirement date: March 31, 2022.
 - If ERCOT determines unit needs to continue operating, it can pursue a Reliability Must-Run (RMR) commitment with Austin Energy.
- What's next?
 - Decker's four 50 MW gas turbines continue to be available and can be quickly dispatched when needed.

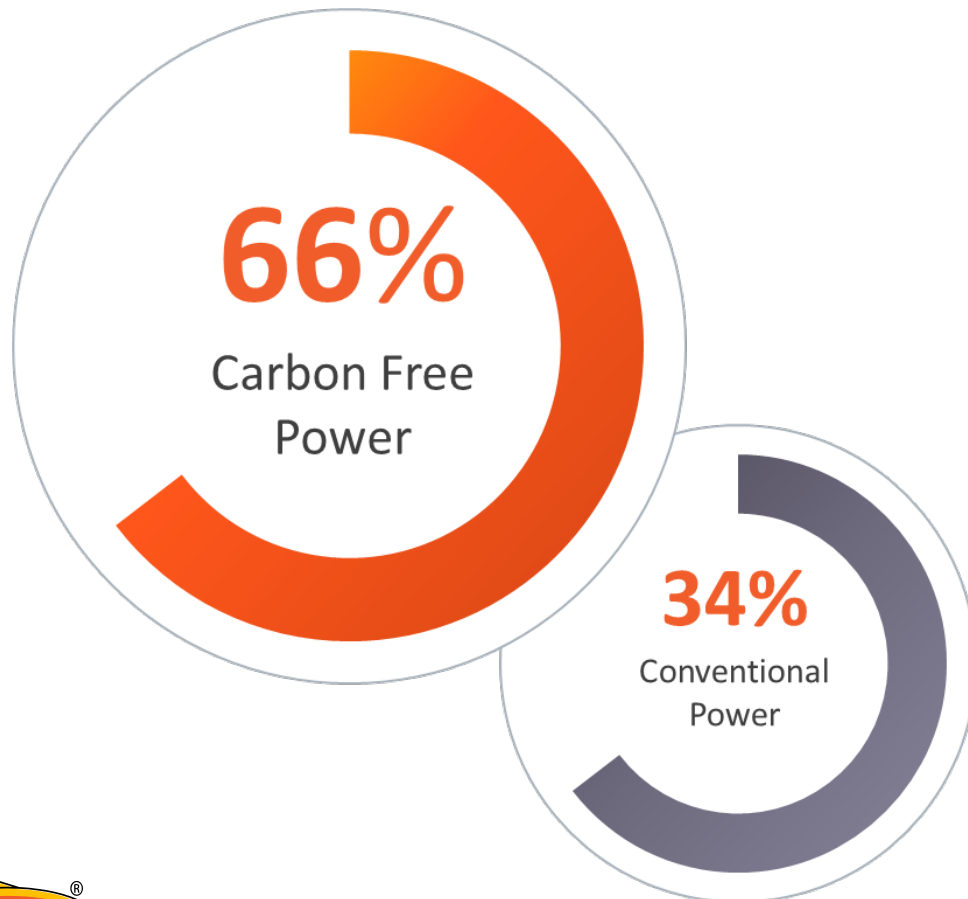


Nacogdoches Biomass Plant Available Year-Round

- **Background:**
 - Plant powered by wood waste fuel.
 - Previously under “seasonable mothball” status, meaning it was made available to run only during high energy demand summer months.
 - Utility purchased plant in 2019.
 - Purchasing the plant saved the utility ~\$275M in additional costs over the remaining term of a previous agreement.
- **Improved operations + current market conditions = more economical to be available year-round.**



Current Austin Energy Generation Portfolio



March 2022 Portfolio

- Seven solar farms (966 MW)
- Eight wind projects (1796 MW)
- South Texas Nuclear Project (430 MW)
- Sandhill Energy Center (570 MW)
- Fayette Coal Plant (590 MW)
- Nacogdoches Biomass Plant (100 MW)
- Decker quick start gas turbines (200 MW)

*71% carbon free after March 2022





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OPPORTUNITIES FOR
ENERGY RESILIENCY
IN AUSTIN

Technology-centric Programs to
Enable a Sustainable Future

Arushi Sharma Frank
ERCOT Representative, Tesla

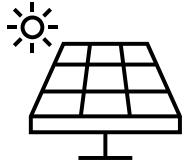
RMC Meeting Nov. 16, 2021



T O P I C S

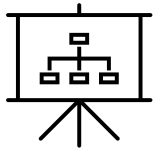
- What is Demand-Side Resiliency?
- 5 Pillars of Effective Demand-Side Energy Resiliency Policy
- Benefits of Demand-Side Resiliency Programs
 - Customer Devices – Demand Response
 - Solar & Storage – Residential
 - Virtual Power Plants & Smart Homes
 - Residential Plug-in EV Charging
 - Renewable Microgrids
- Discussion

WHAT IS DEMAND-SIDE RESILIENCY?



Demand-Side Technologies

Devices affecting Grid Energy Demand



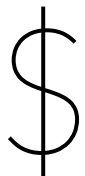
Demand-Side Programs

Rates, Policies incenting Grid Energy Demand Time-Shifting, Off-Grid Consumption

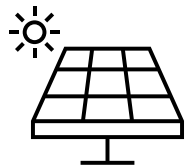
EFFECTIVE DEMAND-SIDE RESILIENCY PROGRAMS

5 PILLARS

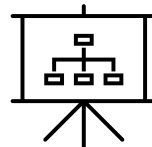
- Send Clear Economic Price Signals



- Utilities and System Operators Approve Technology



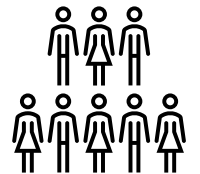
- Rate Design and Programs Value All Benefits



- Design for Customer Experience



- Create Accessibility to Technology



BENEFITS: DEMAND SIDE ENERGY RESILIENCY PROGRAMS

Customer Devices – Demand Response

- Load Shift (DD Response)
- Reduce Energy Bill
- Reduce Fossil Fuel Reliance
- Avert Rolling Blackout
- Reduce Utility Cost to Serve

Solar + Storage – Residential

- Whole-home Backup in Outage
- Reduce Energy Bill (Self-Consume)
- Absorb Rooftop Solar
- Reduce Fossil Fuel Reliance
- Reduce Utility Cost to Serve

Virtual Power Plant & Smart Home

- Reduce Utility Cost to Serve
- Compensate for Grid Services (Exports)
- Offer Lower Power Prices to All Customers (Hedging)

Residential Plug-In EV Charging

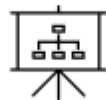
- Increase Utility Demand - Supply Balancing Flexibility
- Energy Bill Reduction
- Reduce Reliance on Fossil Fuel
- Revenue Growth for Utility
- Incent EV Adoption

Renewable Microgrid

- Reduce Utility Cost to Serve
- Absorb Excess Solar
- Outage Prep
- Community Resiliency Hubs

CUSTOMER DEVICES: DEMAND RESPONSE

- Compensate customers for “micro” and “macro” behavioral response from appliance level to whole-home – without compromising customer experience
- Value Proposition
 - Avert rolling blackouts during grid emergencies
 - Respond to high prices, put downward pressure on grid prices
 - Use to relieve local congestion in most constrained hours of the day to defer costly utility infrastructure upgrades
- Utility can partner with a Demand Response Provider or Aggregator to “Bid” the available capacity reduction into the wholesale market to be paid in advance for the expected curtailment



CUSTOMER DEVICES: DEMAND RESPONSE

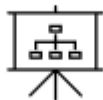
OHMCONNECT & EAST BAY COMMUNITY ENERGY (CALIFORNIA)

- EBCE will contract with OhmConnect as it does with power plants in the electricity market; to procure 25 MWs of load reduction from OhmConnect
- OhmConnect providing load reduction so EBCE can hedge its energy purchases during hot summer afternoons and evenings when the CAISO grid is the most stressed
- Typical annual payments for EBCE customers range **from \$30 to \$100 per year**, depending on home size and location

OHMCONNECT GOALS – CALIFORNIA

- 100 MW Load Reduction Capacity Statewide 2021; 550 MWs in 3 Years

* \$80 MN allocated to firming up customer participation capabilities at appliance level: free smart thermostats, free smart plugs



SOLAR + STORAGE: RESIDENTIAL



Store Solar Energy for Self-Consumption - Offset Utility Bills



Continue Using Solar with Storage in an Outage – Offset Risk of Power Loss



Respond to Critical Peak Pricing – Add Payments for Reducing Grid Load in Peak Conditions (4 Coincident Peak)



Export Energy and Ancillary Services to the Grid -- Offset Utility Costs for Serving Load, Respond to Grid Events, Generate Cash Payments on top of Bill Savings

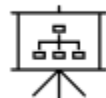
SOLAR + STORAGE: RESIDENTIAL

SACRAMENTO MUNICIPAL UTILITY DISTRICT

Sacramento Municipal Utility District has developed a Net Energy Metering Successor Tariff to accelerate market transformation from Solar Only to Solar-Storage

Utility rate design elements:

- Excess power injected at any time of day receives a DER Energy Credit 7.4c/kWh – represents value of GHG Emissions Savings, Natural Gas Savings, Capacity Savings (Transmission, Distribution, Generation)
- Battery Storage Incentives stack on the DER Energy Credit - the more value the battery provides the higher
 - \$500 base incentive
 - \$1500 if enrolled in critical peak pricing rate, with exports during CPP credited at full retail rates
 - \$2500 if enrolled in Virtual Power Plant)



VIRTUAL POWER PLANT

GREEN MOUNTAIN POWER (VERMONT)

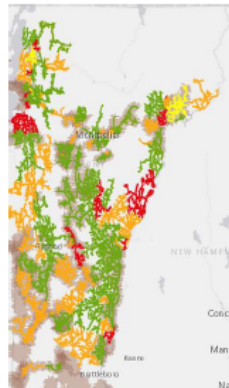
Green Mountain Power

TWO STORAGE TARIFFS FILED IN 2019

Bring Your Own Device (BYOD)

Upfront incentive from GMP for sharing
stored energy during peaks

\$850/kW, \$950/kW in constrained areas)



GENERAC
PWRCELL



 **sonnen**

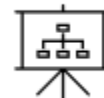
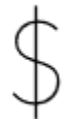
solar**edge**

Energy Storage System Lease

\$55 per month for 10 years

2 Powerwalls per install:
27kWh/10kW per system

Customers can work with any
participating Tesla-Certified installer

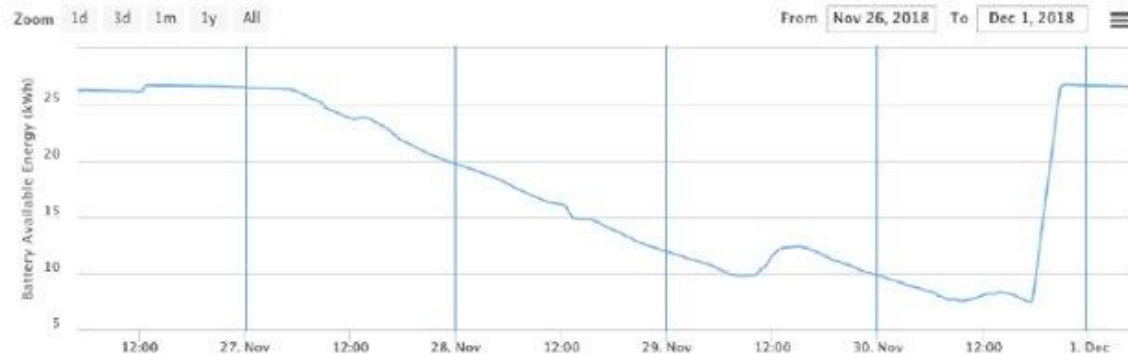


VIRTUAL POWER PLANT

PEAK SHAVING & OUTAGE MANAGEMENT

Green Mountain Power

CUSTOMER STORIES

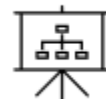
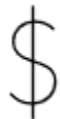
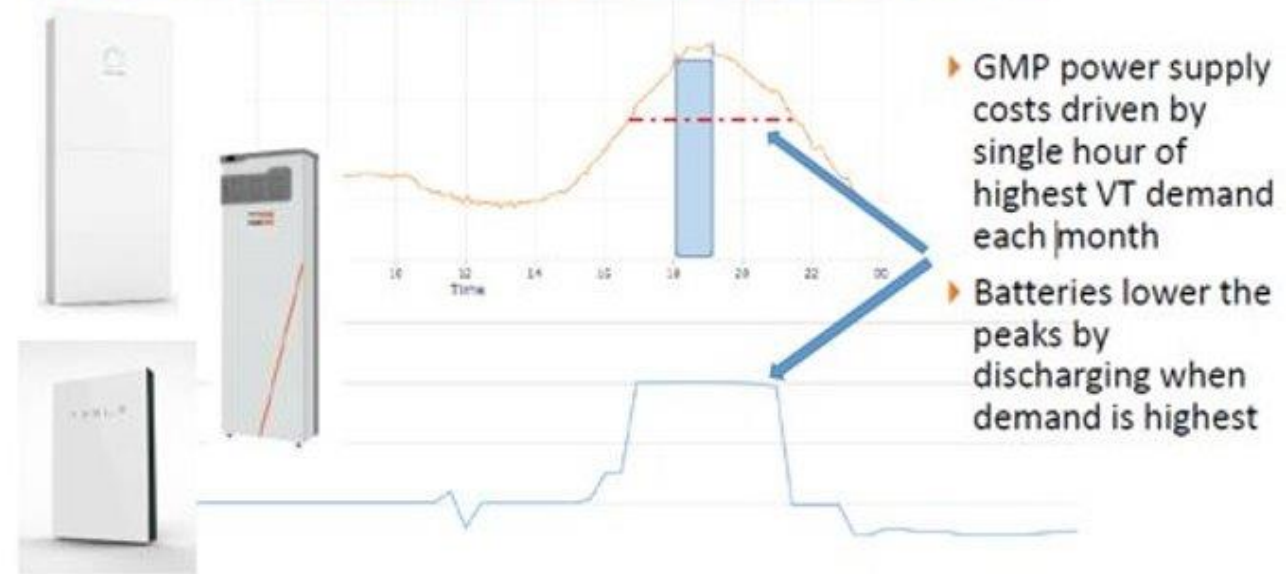


"The Powerwalls pumped our water, ran our lights, appliances, TV, and computers, and even powered our electric snowblower just as seamlessly as if we were connected to the grid"

- Gerry Hawkes, GMP Customer who rode through a 4-day outage

Green Mountain Power

PEAK SHAVING 101: GENERATE SAVINGS FOR ALL CUSTOMERS

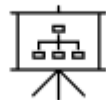


VIRTUAL POWER PLANT

SOUTH AUSTRALIA HOUSING TRUST INITIATIVE

- South Australia Housing trust installed 1100++ solar-storage residential systems on Housing Trust Tenant Properties across the region
 - Housing Trust Tenants do not own the assets – no up-front costs
- Housing Trust Tenants sign up for a tailored Virtual Power Plant retail Energy Offer (Energy Locals is Retailer)
- Even those Tenants without solar+ storage can access the same VPP Retail Energy Offer (~290 customers)

Housing Trust Customers in the VPP Access the Lowest Available Residential Rate in South Australia – 20% Lower than the statewide Default Market Offer



SMART HOMES AT EASTON PARK

DRIVEN BY UTILITY TECHNOLOGY APPROVALS

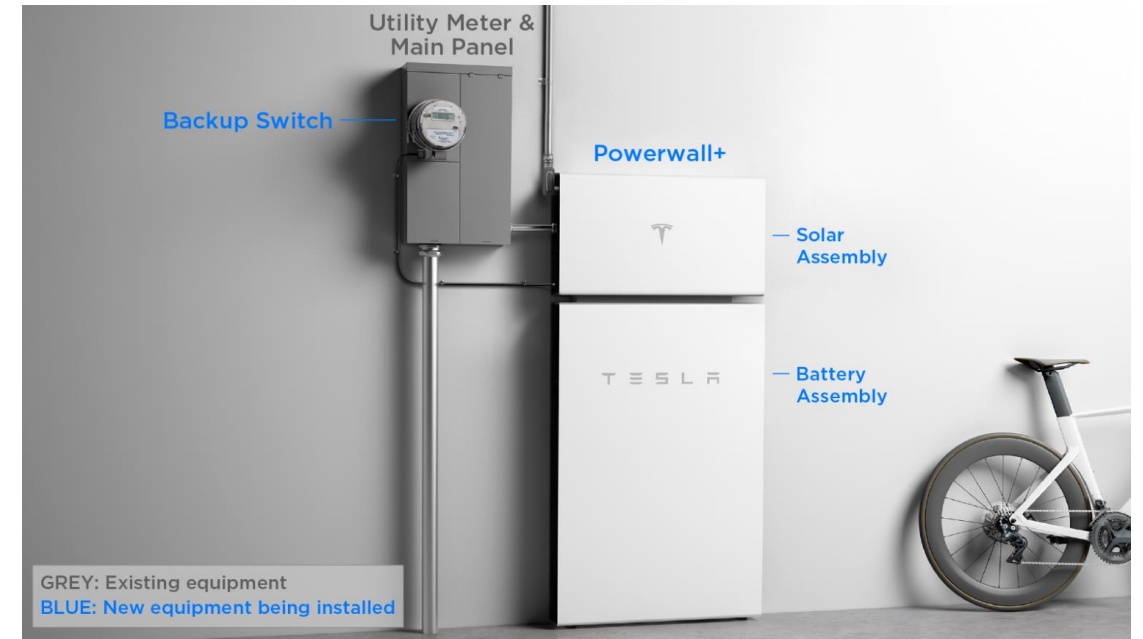


SMART HOMES AT EASTON PARK

DRIVEN BY UTILITY TECHNOLOGY APPROVALS



Old Way

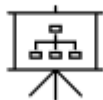


New Way

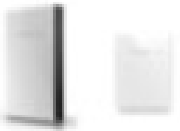
SMART HOMES AT EASTON PARK

PROJECT MILESTONES & ENABLERS

- 06/09/2021
 - First *Powerwall* + Install in Utility service territory
- 09/30/2021
 - TSLA *Backup Switch* Approval + Install Guidelines Issued by Utility
 - TSLA immediately begins providing \$500 Point-of-Sale Discount for all PV+ Powerwall Purchases in Utility Service Area
- 10/14/2021
 - First 9 Solar Roofs Installed in Easton Park new homes
- 10/18/2021
 - First TSLA Backup Switch & Powerwall + Installs in Easton Park



SMART HOMES IN AUSTIN ENERGY

Technology	Customer Value	Utility Programs
Can Install		
 Solar Roof  Retrofit Solar	Resi Self- Generation Compensation	Value of Solar Credit (Austin Energy) Net Energy Meter Credit (Other-US)
 Powerwall 2.0 + Backup Gateway	Resi Self- Consumption Compensation Residential Grid Services Compensation	TBD in Austin Energy: Storage Time of Use Rate/Critical Peak Rate TBD in Austin Energy – Grid Services Program
Cannot Install		
 Powerwall +  Backup Switch	Customer Experience Customer Savings Simplicity in Operations	TBD in Austin Energy – Interconnection & Metering Approvals for both Technologies

SMART CITIES: PROGRAM & TECHNOLOGY ACCELERATION

OPINION

Now is the time for regulatory sandboxes in energy and utilities

Published Oct. 22, 2021

By Brien J. Sheahan



Brian Tucker/Utility Dive

The following is a contributed article by Brien J. Sheahan, former Chairman and CEO of the Illinois Commerce Commission, and former chairman of the National Association of Regulatory Utility Commissioners' Presidential Task Force on Innovation.

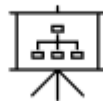
"Energy-specific sandboxes must be carefully and thoughtfully designed, and ... there are good arguments for ... target[ing] the energy industry, particularly the power sector. The energy system is transforming toward a largely distributed and renewables-based future that will require an updated regulatory framework. Trialing some targeted policy changes now, at limited scale, will help ensure that the rules governing the system keep pace with the energy transformation."

[Guidehouse](#)

R E S I D E N T I A L E V P L U G - I N C H A R G I N G

The residential EV rate(s) should

- align with the marginal costs across generation, transmission, and distribution sectors as much as possible
- reflect policy goals as accurately and transparently as possible
- encourage outcomes by influencing end-users' decision making and incentivizing customers to consume at optimal time periods
- convey price signals to end-users in a simple and easy-to-follow manner
- be based on economic sustainability, rate stability and gradualism
- promote energy access and affordability
- apply to whole houses instead of being exclusively for EVs through a separately metered EV charging requirement
*(if customer also has solar/storage on site)



RESIDENTIAL PLUG-IN EV RATE DESIGN

GEORGIA POWER AND COBB EMC

Georgia Power Plug-In Vehicle Rate



Cobb EMC NITEFLEX



RENEWABLE MICROGRIDS

COMMUNITY-OWNED UTILITY OWNERSHIP

Battery-Powered Microgrid Models	Modes of Operation
Backup Batteries (Stationary or Mobile)	Batteries power loads directly; No other generation operating in parallel
Off-Grid Microgrid	Battery + Other Generators (Diesel, Solar etc.); no grid power connection; all operate in parallel
Grid-Tied Microgrid	Battery + Solar + optional Generator[s] + Grid (Battery & Solar operate together when on-grid); All operate in parallel when off-grid

Microgrid Benefits	Duration of Need at Single Site
Energy market risk reduction	Years
Distribution Deferral	Years
C&I temporary interconnection requirement	Years
Planned distribution outages	Hours to months
Natural disaster outages; Mobile Solutions	Hours to months
Daily energy shifting between sites	One day

FUTURE AREAS OF INQUIRY FOR CUSTOMERS

- What changes are required to send a price signal to customers for adoption of more demand response and storage?
- Can Austin aggregate customers and resources to build its own Virtual Power Plant?
- Without changing the current ERCOT rules, what recommendations can be made to the City to allow customers to access and benefit from demand-side technology?
- How can demand-side electrification benefit Austin's fiscal goals?
- How do Austin area utilities' resiliency/electrification plans enhance and serve broader City objectives for climate mitigation, public health and safety?
- What enhancements can be made to the **Austin Energy Resource, Generation and Climate Protection Plan to 2030** to incorporate diversified, technology-oriented demand-side programs that compensate Austin Energy customers for all potential contributions to resiliency?

APPENDIX

DEMAND SIDE ENERGY RESILIENCY – AUSTIN’S GOALS

Health, Safety, Welfare Objectives – Austin Climate Equity Plan

Austin Energy Resource, Generation and Climate Protection Plan

Austin Energy Roadmap

Statewide Grid Resiliency/Reform (Senate Bill 2, 3)

Storm Response Findings

Public Surveys

#CommunityPowered Utility – Resiliency Programs Easier to Implement without ERCOT Reforms

SOLAR + STORAGE: RESIDENTIAL

SACRAMENTO MUNICIPAL UTILITY DISTRICT

Solar and Storage Rate proposal

All existing solar customers will continue to get the current NEM 1.0 rate and its benefits through 2030.

Rate proposal	Rate effective date	Customer groups impacted
Solar and Storage Rate	January 1, 2022	All Solar and Storage customers approved for interconnection on or after 1/1/2022

- Will accelerate storage adoption and transform the market from solar only to solar and storage.
- Will benefit all our customers and help SMUD achieve the 2030 zero carbon goal at a lower cost by partnering with our customers.
- Excess power can be sold back to SMUD for 7.4¢/kWh no matter the time-of-day or season.
- SMUD will reevaluate this value every 4 years (2026 & 2030) and the value will not be revised more than +/- 30%.
- Staff will implement an interconnection fee of \$475 for a majority of new residential solar applications effective January 1, 2022.

September 16, 2021

4

Board of Directors Meeting



Excess power sold back to SMUD for 7.4 ¢/kWh

What makes up the 7.4¢/kWh?

- Recognizes value customers' energy provides to SMUD by reducing the need to generate power from a power plant.
- Avoids the following power generation related costs:



- Carbon / greenhouse gases
- Natural gas
- Capacity (transmission, distribution & generation)



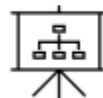
SMUD is recognizing rooftop customers' excess energy provides a **unique indirect benefit of avoiding disturbing** land for a utility size solar plant.

For more details, please see the Changes to Net Energy Metering section in the GM Report.

September 16, 2021

5

Board of Directors Meeting



SOLAR + STORAGE: RESIDENTIAL

VALUE ALL BENEFITS & DIVERSIFY PROGRAMS

\$25M storage incentive program

Type	 Battery Storage	 Battery Storage + Residential Critical Peak Pricing	 Battery Storage + Virtual Power Plant Partner
Incentive	Up to \$500	Up to \$1,500	Up to \$2,500
Benefits	- Customer uses stored energy when power is most expensive - Reduces SMUD's peak load - Battery provides backup power during an outage	Battery storage benefits	- Battery storage benefits - SMUD pays an ongoing payment for participating in the program - VPP partner shares stored energy with other customers when called upon

September 16, 2021 9 Board of Directors Meeting

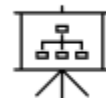


Optional residential Critical Peak Pricing (CPP) rate

Who can participate?	 Customers with smart thermostats  Customers with solar and storage  Customers with storage only  Customers with solar only
What?	- In times of extreme grid stress, SMUD declares a Critical Peak Pricing "event." - SMUD asks customers to conserve energy and use batteries (where applicable). - Opted-in customers pay more during "events" in exchange for a discount on summer Off-Peak and Mid-Peak hours.
When?	 - June, July, August, September 1 to 4 hours per event with advance notice - No more than 50 hours per summer
Why?	- Conserves energy & reduces stress on grid during peak events, helping make energy available for others. - Reduces need for energy from less environmentally friendly power plants. - Opted-in customers receive discount rate during summer Off-Peak and Mid-Peak hours.

September 16, 2021 6 Board of Directors Meeting





Renewable Microgrids



RENEWABLE MICROGRIDS CLEAN & RELIABLE ENERGY FUTURE

Examples

- Santa Barbara Unified School District – Solar Microgrids
- Redwood Coast Energy Authority (Municipal) Airport Microgrid

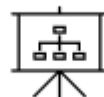
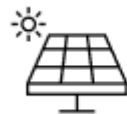
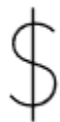
VIRTUAL POWER PLANT

RESIDENTIAL STORAGE EXPORTS TO GRID

GREEN MOUNTAIN POWER



100% Performance Score in Regulation Service to ISONE
Enrollment Goal of 1800 Homes ~ 3,000 Residential Batteries



Draft Resolution/Recommendation for November 16, 2021 RMC

Whereas the Austin City Council unanimously approved the 2030 Austin Energy Generation Plan in March of 2020, which commits Austin Energy to a zero-carbon goal by 2035;

Whereas a key strategy of the 2030 Plan, as well as previous plans such as the 2014 and 2017 Generation Plans, was to commit Austin Energy to cease the burning of coal at the portion of the Fayette Coal Plant owned by Austin Energy by the end of 2022:

Whereas Austin Energy has been working on negotiating a solution with the Lower Colorado River Authority, which co-own the plant for several years;

Whereas Austin Energy, after consulting with City Council, officially announced on November 1st, 2021 that it had been unable to reach a reasonable and beneficial agreement with LCRA on how to assure retirement of either one unit at Fayette, or a virtual retirement of the approximately 600 MWs of coal owned by Austin Energy by the end of 2022;

Whereas emissions of carbon dioxide from the Fayette Power Plant account for approximately 80% of the emissions controlled by Austin Energy and there is no way to meet the goals of the Austin Energy 2030 Resource Plan without ending our use of coal;

Whereas on November 8th, the Electric Utility Commission (EUC) voted to form its own Fayette Power Plant Resource plan working group, with an option to collaborate with the RMC if it forms a similar working group;

Therefore, Resolved, the Resource Management Commission forms a Fayette Power Plant Resource Plan Working Group that will collaborate with Austin Energy and the Electric Utility Commission to explore options for reducing and ending our use of coal as soon as possible, including, but not limited to:

Continued negotiations with the LCRA to either shut down a unit at Fayette, or virtually shut down the equivalent amount of coal-fired power plants through running the unit less by the end of 2022, or another date in the near future, such as 2023 or 2024;

Expanded use of REACH to bid into the market at a higher price, and therefore reduce the use of coal;

Expansion of zero-carbon resources such as solar and storage at or near the Fayette plant to help in the transition away from coal sooner.

Resolved, the RMC working group can meet in person or virtually with members of the EUC to discuss these options, and jointly consider solutions.

Resolved, the Fayette Power Plant Resource Plan working group will present recommendations to the full RMC for possible action no later than the March 2022 Commission meeting.

**DRAFT RESOLUTION FOR COST-EFFECTIVENESS
OF TEXAS GAS SERVICE CONSERVATION PROGRAMS**

WHEREAS, energy-efficiency programs should be designed to save energy at less than the cost of purchasing it; and

WHEREAS, with the exception of the low-income weatherization program, all of Austin Energy's 18 other energy-efficiency programs are cost effective, with a positive economic Benefit/Cost ratio for Total Resource Cost; and

WHEREAS, several of the energy-efficiency incentive programs operated by Texas Gas Service are not cost effective, resulting in imprudent expenditures billed to Residential ratepayers in Central Texas of as much as \$1.9 million a year, or about \$8 a year per customer; and

WHEREAS, the flat-rate Conservation Adjustment Clause that is currently funding the Texas Gas Service energy-efficiency programs is regressive. This regressive rate has a detrimental impact on the poor and discourages energy conservation compared to fees imposed on the volume of gas consumed; and

WHEREAS, a rate to fund conservation programs that is renewed every year rather than every three years is likely to be more sensitive to market changes and necessary program adjustments;

THEN BE IT RESOLVED, that the Resource Management Commission make the following recommendations to the Austin City Council.

1. No energy-efficiency incentive program run by Texas Gas Service should have a Benefit/Cost ratio for Total Resource Cost lower than 1.0 unless the programs are designated specifically for low-income customers or are pilot programs lasting no longer than one year.

Cost effectiveness tests will be conducted by the staff that Austin Energy designates to conduct cost-effectiveness for its own energy efficiency programs, with reimbursement from Texas Gas Service for City staff time.

Programs that currently fail this Benefit/Cost benchmark include incentives in both existing and new Residential buildings for high-efficiency central furnaces, tankless water heaters, and gas clothes dryers that replace gas clothes dryers.

2. Beginning in 2021, the Texas Gas Service Conservation Adjustment Clause should be funded by a one-year tariff instead of a three-year tariff.

3. Beginning in 2021, the Texas Gas Service Conservation Adjustment Clause should be funded by a surcharge on each unit of gas sold and not as a flat regressive monthly fee.

4. Beginning in 2022, Texas Gas Service should make the cost of all of its individual incentives transparent to the greatest extent possible while still protecting customer privacy.

**DRAFT RESOLUTION FOR ESTABLISHMENT OF
COMMUNITY BENEFIT CHARGE FOR TEXAS GAS SERVICE**

WHEREAS, Texas Gas Service and the other gas utilities that serve Austin have no effective plan for use of low-carbon fuel; and

WHEREAS, many types of biogenic gas such derived from landfills and composting are not cost-effective compared to current gas prices for utility use, and serve as a diversion to pursue other gas alternatives; and

WHEREAS, Research & Development are necessary to create “solar fuel” alternatives derived from wind and solar energy; and

WHEREAS, there are gas utilities currently making R&D investments in low-carbon alternatives; and

WHEREAS, Texas Gas Service and the other gas utilities that serve Austin are not spending the amounts of money necessary to assist a substantial number of low-income customers with their bills; and

WHEREAS, Austin Energy and Austin Water spend substantial amounts of money to provide equity in utility costs; and

WHEREAS, equity in utility costs is one on the City of Austin’s core community values, and

WHEREAS, Austin Energy has a Community Benefit Charge that includes clean energy funding as well as low-income assistance;

THEN BE IT RESOLVED, that the Resource Management Commission make the following recommendations to the Austin City Council.

1. The City of Austin, as Texas Gas Service’s primary regulator within the city limits, establish a Community Benefit Charge for the gas company that funds cost-effective energy-efficiency programs, R&D for solar fuels; and customer assistance to income-qualified low-income customers.

2. Some of the money saved by elimination of funding for Residential energy-efficiency programs that are not cost effective be used to fund this Community Benefit Charge; and a similar Charge for Commercial and Industrial customers be established.

3. The City of Austin should begin the process of establishing a Community Benefit Charge for its customers of the other gas utilities that serve the Austin city limits, as well as identifying appropriate programs that will be funded in their service areas.

4. The City's Office of Sustainability or Austin Energy's Technology office will direct the expenditure of solar fuel R&D funds collected through this Charge.

5. Texas Gas Service will coordinate with the managers of Austin Energy's Customer Assistance Program to reduce administrative costs and duplication of efforts for its bill assistance program.

6. The Community Benefit Charge will be funded by a one-year tariff that is annually approved by City Council.



Natural Gas Energy Efficiency Pilot Proposal

Austin, TX

Resource Management Commission
November 16, 2021

Purpose of Pilot

CenterPoint Energy proposes to introduce targeted program offerings that will deliver cost-effective energy savings, promote awareness of energy conservation, and provide customers in Austin Texas with opportunities to reduce natural gas usage in their homes and businesses.

- **Specific Objectives**

- Reduce end-use natural gas consumption to conserve resources and improve affordability of energy;
- Provide environmental benefits by influencing the use of energy efficient equipment and technology that reduces carbon dioxide emissions and other greenhouse gases; and
- Promote energy-conscious attitudes and behaviors that support energy conservation and sustainability

Pilot Development

The Pilot is designed with a “Quick-Start” approach and offers programs that can be implemented with minimal budget and complexity while still providing cost-effective energy-savings opportunities to customers.

- **Factors Evaluated in Pilot Design**
 - Identify programs best suited for a small-scale pilot
 - Develop measure level energy savings
 - Develop cost projections
 - Evaluate cost-effectiveness
 - Determine the most effective marketing and delivery channels
- **Proposed Program Offerings**
 - Prescriptive Equipment Rebates
 - DIY Home Conservation Improvement Products
 - Commercial Direct Install Equipment

Pilot Plan Summary

- **Projections**

- Budget: \$20,114
- Annual Energy Savings: 9,581 Ccf
- Net Economic Benefits: \$41,616

- **Implementation Period**

- Twelve-month pilot (January 2022 – December 2022)

- **Funding**

- The Company seeks to recover program costs concurrently with implementation of the pilot through a ratepayer funded mechanism.

High Efficiency Equipment Rebates



Description

The High-Efficiency Equipment Rebates program is designed to promote energy-efficient solutions to residential, and commercial customers by offering incentives for the purchase and installation of new high-efficiency natural gas equipment.

- ### Eligible Equipment

Equipment	Efficiency	Customer Rebate
Natural Gas Force Air Furnace	95% AFUE or Higher	\$600
Natural Gas Tankless Water Heater	.87 UEF or Higher	\$350
Natural Gas Storage Tank Water Heater	.70 UEF or Higher	\$100
Smart Thermostat	ENERGY STAR Qualified	\$50

- ### Program Projections

- Budget: \$10,500
- Annual Energy Savings: 2,306 Ccf
- Net Economic Benefits: \$18,854
- Participating Customers: 40

Home Conservation Improvement Products



Description

CenterPoint Energy's Home Conservation Improvement Products program will provide free water and energy saving equipment to residential customers.

- **Eligible Equipment**
 - Low-Flow Showerheads
 - Low-Flow Kitchen Faucet Aerators
 - Low-Flow Bathroom Faucet Aerators
- **Program Projections**
 - Budget: \$2,989
 - Annual Energy Savings: 890 Ccf
 - Net Economic Benefits: \$3,853
 - Participating Customers: 65

Description

The Commercial Direct Install Program is a turn-key equipment replacement program that will offer energy saving equipment to commercial facilities.

- **Eligible Equipment**
 - Low-Flow Aerators
 - Pre-Rinse Spray Valves
- **Program Projections**
 - Budget: \$6,625
 - Annual Energy Savings: 6,386 Ccf
 - Net Economic Benefits: \$18,909
 - Participating Customers: 4-5



Resource Management Commission 2022 Meeting Schedule

The Resource Management Commission meets monthly on the **third** Tuesday of the month, unless otherwise determined by the Commission. Meetings are held at 6:00 p.m. in the Shudde Fath Conference Room at Austin Energy Corporate Headquarters, 4815 Mueller Blvd., Austin, TX. Changes to the above regarding date, time or location will be noted on meeting agendas.

MEETING DATES	CANCELLED DATES
January 18, 2022	
February 15, 2022	
March 22, 2022	March 15, 2022*
April 19, 2022	
May 17, 2022	
June 21, 2022	
July 19, 2022	
August 16, 2022	
September 20, 2022	
October 18, 2022	
November 15, 2022	
	December 20, 2022*

*Due to Spring Break

**Due to no subsequent Council Meetings in 2022 / holiday week