2016 Resource Plan Update – Final Recommendation
Electric Utility Commission Resource Planning Working Group

June 22, 2017

2014 Resource Plan (Progress to date)

- 55% renewables by 2025 (30%-2016, 45% as of May 2017 YTD)
- 900 MW Demand Side Management by 2025 (578MW)
  - 700 MW energy efficiency by 2020
  - Demand Response
    - 100 MW by 2020 and additional 100 MW by 2025 (54MW)
- 950 MW solar by 2025
  - 110 MW Local Solar by 2020 and additional 90 MW by 2025 if affordable (74 MW)
  - 750 MW Utility Scale Solar by 2025
    - 275.5 MWs Operational with E. Pecos (Bootleg) of 118 MW Commercial on 4/5/2017
    - 320 MW under contract
- CO2 emissions
  - 20% reduction from 2005 levels by 2020
  - Retirement of Fayette Coal Plant beginning in 2023 (in progress)
- Affordability
  - 2% limit per year (met)
  - Rates should be in the lower 50th percentile statewide (slightly above trending lower)
- 10 MW (lithium ion batteries) local storage by 2025 + 20 MW of thermal storage (17MW Thermal/3 MWe in progress)
- Retire Decker steam units by 2019 and replace with 500 MW efficient combined-cycle – subject to a third party study (complete)

EUC Resource Planning Working Group

EUC
Karen Hadden – EUC Chair & Working Group Chair
Brent Heidebrecht–EUC Vice Chair
Michael Osborne – Member EUC
Cary Ferchill– Member EUC

RMC
Leo Dielmann – RMC Chair
Cyrus Reed –RMC Vice Chair & Lone Star Sierra Club Representative
Kaiba White – Member RMC & Public Citizen Representative
Suzanne Vaughn – Member RMC

Industrial Customer Representatives
Todd Davey – NXP, Manager Corporate Services - Global Procurement
Betty Dunkerley – Hospital/large Commercial Representative

Other Community Members and Representatives
Paul Robbins – Environmentalist & Low Income Advocate
Bob Batlan – Low Income Representative
Janee Briesemeister – Low Income Advocate/Residential Customers
Carlos Castañeda – Attorney /Community Member
Rebecca Melancon - AIBA /small and midsize commercial customers
Richard Halpin – Austin Interfaith Energy Group

EUC Resource Plan Working Group Recommendations

- **Affordability**: the recommendations are subject to the affordability goals, which includes an average 2% limit on rate increases system wide and a goal for rates to be in the lower 50th percentile statewide.

- The Working Group made recommendations on several AE programs:
  - Generation
  - Local Solar
  - Energy Efficiency & Demand Response
  - Process
  - Electric Vehicles

EUC Resource Plan Working Group Recommendations

Generation

- **Renewable Energy Target:** Commit to 65% renewable energy by the end of 2027, and study the possibility of a 75% and 80% goal for 2027.
- **Decker Power Plant:** Target ceasing operations and beginning retirement of the Decker steam units, assuming ERCOT approval:
  - Steam Unit 1 after summer peak of 2020
  - Steam Unit 2 after summer peak 2021
- **Fayette Coal-Fired Power Plant:** Affirm the previous goal, established in 2014, to begin the retirement of Austin Energy's portion of the Fayette Power Project (FPP), beginning by the end of 2022.

Recommendations - Continued

Local Solar:

- Maintain Existing Local Solar Goals:
  - 110 MW by the end of 2020 (at least 70 MW customer-sited)
  - 200 MW by the end of 2025 (at least 100 MW customer-sited)

- Local Solar Incentive Budgets:
  - Commit to $7.5 million per year for FY18 and FY19
  - Commit to $5 million per year for FY20-FY27

- Additional Local Solar Policies and Programs:
  - Commit to enhanced incentives and/or programs for affordable housing projects by FY 2018.
  - Study and possibly pilot a utility managed rooftop solar program that requires no investment from customer participants.

Recommendations Continued

Energy Efficiency (EE) & Demand Response (DR):

- Maintain existing goal of achieving at least 800 MW of EE & DR by 2020.
- Commit to 1,000 MW by 2027, subject to any methodology changes pursuant to the measurement and verification (M&V) consultant recommendation, code and manufacturer standards, technology, budgets and analysis of progress to date. The 2027 goal will be reevaluated by Austin Energy upon completion of the (M&V) study. Austin Energy will also assess the potential to reach 1100 MW by 2027.

Recommendations Continued

- Austin Energy will:
  - Budget at least 2.5% gross revenues to Demand Side Management Austin Energy will work with stakeholders to make future goals ‘budget based’ rather than MW based as has been done in the past.
  - Commit to achieving a target of at least 1% of energy savings
  - Commit to directing at least 15% of total DSM budget to existing and potential programs for low income and hard to reach markets in the multifamily and single family areas along with small businesses.

Process Recommendations

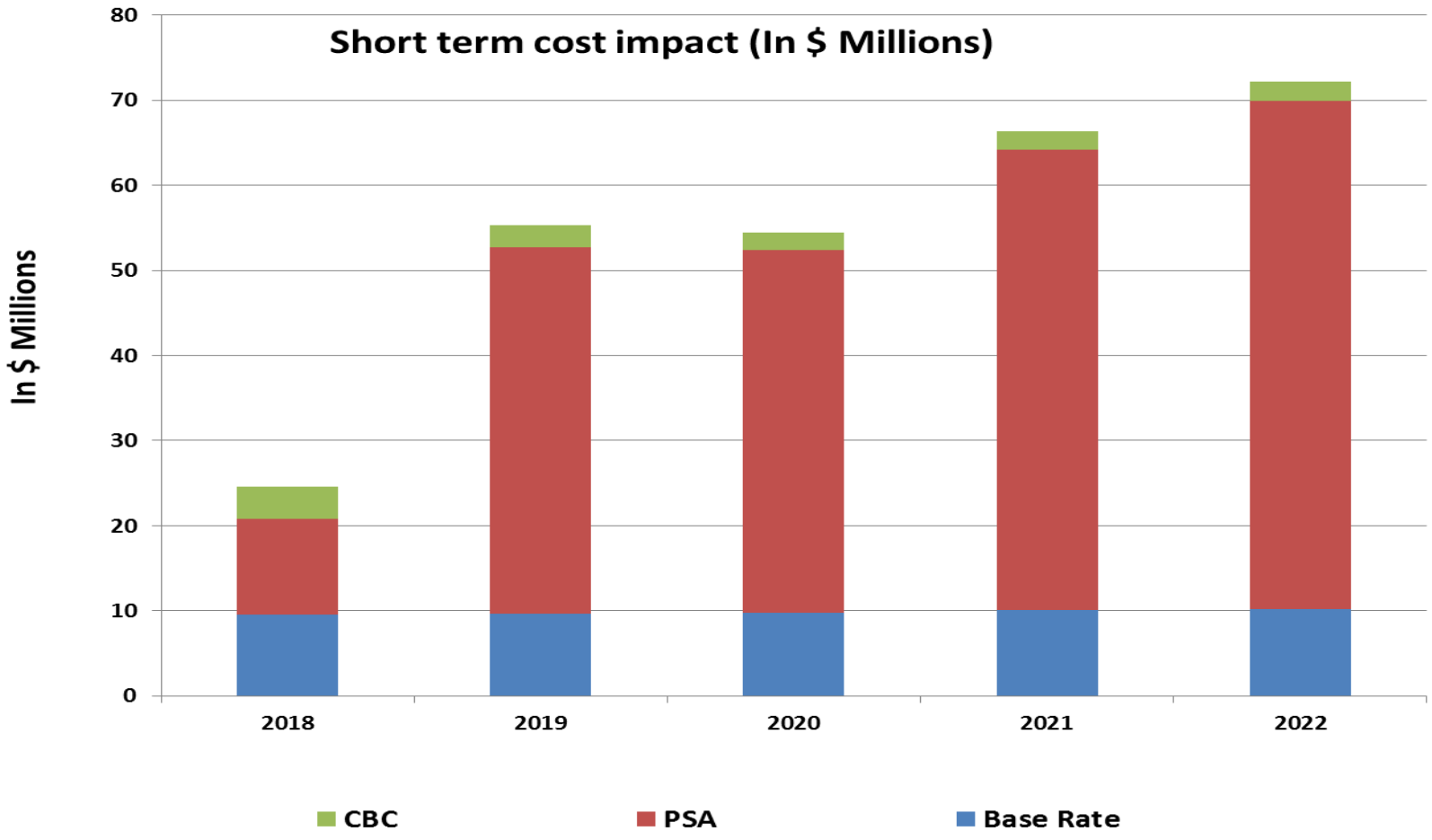
Updates:

- Conduct resource plan updates in advance of cost of service studies every five years, unless significant changes in technology or market conditions warrant more frequent updates. Austin Energy will rerun cost analysis for the existing plan and provide an update on progress towards reaching established goals every two years. Reports will be provided to the City Council, the Electric Utility Commission and the Resource Management Commission.

Process Recommendations continued

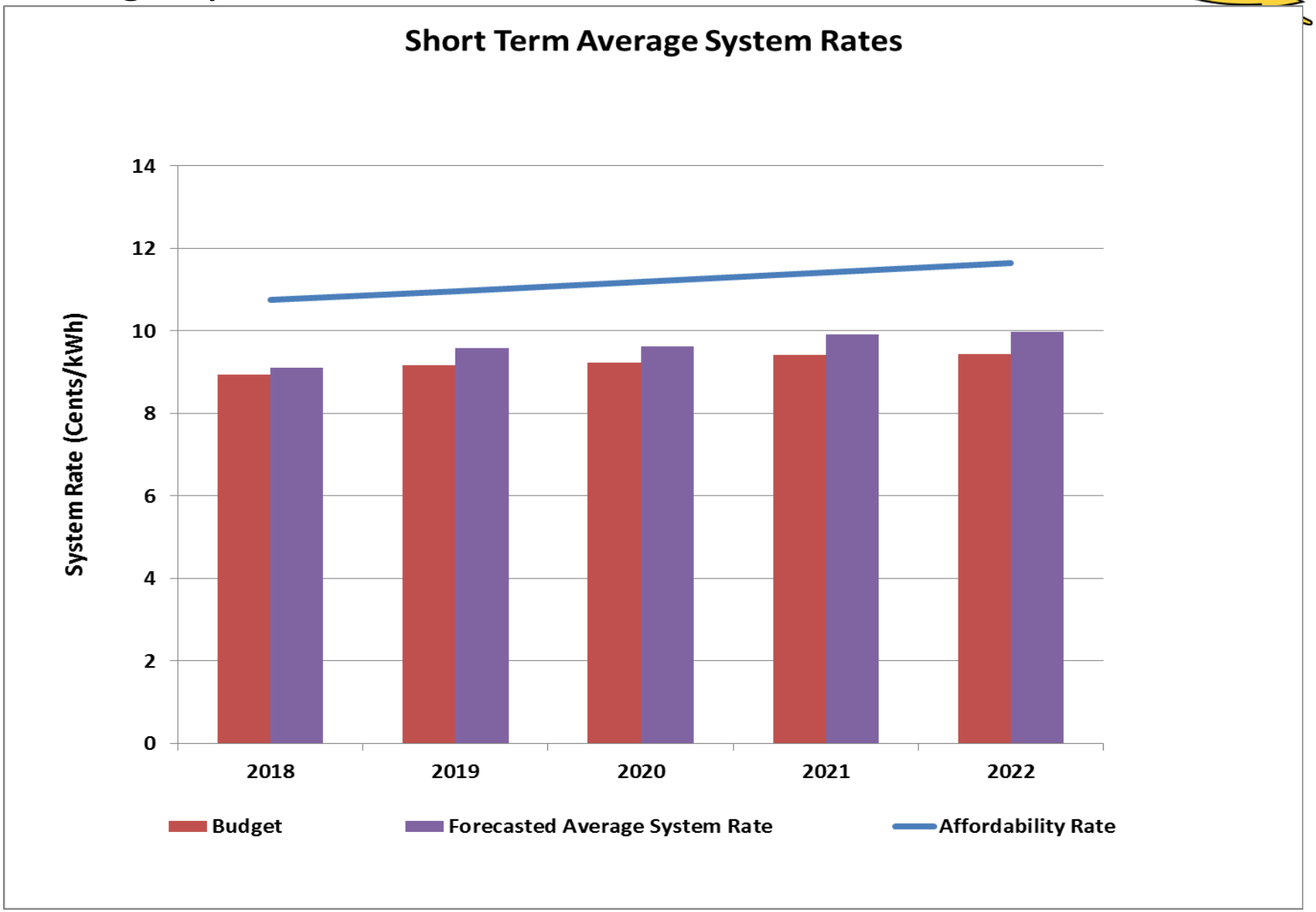
- The plan does not designate the components of the renewable portfolio. Instead, Austin Energy should plan for least-cost and least-risk acquisition of renewable resources. Austin Energy should propose and develop the optimal renewable portfolio to meet this plan's goals and the utility's needs given existing generation assets, market conditions and the needs of the utility.
  - Austin Energy should explore both long-term and flexible short-term renewable energy contracts to provide affordable renewable solutions for Austin Energy customers.
  - Specific investment goals are for energy efficiency, demand response, local solar and energy storage

Cost Impact



- Base rate increase is due to Decker Depreciation, Debt Pay off, Distribution Costs for local Solar, Capital for Battery
- PSA increase is due to the impact of upcoming renewable projects as part of 2014 Plan, change in market conditions
- Community Benefit Charge (CBC) increase is due to the change in budget for DSM
- These costs might change depending upon the outcome of the retirement of FPP , its regulatory treatment of the outstanding debt and depreciation requirements

Average System Rates



Long term impact

20 Year Net Present Value (NPV) Without CO2				
Scenario Description	**Delta (w.r.t Current Generation Mix)**	**Expected NPV$ Cost**	**2027 Renewable % of Load**	*** % Change (w.r.t Current Generation Mix)**
Current Generation Mix	**$0**	$8,600	37%	0%
Current Generation Mix + Meet Renewable Goals Using RECs	**$37**	$8,637	37%	0%
EUC RPWG Recommendations	**$630**	$9,230	65%	7%
Council Goals	**$588**	$9,188	55%	7%

Summary

- The recommendation of the 2016 Update are measured, incremental and with the exception of the Decker retirement have little increased costs to the present plan
- The risk presented by retiring Fayette is large and singular in nature. The plan needs to remain flexible to accommodate this risk
- We are currently making good progress towards our 2025 goals, the cost of renewable energy continues to come down and Austin Energy plans to continue towards these goals in a measured and responsible manner as well as achieving the 2027 recommended goals.

Summary continued

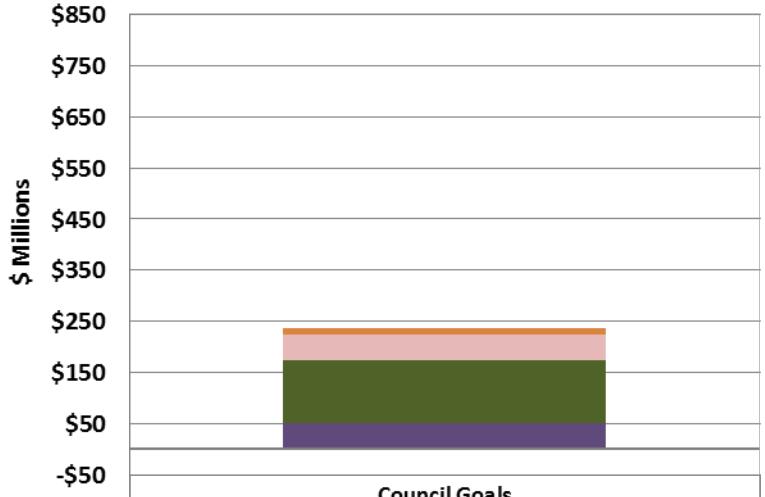
- Austin Energy will have to manage the amount of PPAs in its portfolio as well as the financing required for the potential build of new renewable projects
- We are far ahead of the rest of the market with our investment in renewable energy and energy efficiency. In the event a federal cost for CO2 becomes a reality over the next decade our customers may be well positioned to benefit
- Moving towards budget based goals for customer programs lowers the rate risk to our customers over the long term.

Appendix

Cost of Achieving Council Goals from Current Generation Mix

- Council goals include
  - Ramp down & exit FPP in 2023
  - Retire Decker in 2021
  - Add renewables to meet goals which includes 200 MW local solar
  - Upgrade Austin Energy transmission system to accommodate decker retirement
- The cost of achieving council goals is the delta above the current generation mix (do nothing) scenario and does not factor the FPP debt/Operations & Maintenance (O & M) cost

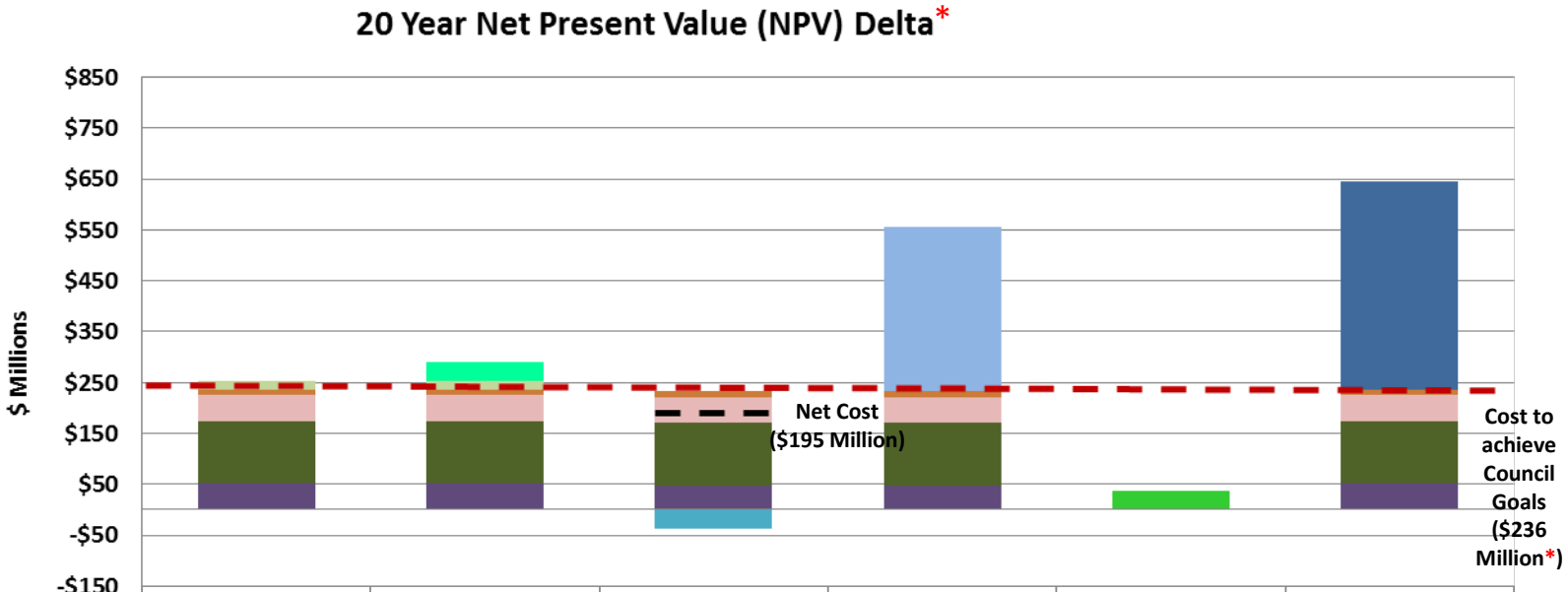
20 Year Net Present Value (NPV) Delta*



	Council Goals
Net cost for 10 MW Battery	$12
Decommissioning cost	$51
Net cost for 55% renewables	$123
Reduction in Load Zone benefits	$48
Transmission upgrades	$3

**** This does not include the cost impact of retiring AE assets due to confidentiality reasons***

Other results



	65% Renewables	75% Renewables	Add GTs	Add CC	Meet renewable goals through RECs	300 MW CAES
Net cost for CAES						$408
RECs Cost					$37	
Net cost for 75% renewables		$37				
Net cost for 65% renewables	$17	$17				
Net cost for CC				$323		
Net cost for GTs			-$38			
Net cost for 10 MW Battery	$12	$12	$12	$12		$12
Decommissioning cost	$51	$51	$51	$51		$51
Net cost for 55% renewables	$123	$123	$123	$123		$123
Reduction in Load Zone benefits	$48	$48	$48	$48		$48
Transmission upgrades	$3	$3				$3

**** This does not include the cost impact of retiring AE assets due to confidentiality reasons***