



**Customer Driven.  
Community Focused.<sup>SM</sup>**

## AGENDA

### **Electric Utility Commission Resource Planning Working Group Meeting**

Date: February 27, 2020

Time: 4:00 pm – 6:00 pm

Location: Town Lake Center, Room 100

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**Safety Moment** (5 minutes)

**Citizen Communication** (15 min)

**Resource Plan 2030 Goals** (100 minutes)

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**Questions from Kaiba White**

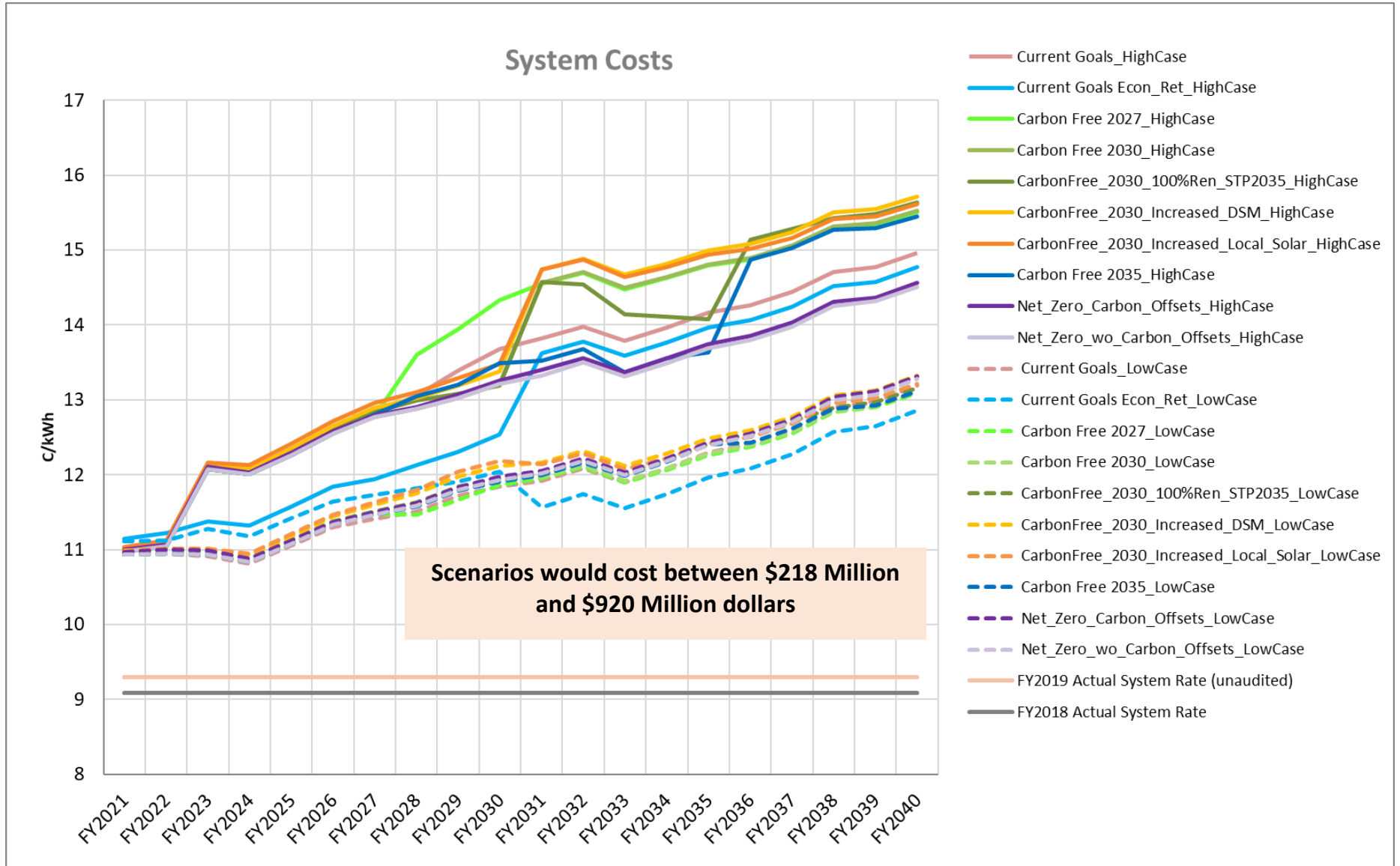
1. A table and a graph that both show how the "system rate ranges" shown on slide 10 of the January 30 presentation compare to the affordability goal (2% average system rate increase). A table and a graph that both show "system rate ranges" shown on slide 10 of the January 30 presentation compare to a hypothetical goal of not increasing total system rates by more than 2% in any year.

*Tables below show the percentage of system rate increases and system cost increases in millions of dollars required for all scenarios.*

| <b>System Cost Increase from FY2019 Actual (%)</b> | <b>FY2021</b> | <b>FY2022</b> | <b>FY2023</b> | <b>FY2024</b> | <b>FY2025</b> | <b>FY2026</b> | <b>FY2027</b> | <b>FY2028</b> | <b>FY2029</b> | <b>FY2030</b> | <b>FY2031</b> | <b>FY2032</b> | <b>FY2033</b> | <b>FY2034</b> | <b>FY2035</b> | <b>FY2036</b> | <b>FY2037</b> | <b>FY2038</b> | <b>FY2039</b> | <b>FY2040</b> |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Current Goals_HighCase                             | 18%           | 19%           | 30%           | 29%           | 32%           | 35%           | 38%           | 40%           | 44%           | 47%           | 49%           | 50%           | 48%           | 50%           | 52%           | 53%           | 55%           | 58%           | 59%           | 61%           |
| Current Goals Econ_Ret_HighCase                    | 20%           | 21%           | 22%           | 22%           | 24%           | 27%           | 28%           | 30%           | 32%           | 35%           | 46%           | 48%           | 46%           | 48%           | 50%           | 51%           | 53%           | 56%           | 57%           | 59%           |
| Carbon Free 2027_HighCase                          | 18%           | 19%           | 30%           | 29%           | 32%           | 35%           | 37%           | 46%           | 50%           | 54%           | 56%           | 58%           | 56%           | 57%           | 59%           | 60%           | 62%           | 64%           | 65%           | 67%           |
| CarbonFree_2030_Gas_PhaseOut_HighCase              | 18%           | 19%           | 30%           | 29%           | 32%           | 35%           | 37%           | 41%           | 43%           | 46%           | 57%           | 58%           | 56%           | 57%           | 59%           | 60%           | 62%           | 65%           | 65%           | 67%           |
| Carbon Free 2030_HighCase                          | 18%           | 19%           | 30%           | 29%           | 32%           | 35%           | 37%           | 38%           | 40%           | 42%           | 57%           | 58%           | 56%           | 57%           | 59%           | 60%           | 62%           | 65%           | 65%           | 67%           |
| CarbonFree_2030_100%Ren_STP2035_HighCase           | 18%           | 19%           | 30%           | 30%           | 33%           | 36%           | 38%           | 40%           | 41%           | 42%           | 57%           | 56%           | 52%           | 52%           | 51%           | 63%           | 64%           | 66%           | 66%           | 68%           |
| CarbonFree_2030_Increased_DSM_HighCase             | 18%           | 19%           | 31%           | 30%           | 33%           | 36%           | 39%           | 40%           | 42%           | 44%           | 59%           | 60%           | 58%           | 59%           | 61%           | 62%           | 64%           | 67%           | 67%           | 69%           |
| CarbonFree_2030_Increased_Local_Solar_HighCase     | 19%           | 20%           | 31%           | 30%           | 34%           | 37%           | 39%           | 41%           | 43%           | 45%           | 59%           | 60%           | 57%           | 59%           | 61%           | 61%           | 63%           | 66%           | 66%           | 68%           |
| Carbon Free 2035_HighCase                          | 18%           | 19%           | 30%           | 29%           | 32%           | 35%           | 38%           | 40%           | 42%           | 45%           | 45%           | 47%           | 44%           | 46%           | 47%           | 60%           | 62%           | 64%           | 64%           | 66%           |
| Net_Zero_Carbon_Offsets_HighCase                   | 18%           | 19%           | 30%           | 29%           | 32%           | 35%           | 38%           | 39%           | 41%           | 43%           | 44%           | 46%           | 44%           | 46%           | 48%           | 49%           | 51%           | 54%           | 55%           | 57%           |
| Net_Zero_wo_Carbon_Offsets_HighCase                | 18%           | 19%           | 30%           | 29%           | 32%           | 35%           | 37%           | 38%           | 40%           | 42%           | 43%           | 45%           | 43%           | 45%           | 47%           | 48%           | 50%           | 53%           | 54%           | 56%           |
| Current Goals_LowCase                              | 18%           | 18%           | 17%           | 16%           | 19%           | 21%           | 23%           | 24%           | 26%           | 27%           | 28%           | 30%           | 28%           | 30%           | 32%           | 34%           | 36%           | 39%           | 40%           | 42%           |
| Current Goals Econ_Ret_LowCase                     | 19%           | 20%           | 21%           | 20%           | 23%           | 25%           | 26%           | 27%           | 28%           | 29%           | 24%           | 26%           | 24%           | 26%           | 29%           | 30%           | 32%           | 35%           | 36%           | 38%           |
| Carbon Free 2027_LowCase                           | 18%           | 18%           | 18%           | 17%           | 19%           | 22%           | 23%           | 23%           | 25%           | 28%           | 28%           | 30%           | 28%           | 30%           | 32%           | 33%           | 35%           | 38%           | 39%           | 41%           |
| CarbonFree_2030_Gas_PhaseOut_LowCase               | 18%           | 18%           | 18%           | 17%           | 19%           | 22%           | 23%           | 24%           | 26%           | 28%           | 29%           | 30%           | 28%           | 30%           | 32%           | 33%           | 35%           | 38%           | 39%           | 41%           |
| Carbon Free 2030_LowCase                           | 18%           | 18%           | 18%           | 17%           | 19%           | 22%           | 23%           | 25%           | 27%           | 28%           | 29%           | 30%           | 28%           | 30%           | 32%           | 33%           | 35%           | 38%           | 39%           | 41%           |
| CarbonFree_2030_100%Ren_STP2035_LowCase            | 18%           | 18%           | 18%           | 17%           | 20%           | 22%           | 24%           | 25%           | 27%           | 29%           | 29%           | 31%           | 29%           | 31%           | 33%           | 35%           | 37%           | 39%           | 39%           | 41%           |
| CarbonFree_2030_Increased_DSM_LowCase              | 18%           | 18%           | 18%           | 17%           | 20%           | 23%           | 25%           | 26%           | 29%           | 30%           | 31%           | 32%           | 30%           | 32%           | 34%           | 35%           | 37%           | 40%           | 41%           | 43%           |
| CarbonFree_2030_Increased_Local_Solar_LowCase      | 18%           | 18%           | 18%           | 18%           | 21%           | 23%           | 25%           | 27%           | 29%           | 31%           | 31%           | 32%           | 30%           | 31%           | 33%           | 35%           | 36%           | 39%           | 40%           | 42%           |
| Carbon Free 2035_LowCase                           | 18%           | 18%           | 18%           | 17%           | 19%           | 22%           | 23%           | 24%           | 27%           | 28%           | 29%           | 31%           | 29%           | 31%           | 33%           | 34%           | 36%           | 39%           | 39%           | 41%           |
| Net_Zero_Carbon_Offsets_LowCase                    | 18%           | 18%           | 18%           | 17%           | 20%           | 22%           | 24%           | 25%           | 27%           | 29%           | 30%           | 31%           | 29%           | 31%           | 34%           | 35%           | 37%           | 40%           | 41%           | 43%           |
| Net_Zero_wo_Carbon_Offsets_LowCase                 | 18%           | 18%           | 18%           | 17%           | 19%           | 22%           | 23%           | 25%           | 27%           | 28%           | 29%           | 31%           | 29%           | 31%           | 33%           | 35%           | 37%           | 40%           | 41%           | 43%           |

| System Cost Increase from FY2019 Actual (\$Mil) | FY2021 | FY2022 | FY2023 | FY2024 | FY2025 | FY2026 | FY2027 | FY2028 | FY2029 | FY2030 | FY2031 | FY2032 | FY2033 | FY2034 | FY2035 | FY2036 | FY2037 | FY2038 | FY2039 | FY2040 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Current Goals_HighCase                          | \$223  | \$234  | \$374  | \$367  | \$410  | \$452  | \$485  | \$523  | \$572  | \$617  | \$640  | \$667  | \$644  | \$663  | \$696  | \$712  | \$737  | \$776  | \$785  | \$812  |
| Current Goals Econ_Ret_HighCase                 | \$247  | \$257  | \$280  | \$273  | \$311  | \$349  | \$364  | \$393  | \$421  | \$456  | \$611  | \$637  | \$615  | \$634  | \$667  | \$684  | \$709  | \$748  | \$757  | \$784  |
| Carbon Free 2027_HighCase                       | \$223  | \$234  | \$374  | \$368  | \$405  | \$447  | \$480  | \$599  | \$650  | \$708  | \$743  | \$767  | \$742  | \$756  | \$786  | \$800  | \$823  | \$859  | \$865  | \$889  |
| CarbonFree_2030_Gas_PhaseOut_HighCase           | \$223  | \$234  | \$374  | \$367  | \$404  | \$446  | \$479  | \$533  | \$562  | \$599  | \$746  | \$771  | \$745  | \$758  | \$789  | \$803  | \$826  | \$863  | \$869  | \$894  |
| Carbon Free 2030_HighCase                       | \$223  | \$234  | \$374  | \$367  | \$404  | \$446  | \$479  | \$498  | \$523  | \$551  | \$746  | \$770  | \$745  | \$758  | \$789  | \$803  | \$826  | \$862  | \$868  | \$893  |
| CarbonFree_2030_100%Ren_STP2035_HighCase        | \$229  | \$239  | \$379  | \$373  | \$416  | \$457  | \$489  | \$513  | \$530  | \$548  | \$747  | \$746  | \$694  | \$684  | \$684  | \$837  | \$857  | \$879  | \$887  | \$909  |
| CarbonFree_2030_Increased_DSM_HighCase          | \$228  | \$241  | \$384  | \$377  | \$417  | \$460  | \$496  | \$518  | \$545  | \$575  | \$771  | \$796  | \$770  | \$784  | \$815  | \$830  | \$852  | \$889  | \$896  | \$920  |
| CarbonFree_2030_Increased_Local_Solar_HighCase  | \$231  | \$244  | \$386  | \$384  | \$425  | \$468  | \$506  | \$530  | \$558  | \$589  | \$770  | \$793  | \$766  | \$778  | \$808  | \$820  | \$841  | \$877  | \$882  | \$905  |
| Carbon Free 2035_HighCase                       | \$223  | \$234  | \$374  | \$367  | \$404  | \$446  | \$485  | \$522  | \$547  | \$590  | \$598  | \$623  | \$584  | \$604  | \$621  | \$799  | \$822  | \$857  | \$860  | \$883  |
| Net_Zero_Carbon_Offsets_HighCase                | \$227  | \$237  | \$378  | \$370  | \$409  | \$450  | \$482  | \$502  | \$528  | \$558  | \$580  | \$606  | \$584  | \$604  | \$637  | \$653  | \$679  | \$718  | \$727  | \$755  |
| Net_Zero_wo_Carbon_Offsets_HighCase             | \$223  | \$234  | \$374  | \$367  | \$404  | \$446  | \$479  | \$498  | \$523  | \$551  | \$570  | \$598  | \$575  | \$596  | \$629  | \$645  | \$671  | \$710  | \$719  | \$747  |
| Current Goals_LowCase                           | \$218  | \$221  | \$217  | \$206  | \$239  | \$274  | \$292  | \$308  | \$338  | \$358  | \$371  | \$396  | \$373  | \$396  | \$429  | \$447  | \$475  | \$517  | \$528  | \$558  |
| Current Goals Econ_Ret_LowCase                  | \$241  | \$245  | \$267  | \$254  | \$290  | \$322  | \$336  | \$350  | \$365  | \$386  | \$321  | \$347  | \$324  | \$347  | \$381  | \$399  | \$427  | \$469  | \$481  | \$511  |
| Carbon Free 2027_LowCase                        | \$218  | \$221  | \$220  | \$209  | \$244  | \$279  | \$301  | \$301  | \$332  | \$362  | \$375  | \$400  | \$373  | \$393  | \$424  | \$440  | \$467  | \$507  | \$516  | \$544  |
| CarbonFree_2030_Gas_PhaseOut_LowCase            | \$218  | \$221  | \$220  | \$208  | \$243  | \$278  | \$299  | \$312  | \$343  | \$367  | \$378  | \$403  | \$376  | \$395  | \$427  | \$444  | \$470  | \$510  | \$520  | \$548  |
| Carbon Free 2030_LowCase                        | \$218  | \$221  | \$220  | \$208  | \$243  | \$278  | \$299  | \$319  | \$350  | \$370  | \$378  | \$403  | \$376  | \$395  | \$427  | \$443  | \$470  | \$510  | \$519  | \$548  |
| CarbonFree_2030_100%Ren_STP2035_LowCase         | \$224  | \$227  | \$226  | \$214  | \$250  | \$285  | \$305  | \$325  | \$356  | \$374  | \$383  | \$411  | \$389  | \$411  | \$445  | \$466  | \$490  | \$515  | \$527  | \$553  |
| CarbonFree_2030_Increased_DSM_LowCase           | \$223  | \$229  | \$231  | \$220  | \$257  | \$294  | \$318  | \$341  | \$375  | \$397  | \$405  | \$430  | \$404  | \$423  | \$455  | \$472  | \$499  | \$539  | \$549  | \$577  |
| CarbonFree_2030_Increased_Local_Solar_LowCase   | \$225  | \$230  | \$231  | \$223  | \$261  | \$298  | \$323  | \$348  | \$384  | \$406  | \$403  | \$426  | \$397  | \$415  | \$446  | \$461  | \$486  | \$525  | \$534  | \$561  |
| Carbon Free 2035_LowCase                        | \$218  | \$221  | \$220  | \$208  | \$243  | \$278  | \$300  | \$316  | \$348  | \$367  | \$381  | \$407  | \$386  | \$408  | \$444  | \$450  | \$476  | \$514  | \$521  | \$547  |
| Net_Zero_Carbon_Offsets_LowCase                 | \$222  | \$227  | \$228  | \$215  | \$249  | \$284  | \$304  | \$323  | \$354  | \$376  | \$390  | \$416  | \$392  | \$415  | \$448  | \$466  | \$494  | \$535  | \$546  | \$576  |
| Net_Zero_wo_Carbon_Offsets_LowCase              | \$218  | \$221  | \$220  | \$208  | \$243  | \$278  | \$299  | \$319  | \$350  | \$370  | \$385  | \$410  | \$387  | \$409  | \$443  | \$461  | \$488  | \$530  | \$541  | \$571  |

Figure below shows the range of average system costs for the scenarios and it includes the 2018 and 2019 (unaudited) rates for comparison.

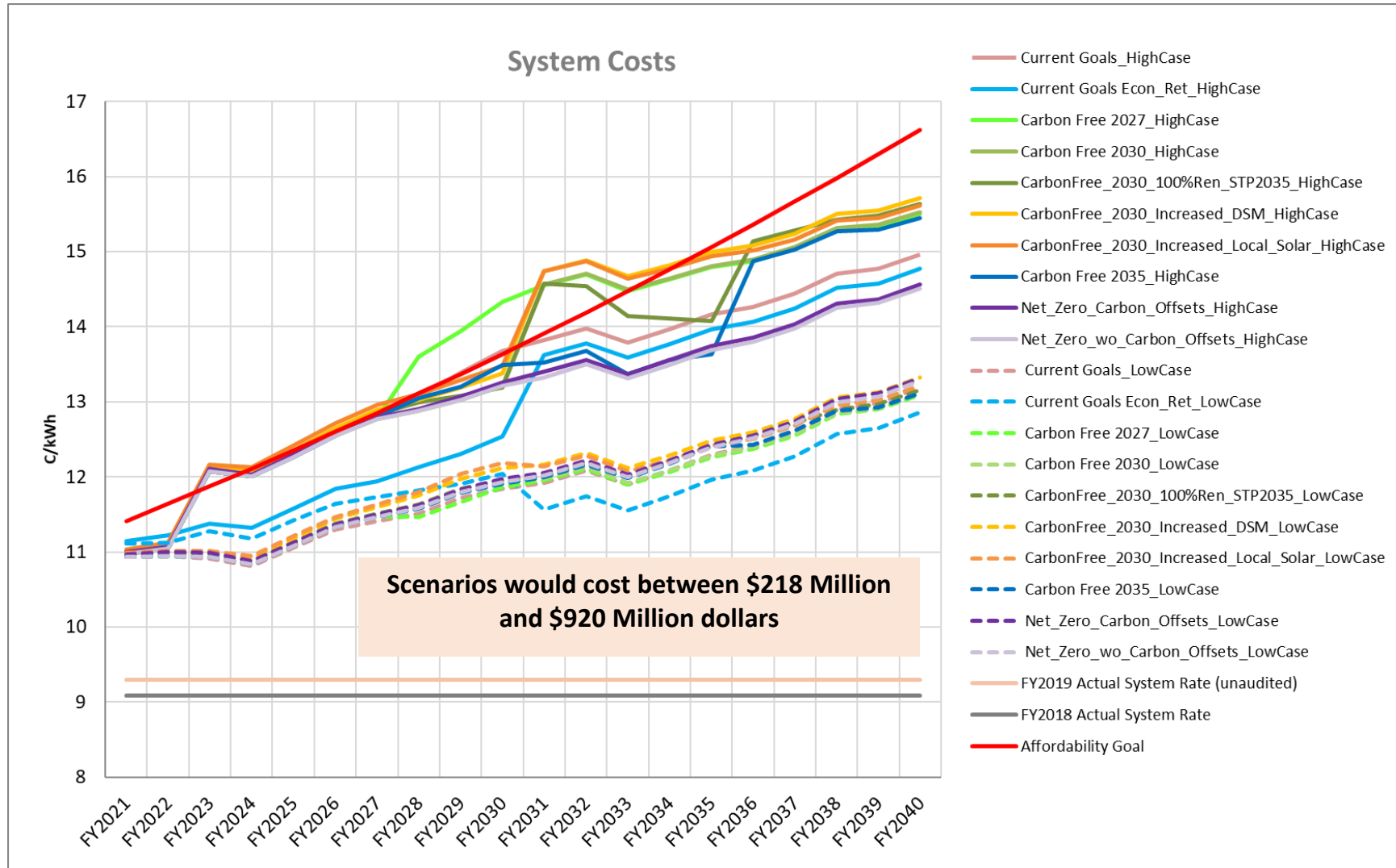


*The above ranges were generated through fundamental dispatch and financial rate models. Austin Energy would like to reiterate that there is less confidence in these forecasted rates than in past resource planning exercises due to the transition underway in the generation supply within ERCOT. Due to model limitations on weather driven supply, the scenarios do not accurately reflect the risk and cost associated with each of the scenarios. The presentation given to the Resource Planning Working Group on February 13, 2020 provides more detail. Due to the identification and acknowledgement of this limitation, Austin Energy developed additional metrics to differentiate the scenarios and ranked those scenarios on how they achieve each of the 3 resource planning objectives. The presentation to explain that methodology is attached. Austin Energy believes that making long-term decisions based solely on the rate forecast provided above would not be prudent or in the rate payers' best interest.*

*Affordability is measured by both a limit to a 2% year-over-year increase as well as maintaining rates in the lower 50% percentile in ERCOT. The current ERCOT forward curve, which is our best indicator of future rates for competitive areas within ERCOT, is currently declining through 2030. The ERCOT forward curve's current negative slope is mismatched to the positive slope seen in price forecasts derived from fundamental models. This mismatch highlights the significant uncertainty during this period of transition of generation supply within ERCOT. Locking in long-term goals and objectives would not be a prudent action at this time. Should prescriptive goals and objectives put Austin Energy on a path of unaffordable rates per the affordability metrics, there would not be actions that could be taken to unwind those decisions and bring Austin Energy back to affordability. For example, a 150 MW solar PPA in the west in 2015 would have a cost of \$138M more than that same project in 2017 over a 20 year term.*

*There is significant risk that exists in our customer's portfolio as our renewable percentages increase along with the growing amount of renewable energy the ERCOT market experiences. By allowing the utility to achieve its renewable goals in a strategic responsible manner, the utility is provided the opportunity to better manage the intermittent risk inherently growing in its portfolio as well as the price risk this changing portfolio experiences in a market whose conventional assets are shrinking. Due to the intermittent nature of renewable energy production, risk management processes that manage supply and demand in ERCOT's wholesale market become ever more paramount to the successful operation of a power portfolio which has a high concentration of renewable resources.*

Figure below shows the range of average system costs for the scenarios with affordability goal and it includes the 2018 and 2019 (unaudited) rates for comparison.



**These scenarios show why the 2% affordability metric is not a standalone affordability target and must be combined with the lower 50% competitive index target defined as maintaining an average annual system rate in the lower 50% of all Texas utilities serving residential, commercial and industrial customers as measured by published data from the Energy Information Administration Form 861.**

Table below shows the range of average system costs for the scenarios with affordability goal and it includes the 2018 and 2019 (unaudited) rates for comparison.

| System Cost C/kWh                              | FY2021 | FY2022 | FY2023 | FY2024 | FY2025 | FY2026 | FY2027 | FY2028 | FY2029 | FY2030 | FY2031 | FY2032 | FY2033 | FY2034 | FY2035 | FY2036 | FY2037 | FY2038 | FY2039 | FY2040 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| System Rate with Council Approved Increase     | 11.41  | 11.64  | 11.87  | 12.11  | 12.35  | 12.60  | 12.85  | 13.11  | 13.37  | 13.64  | 13.91  | 14.19  | 14.47  | 14.76  | 15.06  | 15.36  | 15.67  | 15.98  | 16.30  | 16.63  |
| Current Goals_HighCase                         | 10.98  | 11.05  | 12.08  | 12.01  | 12.30  | 12.59  | 12.81  | 13.06  | 13.39  | 13.68  | 13.82  | 13.98  | 13.79  | 13.97  | 14.16  | 14.26  | 14.44  | 14.71  | 14.77  | 14.96  |
| Current Goals Econ_Ret_HighCase                | 11.15  | 11.22  | 11.38  | 11.32  | 11.58  | 11.84  | 11.94  | 12.13  | 12.31  | 12.54  | 13.62  | 13.78  | 13.59  | 13.77  | 13.96  | 14.06  | 14.24  | 14.51  | 14.58  | 14.77  |
| Carbon Free 2027_HighCase                      | 10.98  | 11.05  | 12.07  | 12.01  | 12.27  | 12.56  | 12.78  | 13.61  | 13.94  | 14.33  | 14.55  | 14.69  | 14.47  | 14.62  | 14.79  | 14.88  | 15.04  | 15.29  | 15.33  | 15.50  |
| CarbonFree_2030_Gas_PhaseOut_HighCase          | 10.98  | 11.05  | 12.07  | 12.01  | 12.26  | 12.55  | 12.77  | 13.14  | 13.31  | 13.56  | 14.57  | 14.71  | 14.50  | 14.64  | 14.81  | 14.90  | 15.06  | 15.31  | 15.36  | 15.53  |
| Carbon Free 2030_HighCase                      | 10.98  | 11.05  | 12.07  | 12.01  | 12.26  | 12.55  | 12.77  | 12.88  | 13.03  | 13.21  | 14.57  | 14.71  | 14.49  | 14.64  | 14.81  | 14.90  | 15.06  | 15.31  | 15.35  | 15.53  |
| CarbonFree_2030_100%Ren_STP2035_HighCase       | 11.02  | 11.09  | 12.12  | 12.05  | 12.35  | 12.63  | 12.84  | 12.99  | 13.09  | 13.19  | 14.58  | 14.54  | 14.14  | 14.11  | 14.07  | 15.13  | 15.28  | 15.43  | 15.48  | 15.64  |
| CarbonFree_2030_Increased_DSM_HighCase         | 11.01  | 11.10  | 12.15  | 12.08  | 12.35  | 12.65  | 12.89  | 13.02  | 13.19  | 13.38  | 14.74  | 14.89  | 14.67  | 14.82  | 14.99  | 15.08  | 15.24  | 15.50  | 15.54  | 15.71  |
| CarbonFree_2030_Increased_Local_Solar_HighCase | 11.04  | 11.12  | 12.17  | 12.13  | 12.42  | 12.71  | 12.96  | 13.11  | 13.29  | 13.48  | 14.74  | 14.87  | 14.64  | 14.78  | 14.94  | 15.01  | 15.16  | 15.41  | 15.45  | 15.61  |
| Carbon Free 2035_HighCase                      | 10.98  | 11.05  | 12.07  | 12.01  | 12.26  | 12.55  | 12.81  | 13.05  | 13.21  | 13.49  | 13.52  | 13.68  | 13.37  | 13.55  | 13.64  | 14.87  | 15.03  | 15.27  | 15.29  | 15.45  |
| Net_Zero_Carbon_Offsets_HighCase               | 11.00  | 11.07  | 12.11  | 12.03  | 12.29  | 12.58  | 12.79  | 12.91  | 13.07  | 13.26  | 13.40  | 13.56  | 13.37  | 13.55  | 13.75  | 13.85  | 14.03  | 14.31  | 14.37  | 14.56  |
| Net_Zero_wo_Carbon_Offsets_HighCase            | 10.98  | 11.05  | 12.07  | 12.01  | 12.26  | 12.55  | 12.77  | 12.88  | 13.03  | 13.21  | 13.32  | 13.50  | 13.31  | 13.49  | 13.69  | 13.80  | 13.98  | 14.25  | 14.31  | 14.51  |
| Current Goals_LowCase                          | 10.94  | 10.95  | 10.91  | 10.82  | 11.05  | 11.30  | 11.41  | 11.52  | 11.72  | 11.85  | 11.92  | 12.08  | 11.90  | 12.08  | 12.30  | 12.42  | 12.61  | 12.90  | 12.98  | 13.19  |
| Current Goals Econ_Ret_LowCase                 | 11.11  | 11.13  | 11.28  | 11.18  | 11.43  | 11.64  | 11.73  | 11.82  | 11.91  | 12.04  | 11.57  | 11.74  | 11.56  | 11.74  | 11.96  | 12.08  | 12.28  | 12.57  | 12.65  | 12.86  |
| Carbon Free 2027_LowCase                       | 10.94  | 10.95  | 10.93  | 10.85  | 11.09  | 11.34  | 11.48  | 11.46  | 11.67  | 11.87  | 11.95  | 12.11  | 11.90  | 12.07  | 12.26  | 12.37  | 12.55  | 12.83  | 12.90  | 13.09  |
| CarbonFree_2030_Gas_PhaseOut_LowCase           | 10.94  | 10.95  | 10.93  | 10.84  | 11.08  | 11.33  | 11.47  | 11.54  | 11.75  | 11.90  | 11.97  | 12.13  | 11.93  | 12.08  | 12.28  | 12.39  | 12.57  | 12.86  | 12.92  | 13.12  |
| Carbon Free 2030_LowCase                       | 10.94  | 10.95  | 10.93  | 10.84  | 11.08  | 11.33  | 11.47  | 11.59  | 11.80  | 11.93  | 11.97  | 12.13  | 11.92  | 12.08  | 12.28  | 12.39  | 12.57  | 12.85  | 12.92  | 13.12  |
| CarbonFree_2030_100%Ren_STP2035_LowCase        | 10.98  | 10.99  | 10.98  | 10.88  | 11.14  | 11.38  | 11.51  | 11.64  | 11.84  | 11.96  | 12.01  | 12.19  | 12.01  | 12.19  | 12.41  | 12.54  | 12.72  | 12.89  | 12.97  | 13.16  |
| CarbonFree_2030_Increased_DSM_LowCase          | 10.97  | 11.01  | 11.01  | 10.92  | 11.18  | 11.44  | 11.60  | 11.75  | 11.97  | 12.12  | 12.16  | 12.32  | 12.12  | 12.28  | 12.48  | 12.59  | 12.77  | 13.06  | 13.13  | 13.32  |
| CarbonFree_2030_Increased_Local_Solar_LowCase  | 10.99  | 11.02  | 11.01  | 10.94  | 11.21  | 11.47  | 11.64  | 11.80  | 12.04  | 12.18  | 12.15  | 12.29  | 12.07  | 12.22  | 12.41  | 12.51  | 12.69  | 12.96  | 13.02  | 13.21  |
| Carbon Free 2035_LowCase                       | 10.94  | 10.95  | 10.93  | 10.84  | 11.08  | 11.33  | 11.47  | 11.57  | 11.78  | 11.91  | 12.00  | 12.16  | 11.99  | 12.18  | 12.40  | 12.43  | 12.62  | 12.88  | 12.93  | 13.11  |
| Net_Zero_Carbon_Offsets_LowCase                | 10.97  | 11.00  | 10.99  | 10.88  | 11.12  | 11.37  | 11.50  | 11.62  | 11.83  | 11.97  | 12.06  | 12.22  | 12.04  | 12.22  | 12.43  | 12.55  | 12.74  | 13.03  | 13.11  | 13.32  |
| Net_Zero_wo_Carbon_Offsets_LowCase             | 10.94  | 10.95  | 10.93  | 10.84  | 11.08  | 11.33  | 11.47  | 11.59  | 11.80  | 11.93  | 12.02  | 12.18  | 12.00  | 12.18  | 12.39  | 12.51  | 12.70  | 13.00  | 13.07  | 13.28  |
| FY2018 Actual System Rate                      | 9.09   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| FY2019 Actual System Rate (unaudited)          | 9.30   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |

- The formula being used to determine the carbon adders for the REACH scenario (this can be in words), and in a clear statement about what AE would be committing to with REACH (i.e. keeping carbon emissions to a certain level by year - or whatever the commitment would be).

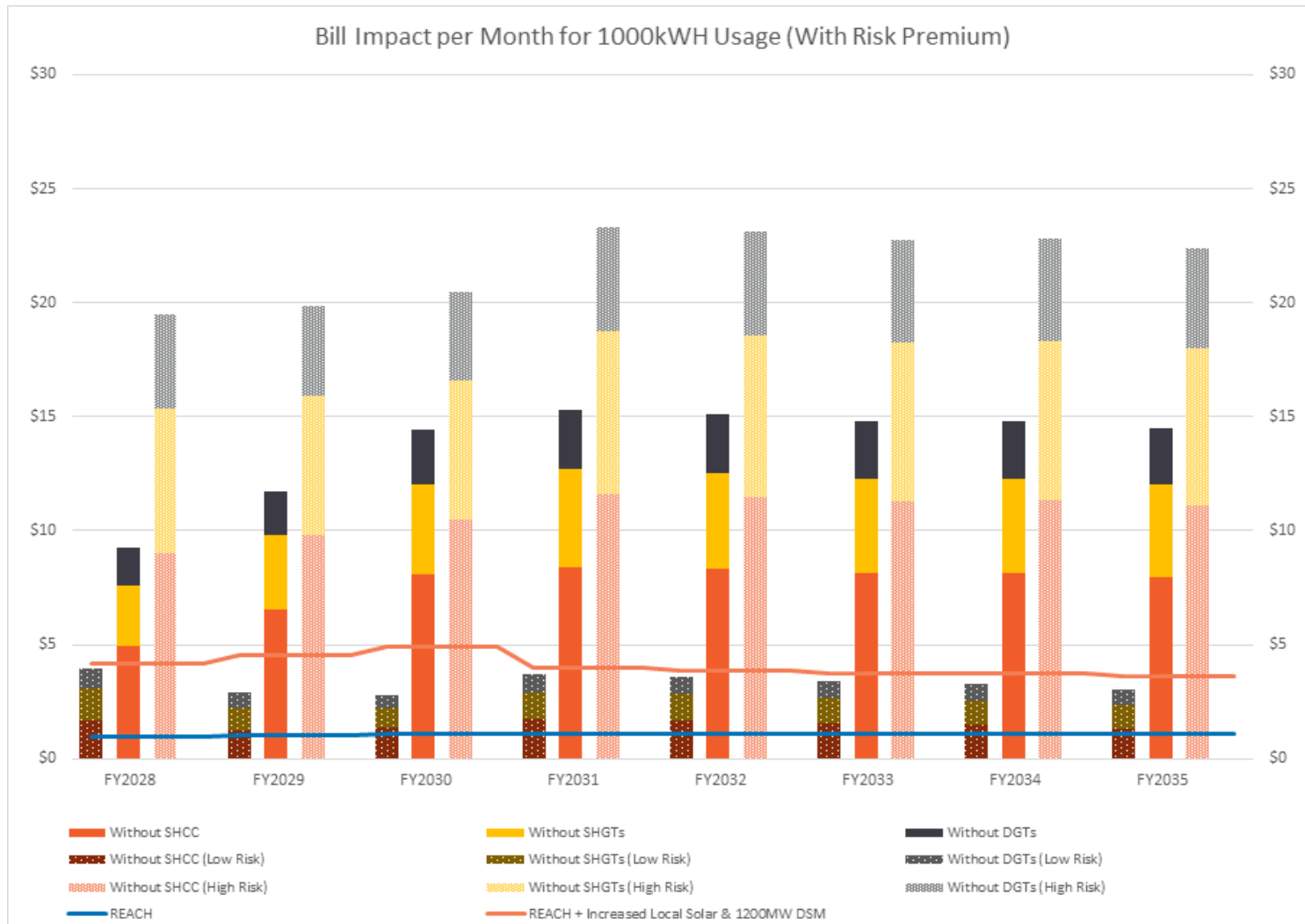
$$\text{Carbon Delta} = (\text{Unit Emission Rate}_{\text{lbs/MWH}} - \text{ERCOT Average Emission Rate}_{\text{lbs/MWH}}) / 2200$$

$$\text{Carbon Adder} = \text{Carbon Delta} * \text{Carbon Price}$$

Austin Energy is committing to using up to 2% of the prior year’s PSA to calculate a Carbon Adder that is expected to reduce CO2 emissions from Austin Energy power plants by approximately 4 million metric tons between now and Austin Energy’s exit from the Fayette Power Project and approximately 8% year over year thereafter.

- A version of the graph on slide 8 of the February 13 presentation that shows a low risk scenario, in addition to the medium and high risk scenarios.

*The chart below shows the bill impact per month for a 1000 kWh average usage customer under different scenarios.*





4. System rate ranges and the same affordability comparisons requested above for a combination of REACH, carbon-free by 2035 (77% renewable and no fossil fuel plants running), plus 1350 MW EE and 673 MW local solar by 2030

*System rate ranges for scenarios are provided in tables and graphs above. REACH bill impact has been provided in the table above. As indicated by the external consultant DNV-GL 1350 MW DSM goal for Austin Energy is not feasible, we do not have data to support this portion of the question.*

5. System rate ranges and the same affordability comparisons requested above for a combination of REACH, carbon-free by 2035 (77% renewable and no fossil fuel plants running), plus 1200 MW EE and 673 MW local solar by 2030

*System rate ranges for scenarios are provided in tables and graphs above. REACH bill impact has been provided in the table above. Please note scenarios reflect a range of costs between \$218 Million to \$ 920 Million. REACH costs roughly \$8 Million per year.*

6. System rate ranges and the same affordability comparisons requested above for a combination of REACH, carbon-free by 2030 (77% renewable and no fossil fuel plants running), plus EE at 1350 MW and 673 MW local solar by 2030

*System rate ranges for scenarios are provided in tables and graphs above. REACH bill impact has been provided in the table above. As indicated by the external consultant DNV-GL 1350 MW DSM goal for Austin Energy is not feasible, we do not have data to support this portion of the question.*

7. System rate ranges and the same affordability comparisons requested above for a combination of REACH, carbon-free by 2030 (77% renewable and no fossil fuel plants running), plus EE at 1200 MW and 673 MW local solar by 2030

*System rate ranges for scenarios are provided in tables and graphs above. REACH bill impact has been provided in the table above. Please note scenarios reflect a range of costs between \$218 Million to \$ 920 Million. REACH costs roughly \$8 Million per year.*

## Question from Todd Davey

1. Following up the request from our meeting, I would like to see the average system rate for years 2018-2025. Use actuals for historical numbers and use projections should we adopt the REACH plan. Please show projections of expected 50% median rates for benchmark cities and how Austin Energy will manage to keep their rates in line with system averages. I am not able to support a plan that budgets a 2% annual increase to the PSA for several years without monitoring the benchmarks for other Texas rate payers. I would like to see the mechanism Austin Energy will use to monitor their rates compared to benchmark rates.

*Please refer to the last table in our response to question 1 for system rate ranges and the chart in response to question 3 for REACH bill impact.*

*The industry does not produce projections for expected 50% median rates for benchmark cities. Austin Energy manages keeping their rates in line with the competitive index by actively participating in the market and applying risk management tools that keep us affordable.*

**Question from Janee Briesemeister**

1. Referring to Mark Dombroski's presentation, could we get a calculation of the headroom if the affordability baseline were set at the last rate case rather than 2012?

EIA 861 System Average Rate 0.09139

|      |         |
|------|---------|
| 2017 | 0.09139 |
| 2018 | 0.09322 |
| 2019 | 0.09508 |
| 2020 | 0.09698 |
| 2021 | 0.09892 |
| 2022 | 0.10090 |
| 2023 | 0.10292 |
| 2024 | 0.10498 |
| 2025 | 0.10708 |
| 2026 | 0.10922 |
| 2027 | 0.11140 |
| 2028 | 0.11363 |
| 2029 | 0.11590 |
| 2030 | 0.11822 |

