**Estimated Wyoming EV Charging Cost for I-80/I25 Corridors**
**May, 2022 (1st Addendum)**

The estimated per-charge costs in tables 1, 2, 3, and 4 are based on current demand and energy rates.

Table 1 assumes a stand-alone 150kW charger providing a 15-minute, 37.5 kWh charge, with no simultaneous charging of multiple vehicles, at in each of 11 utility service areas at utilization levels of 10, 100, 250, and 500 charges per month.

Table 2 assumes a stand-alone 4 port (150 kW per port) charger providing four simultaneous 15-minute 37.5 kWh charges in the same 11 utility territories, again at utilization levels of 10, 100, 250, and 500 charges per month.

Table 3 assumes a stand-alone 150kW charger providing a 30-minute, 75 kWh charge, with no simultaneous charging of multiple vehicles, at in each of 11 utility service areas at utilization levels of 10, 100, 250, and 500 charges per month.

Table 4 assumes a stand-alone 4 port (150 kW per port) charger providing four simultaneous 30-minute 75 kWh charges in the same 11 utility territories, again at utilization levels of 10, 100, 250, and 500 charges per month.

Municipal and cooperative utilities (in shaded italics) are not subject to WPSC ratemaking authority. They set rates at the discretion of their municipal governments and boards of directors, respectively.

Some relatively minor rate components, such as demand side management surcharges, are excluded from the estimates provided in the tables.

**Observations:**

There may be viable options for mitigating the demand component of charging rates within the constraints of cost-based regulation. (E.g., establishing TOU rates, allow virtual pooling across multiple meters in a single utility's territory, etc. However, cooperatives and municipalities shaded italics in the tables) are not rate regulated by the WPSC. Any effort to impose state-level rate regulation on these entities would likely face severe political difficulty.

With a 50-mile maximum charger interval on the Interstate Highway corridors, some chargers would necessarily be located in remote areas distant from amenities, including food, lodging, WIFI, restrooms, etc. Low usage of chargers at remote locations lacking amenities would tend to exacerbate the demand charge issue. (As the charts illustrate, 10 charges per month is associated with a prohibitively high demand charge.) This would likely result in an exaggeration of the demand charge issue at due to avoidance of those station facilitated by EV charger locating apps and vehicle range capability will in excess of 50 miles per charge. (One need only observe the fact that there are many stretches of Interstate Highway in Wyoming where there are

abandoned/defunct service stations indicating that isolated stations were unable to compete with those located in or near population centers.

Prices under current utility rates would be driven largely by demand rates, and are likely to be and remain significantly higher at these remote low amenities locations, while usage and prices at higher use locations would be driven down to more affordable and attractive levels. Proliferation of EVs would likely increase this effect, as the disparity in usage would accrue demand charge per vehicle charge reductions would drive prices at high use chargers down toward the cost of energy. (kWhs)

It might be anticipated that certain charging sites will see significant more use (e.g. Cheyenne, located at the intersection of I-80 and I-25) while others will see less than average use. This may be due to amenities (food, entertainment, shopping, hotels), charging rates, business, personal, or safety.

Colocation with existing significant commercial electricity demand may mitigate the demand charge issue, although construction of upgraded distribution facilities will likely still be necessary.

**Table 1:**

**Cost per 15 minute 150 kW demand charge (37.5 kWh) without simultaneous charging (1 max)**

| Charges per Month | 10 | | 100 | | 250 | | 500 | |
|---|---|---|---|---|---|---|---|---|
| | $/Charge | $/kWh | $/Charge | $/kWh | $/Charge | $/kWh | $/Charge | $/kWh |
| *Bridger Valley Energy Assoc* | 249.89 | 6.66 | 25.97 | 0.69 | 11.04 | 0.29 | 6.06 | 0.16 |
| *Carbon Power and Light* | 322.40 | 8.60 | 34.31 | 0.91 | 15.10 | 0.40 | 8.70 | 0.23 |
| Cheyenne Light Fuel & Power | 368.69 | 9.83 | 39.07 | 1.04 | 17.09 | 0.46 | 9.77 | 0.26 |
| *City of Gillette* | 149.75 | 3.99 | 16.75 | 0.45 | 7.89 | 0.21 | 4.93 | 0.13 |
| *High West Energy* | 291.32 | 7.77 | 31.04 | 0.83 | 13.68 | 0.36 | 7.90 | 0.21 |
| Montana Dakota Utilities | 183.71 | 4.90 | 19.82 | 0.53 | 8.89 | 0.24 | 5.25 | 0.14 |
| *Town of Pine Bluffs* | 78.32 | 2.09 | 13.08 | 0.35 | 8.73 | 0.23 | 7.28 | 0.19 |
| PRECorp | 109.07 | 2.91 | 13.45 | 0.36 | 7.07 | 0.19 | 4.95 | 0.13 |
| Rocky Mountain Power | 285.01 | 7.60 | 29.51 | 0.79 | 12.48 | 0.33 | 6.80 | 0.18 |
| *Town of Wheatland* | 115.46 | 3.08 | 17.81 | 0.47 | 11.30 | 0.30 | 9.13 | 0.24 |
| *Wheatland REA* | 171.80 | 4.58 | 21.41 | 0.57 | 11.38 | 0.30 | 8.04 | 0.21 |

**Table 2:**

**Cost per 15 minute 600 kW demand charge (150 kWh) with simultaneous charges (4 max)**

| Charges per Month | 10 | | 100 | | 250 | | 500 | |
|---|---|---|---|---|---|---|---|---|
| | $/Charge | $/kWh | $/Charge | $/kWh | $/Charge | $/kWh | $/Charge | $/kWh |
| *Bridger Valley Energy Assoc* | 924.89 | 24.66 | 93.47 | 2.49 | 38.04 | 1.01 | 19.56 | 0.52 |
| *Carbon Power and Light* | 1,260.20 | 33.61 | 128.09 | 3.42 | 52.61 | 1.40 | 27.46 | 0.73 |
| Cheyenne Light Fuel & Power | 1,446.44 | 38.57 | 146.84 | 3.92 | 60.20 | 1.61 | 31.32 | 0.84 |
| *City of Gillette* | 570.50 | 15.21 | 58.83 | 1.57 | 24.72 | 0.66 | 13.35 | 0.36 |
| *High West Energy* | 1,122.92 | 29.94 | 114.20 | 3.05 | 46.95 | 1.25 | 24.53 | 0.65 |
| Montana Dakota Utilities | 710.21 | 18.94 | 72.47 | 1.93 | 29.95 | 0.80 | 15.78 | 0.42 |
| *Town of Pine Bluffs* | 292.07 | 7.79 | 34.45 | 0.92 | 17.28 | 0.46 | 11.56 | 0.31 |
| PRECorp | 412.82 | 11.01 | 43.82 | 1.17 | 19.22 | 0.51 | 11.02 | 0.29 |
| Rocky Mountain Power | 1,126.96 | 30.05 | 113.71 | 3.03 | 46.16 | 1.23 | 23.64 | 0.63 |
| *Town of Wheatland* | 486.71 | 12.98 | 54.93 | 1.46 | 26.15 | 0.70 | 16.55 | 0.44 |
| *Wheatland REA* | 650.60 | 17.35 | 69.29 | 1.85 | 30.54 | 0.81 | 17.62 | 0.47 |

**Table 3:**

**Cost per 30 minute 150 kW demand charge (75 kWh) without simultaneous charging (1 max)**

| Charges per Month | 10 | | 100 | | 250 | | 500 | |
|---|---|---|---|---|---|---|---|---|
| | $/Charge | $/kWh | $/Charge | $/kWh | $/Charge | $/kWh | $/Charge | $/kWh |
| *Bridger Valley Energy Assoc* | 250.97 | 3.35 | 27.05 | 0.36 | 12.12 | 0.16 | 7.15 | 0.10 |
| *Carbon Power and Light* | 324.69 | 4.33 | 36.60 | 0.49 | 17.40 | 0.23 | 11.00 | 0.15 |
| Cheyenne Light Fuel & Power | 371.14 | 4.95 | 41.51 | 0.55 | 19.54 | 0.26 | 12.21 | 0.16 |
| *City of Gillette* | 151.73 | 2.02 | 18.73 | 0.25 | 9.86 | 0.13 | 6.91 | 0.09 |
| *High West Energy* | 293.43 | 3.91 | 33.15 | 0.44 | 15.80 | 0.21 | 10.02 | 0.13 |
| Montana Dakota Utilities | 185.31 | 2.47 | 21.42 | 0.29 | 10.50 | 0.14 | 6.85 | 0.09 |
| *Town of Pine Bluffs* | 84.15 | 1.12 | 18.91 | 0.25 | 14.56 | 0.19 | 13.11 | 0.17 |
| PRECorp | 111.89 | 1.49 | 16.27 | 0.22 | 9.89 | 0.13 | 7.77 | 0.10 |
| Rocky Mountain Power | 286.13 | 3.82 | 30.64 | 0.41 | 13.61 | 0.18 | 7.93 | 0.11 |
| *Town of Wheatland* | 122.41 | 1.63 | 24.76 | 0.33 | 18.25 | 0.24 | 16.08 | 0.21 |
| *Wheatland REA* | 176.50 | 2.35 | 26.11 | 0.35 | 16.08 | 0.21 | 12.74 | 0.17 |

**Table 4:**

**Cost per 30 minute 600 kW demand charge (300 kWh) with simultaneous charges (4 max)**

| Charges per Month | 10 | | 100 | | 250 | | 500 | |
|---|---|---|---|---|---|---|---|---|
| | $/Charge | $/kWh | $/Charge | $/kWh | $/Charge | $/kWh | $/Charge | $/kWh |
| *Bridger Valley Energy Assoc* | 925.97 | 12.35 | 94.55 | 1.26 | 39.12 | 0.52 | 20.65 | 0.28 |
| *Carbon Power and Light* | 1,262.49 | 16.83 | 130.38 | 1.74 | 54.91 | 0.73 | 29.75 | 0.40 |
| Cheyenne Light Fuel & Power | 1,448.89 | 19.32 | 149.29 | 1.99 | 62.65 | 0.84 | 33.77 | 0.45 |
| *City of Gillette* | 572.48 | 7.63 | 60.81 | 0.81 | 26.69 | 0.36 | 15.32 | 0.20 |
| *High West Energy* | 1,125.03 | 15.00 | 116.31 | 1.55 | 49.07 | 0.65 | 26.65 | 0.36 |
| Montana Dakota Utilities | 711.81 | 9.49 | 74.07 | 0.99 | 31.56 | 0.42 | 17.38 | 0.23 |
| *Town of Pine Bluffs* | 297.90 | 3.97 | 40.29 | 0.54 | 23.11 | 0.31 | 17.39 | 0.23 |
| PRECorp | 415.64 | 5.54 | 46.64 | 0.62 | 22.04 | 0.29 | 13.84 | 0.18 |
| Rocky Mountain Power | 1,128.08 | 15.04 | 114.83 | 1.53 | 47.28 | 0.63 | 24.77 | 0.33 |
| *Town of Wheatland* | 493.66 | 6.58 | 61.89 | 0.83 | 33.10 | 0.44 | 23.51 | 0.31 |
| *Wheatland REA* | 655.30 | 8.74 | 73.99 | 0.99 | 35.24 | 0.47 | 22.32 | 0.30 |

Table 5: Public Utility Map