

Electric Vehicle Public Charging Rate



TRAVERSE CITY
LIGHT & POWER



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JUNE 11, 2024

AGENDA

- **Current Rates vs Future Rates**
- **DC Fast Charging Rate**
- **Level 2 Charging Rate**
- **Impact on Customers**



Strategic Foundation

Mission

To serve as the trusted community partner for delivering innovative, affordable, reliable and environmentally sustainable energy and telecom solutions.

Vision

Our vision is to lead with positivity, creating a brighter future for all. As an innovative electric and telecom utility, we harness the power of clean energy and fiber connectivity through sustainable partnerships, services, and programs. We enrich our communities by anticipating and exceeding evolving customer needs with operational excellence.



Operational and Financial Excellence



Drive excellence and resilience in energy and telecom operations with innovative technologies and practices, prioritizing safety, reliability, and responsiveness to TCLP customers. Bolster TCLP's financial resilience by strategically diversifying revenue streams and enhancing financial management practices.

Strategic Objective 4.3

Diversity and Grow Sustainable Revenue Streams - Actively explore and develop new sustainable business models and high-value customer services that align with our mission and provide ample diversification to ensure TCLP's financial resilience and commitment to support community focused initiatives and enhance value for all stakeholders.

Environmental Sustainability

Lead in comprehensive environmental sustainability by reducing greenhouse gas emissions and advancing towards 100% renewable energy usage by 2040. Expand TCLP's commitment to include the preservation of all natural resources, adopting and promoting practices that ensure the sustainable management of air, water and land. Through innovative and strategic partnerships, TCLP will set industry benchmarks in holistic environmental stewardship, extending its impact beyond energy and telecom operations to foster a healthy planet and sustainable future for its community and stakeholders.

Strategic Objective 6.2

Pioneer Innovative Environmental Initiatives: Develop and introduce environmental initiatives beyond those identified in the Climate Action Plan to establish TCLP as a corporate leader in sustainability practices.

Current Rates

Charging based on time because Blink functionality limited it to time due to the inclusion of parking rates.



Current Vs Future

Proposed Future Rates

Moving towards charge
per kWh



Current Vs Future

WHY? ↘

Why?

Current Vs Future



Fairness

- Ensures that consumers are paying for the actual amount of electricity used to charge their vehicle
- Charging based on time can lead to inconsistencies in pricing based on factors like charging speed or the charging state of the battery

Cost Transparency

- Consumers can easily understand how much they are paying per unit of electricity consumed

Why?

Current Vs Future



Predictability

- Consumers know exactly how much they will pay based on the amount of energy they consume, compared to time based charging where variations in charging speeds can lead to uncertainty in costs.

Time of Use Rates

- Provides incentives to customers to shift their energy consumption to off-peak hours when electricity is cheaper and the grid is under less stress and help the utility to manage peak demand.

Commercial EV Usage Charges

DC Fast Charging Rates & Comparisons



Miles per Gallon	30
Average kWh per Mile at 30 mpg	0.25

Comparison between Gas and Electric Operations

			kWh Rate
Price per Gallon	\$	3.50	
Per Gallon Equivalent			
Winter On-Peak	\$	2.30	\$ 0.31
Winter Off-Peak	\$	1.92	\$ 0.26
Summer On-Peak	\$	3.36	\$ 0.45
Summer Off-Peak	\$	2.14	\$ 0.29

Commercial EV Usage Charges

DC Fast Charger Site Costs



Site Costs	
Station Cost	\$ 41,708
Life	10
Depreciation	\$ 2,169
Maintenance	
Return	1,293
Annual Costs	\$ 3,462

Assumed 48% covered with grants

Analysis is installation of DC fast charging stations within TCLP service territory



DC Fast Charger Load Factor – Winter On Peak Example Calculation

Load Factor	Hours used	Energy Costs	Capacity	Red E Costs	kW 120 Red - E 0.150		Facilities Charge	Monthly Charges	kWh Rate
					Total Energy Costs	Annual Costs			
5%	36.50	\$ 464.77	\$ 558.00	\$ 657.00	\$ 1,679.77	\$ 288.48	\$ 35.00	\$ 2,003.25	\$ 0.46
10%	73.00	\$ 929.55	\$ 558.00	\$ 1,314.00	\$ 2,801.55	288.48	35.00	\$ 3,125.02	\$ 0.36
15%	109.50	\$ 1,394.32	\$ 558.00	\$ 1,971.00	\$ 3,923.32	288.48	35.00	\$ 4,246.80	\$ 0.32
20%	146.00	\$ 1,859.09	\$ 558.00	\$ 2,628.00	\$ 5,045.09	288.48	35.00	\$ 5,368.57	\$ 0.31
25%	182.50	\$ 2,323.86	\$ 558.00	\$ 3,285.00	\$ 6,166.86	288.48	35.00	\$ 6,490.34	\$ 0.30
30%	219.00	\$ 2,788.64	\$ 558.00	\$ 3,942.00	\$ 7,288.64	288.48	35.00	\$ 7,612.11	\$ 0.29
35%	255.50	\$ 3,253.41	\$ 558.00	\$ 4,599.00	\$ 8,410.41	288.48	35.00	\$ 8,733.89	\$ 0.28
40%	292.00	\$ 3,718.18	\$ 558.00	\$ 5,256.00	\$ 9,532.18	288.48	35.00	\$ 9,855.66	\$ 0.28
45%	328.50	\$ 4,182.95	\$ 558.00	\$ 5,913.00	\$ 10,653.95	288.48	35.00	\$ 10,977.43	\$ 0.28
50%	365.00	\$ 4,647.73	\$ 558.00	\$ 6,570.00	\$ 11,775.73	288.48	35.00	\$ 12,099.20	\$ 0.28
Recommended									\$ 0.31

Commercial EV Usage Charges

Level 2 Charging Rates & Comparisons



Miles per Gallon	30
Average kWh per Mile at 30 mpg	0.25

Comparison between Gas and Electric Operations

			kWh Rate
Price per Gallon	\$ 3.50		
Per Gallon Equivalent			
Winter On-Peak	\$ 2.00	\$	0.27
Winter Off-Peak	\$ 1.62	\$	0.22
Summer On-Peak	\$ 3.06	\$	0.41
Summer Off-Peak	\$ 1.84	\$	0.25

Commercial EV Usage Charges

Level 2 Site Costs



Site Costs	
Station Cost	\$ 6,795
Life	10
Depreciation	\$ 353
Maintenance	
Return	211
Annual Costs	\$ 564

Assumed 48% covered with grants

Analysis is installation of Level 2 charging stations within TCLP service territory

Return – Inflation

Level 2 - Load Factor – Winter On Peak Example Calculation

Load Factor	Hours used	Energy Costs	Capacity	Red E Costs	kW		Red - E		kWh Rate
					19.6	0.100	Facilities	Monthly	
					Total Energy Costs	Annual Costs	Charge	Charges	
5%	36.50	\$ 75.91	\$ 91.14	\$ 71.54	\$ 238.59	\$ 47.00	\$ 35.00	\$ 320.59	\$ 0.45
10%	73.00	\$ 151.83	\$ 91.14	\$ 143.08	\$ 386.05	47.00	35.00	\$ 468.05	\$ 0.33
15%	109.50	\$ 227.74	\$ 91.14	\$ 214.62	\$ 533.50	47.00	35.00	\$ 615.50	\$ 0.29
20%	146.00	\$ 303.65	\$ 91.14	\$ 286.16	\$ 680.95	47.00	35.00	\$ 762.95	\$ 0.27
25%	182.50	\$ 379.56	\$ 91.14	\$ 357.70	\$ 828.40	47.00	35.00	\$ 910.40	\$ 0.25
30%	219.00	\$ 455.48	\$ 91.14	\$ 429.24	\$ 975.86	47.00	35.00	\$ 1,057.86	\$ 0.25
35%	255.50	\$ 531.39	\$ 91.14	\$ 500.78	\$ 1,123.31	47.00	35.00	\$ 1,205.31	\$ 0.24
40%	292.00	\$ 607.30	\$ 91.14	\$ 572.32	\$ 1,270.76	47.00	35.00	\$ 1,352.76	\$ 0.24
45%	328.50	\$ 683.22	\$ 91.14	\$ 643.86	\$ 1,418.22	47.00	35.00	\$ 1,500.22	\$ 0.23
50%	365.00	\$ 759.13	\$ 91.14	\$ 715.40	\$ 1,565.67	47.00	35.00	\$ 1,647.67	\$ 0.23
Recommended									\$ 0.27

Impact on Customers

	Time	kWh	Blink Cost	Red E Cost	Net	% Diff
Example A1 - Summer On-Peak DC	1:14:25	75.2	\$24.76	\$35.53	\$10.77	43%
Example A2 - Summer On-Peak DC	1:23:39	59.91	\$28.08	\$28.31	\$0.23	1%
Example B1 - Summer Off-Peak DC	1:12:20	72.1	\$24.80	\$21.95	-\$2.86	-12%
Example B2 - Summer Off-Peak DC	1:08:41	61.2	\$23.13	\$18.65	-\$4.48	-19%
Example C1 - Summer On-Peak Lvl 2	2:46:48	15.7	\$7.86	\$6.76	-\$1.10	-14%
Example C2 - Summer On-Peak Lvl 2	1:35:04	17.3	\$7.00	\$7.46	\$0.46	7%
Example D1 - Summer Off-Peak Lvl 2	2:01:55	23.5	\$7.56	\$6.18	-\$1.39	-18%
Example D2 - Summer Off-Peak Lvl 2	2:27:36	18.3	\$9.05	\$4.80	-\$4.25	-47%
Example E1 - Winter On-Peak DC	1:06:21	66.0	\$23.17	\$21.47	-\$1.70	-7%
Example E2 - Winter On-Peak DC	1:31:56	68.7	\$31.41	\$22.36	-\$9.05	-29%
Example F1 - Winter Off-Peak DC	1:10:52	64.8	\$24.83	\$17.69	-\$7.14	-29%
Example F2 - Winter Off-Peak DC	1:18:20	57.5	\$26.43	\$15.69	-\$10.74	-41%
Example G1 - Winter On-Peak Lvl 2	2:38:08	19.7	\$9.64	\$5.58	-\$4.06	-42%
Example G2 - Winter On-Peak Lvl 2	1:35:42	18.6	\$7.00	\$5.28	-\$1.72	-25%
Example H1 - Winter Off-Peak Lvl 2	2:07:02	23.9	\$7.86	\$5.51	-\$2.35	-30%
Example H2 - Winter Off-Peak Lvl 2	2:10:57	14.7	\$8.18	\$3.40	-\$4.78	-58%
TOTAL	27:29:46	677.1	\$270.78	\$226.62	-\$44.16	-16%



Calculated based on information provided by Blink Charging

Motion

MOVED BY _____, SECONDED BY _____,
THAT THE BOARD TENTATIVELY APPROVES THE RATE ADJUSTMENT FOR THE ELECTRIC
VEHICLE PUBLIC CHARGING TARIFF AND AUTHORIZES THE SECRETARY TO SET A PUBLIC
HEARING FOR AN AUGUST 19, 2024 EFFECTIVE DATE TO BE HELD AT THE AUGUST 13,
2024 REGULAR MEETING; AND FURTHER THAT A NOTICE OF THE PUBLIC HEARING BE
POSTED ON THE UTILITY'S WEBSITE AND PLACED IN THE TRAVERSE CITY RECORD
EAGLE.



Questions?