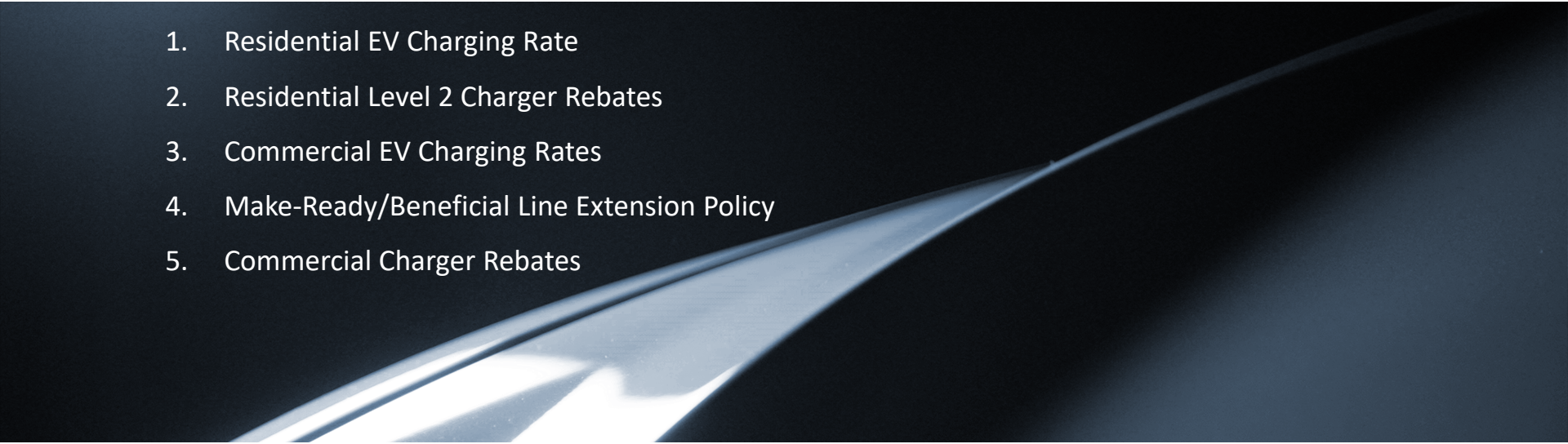
AK EV INFRASTRUCTURE ECOSYSTEM:

5 MAJOR COMPONENTS OF BENEFICIAL EV CHARGING POLICY

March 24, 2021

TESLA

5 MAJOR COMPONENTS

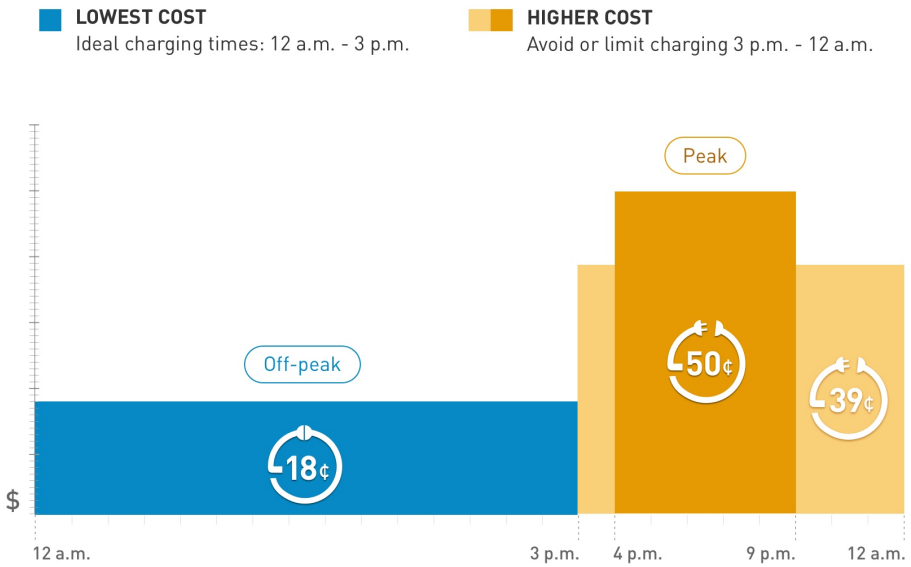


1. Residential EV Charging Rate
2. Residential Level 2 Charger Rebates
3. Commercial EV Charging Rates
4. Make-Ready/Beneficial Line Extension Policy
5. Commercial Charger Rebates

1. RESIDENTIAL EV RATES

- Keep it simple for customers!
- Whole home EV TOU rates
- Strong On-Peak to Off-Peak price differential
- Can use existing rates as a starting place and make overnight “Super Off-Peak” period.

PG&E EV2-A Rate



This rate schedule applies to whole house service where the residential usage and the electric vehicle charging usage is metered together (that is, the electric vehicle charging usage is not metered separately.) Bills issued under Schedule EV2 will be identified as EV2A.

2. RESIDENTIAL CHARGER REBATES

- $500 is generally sufficient for charger hardware.
- Does not matter what connector is used.
- If advanced metering infrastructure (“AMI”) already exists – pull data from AMI rather than car/charger.

3. COMMERCIAL EV CHARGING RATES

Supercharging

Destination Charging

Where You Park

A single well-designed commercial EV charging rate can take multiple use-cases into consideration.

EV CHARGING AND DEMAND CHARGES

Ex. Utility Rates:

Fixed charge = $100
Demand charge = $8/kW
Energy charge = 10 c/kWh

Shopping Center

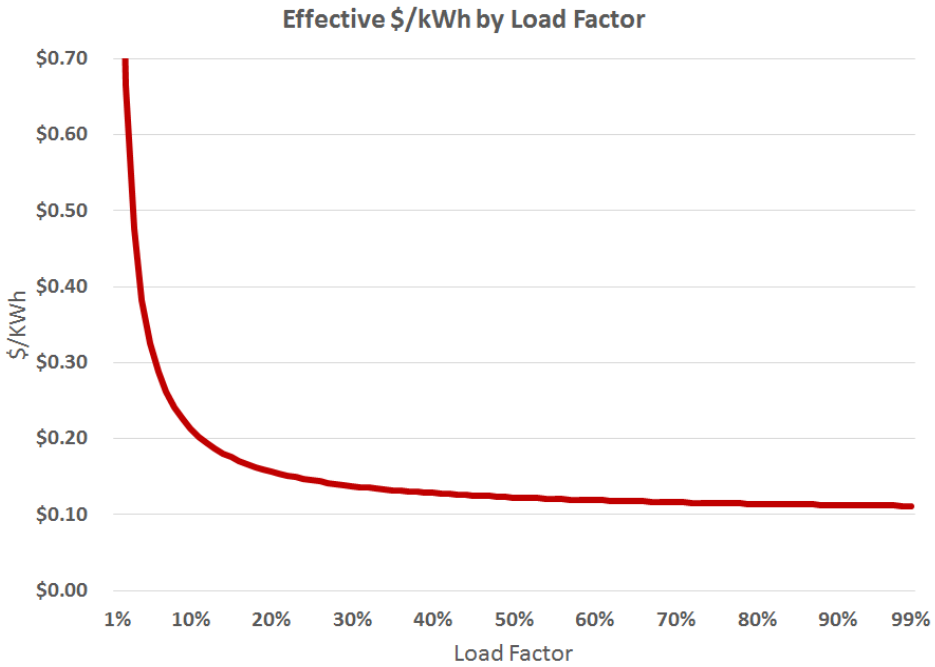
750 kW & 270,000 kWH

- Fixed charge = $100
- Demand charge = $6000
- Energy charge = $27,000
- **Effective Rate = 12.2 c/kWh**

DCFC

750 kW & 54,000 kWh

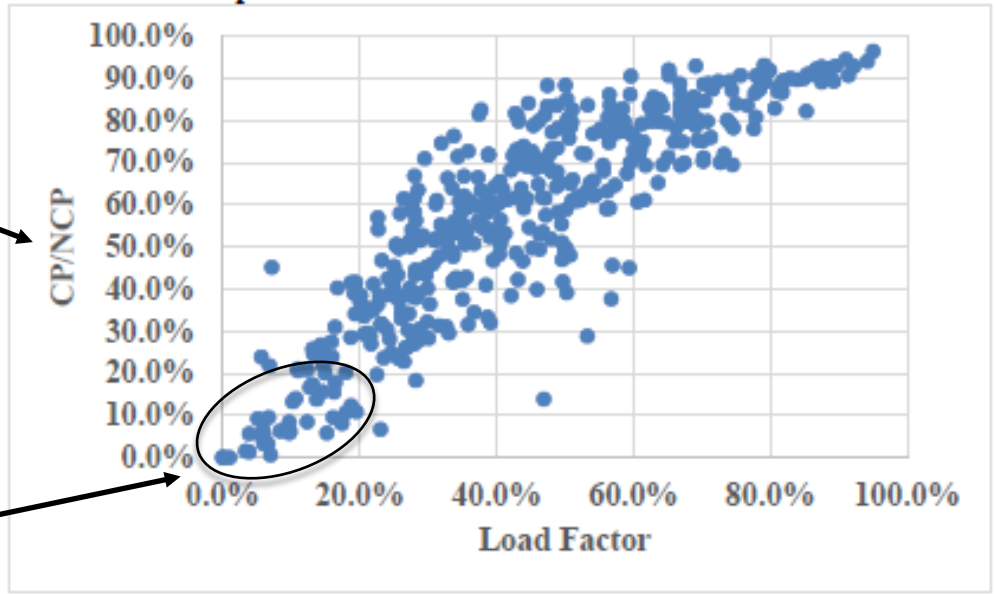
- Fixed charge = $100
- Demand charge = $6000
- Energy charge = $5400
- **Effective Rate = 21.2 c/kWh**



COINCIDENCE WITH SYSTEM PEAKS

Figure 2. Schedule 23, 28 and 30 Coincidence with Monthly System Peaks as Compared to Individual Customer Load Factor

Coincident Peak (CP) as a % of Non-Coincident Peak (NCP)



Typical DCFC load factor range

Graph is from data provided by Pacific Power Oregon in rate case UE 374.

CONSIDERATIONS FOR COMMERCIAL EV RATES

Goals:

- Effective $/kWh on par with commercial class average
- Send signals about the best times to charge
- Provide some level of certainty

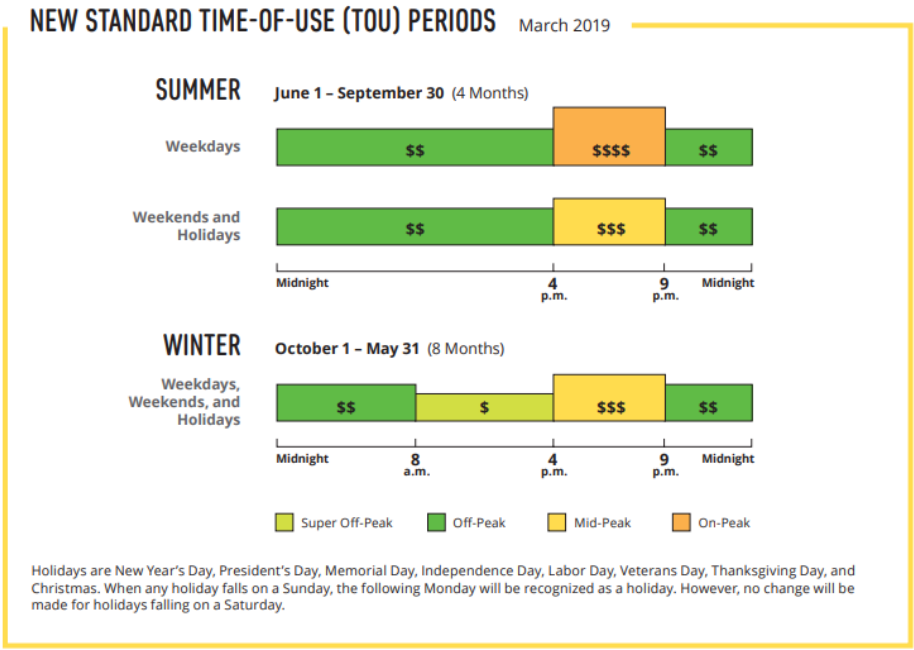


Chart is from SCE's commercial EV-TOU flyer found on their website.

RECOMMENDATIONS FOR COMMERCIAL EV RATES

- Provide rate options.
- Available to all separately metered non-residential EV charging accounts.
- Minimize use of non-coincident demand charges.
- Utilize time-of-use volumetric components.
- Avoid short-term incentive rates.

EXAMPLES OF COMMERCIAL EV RATES

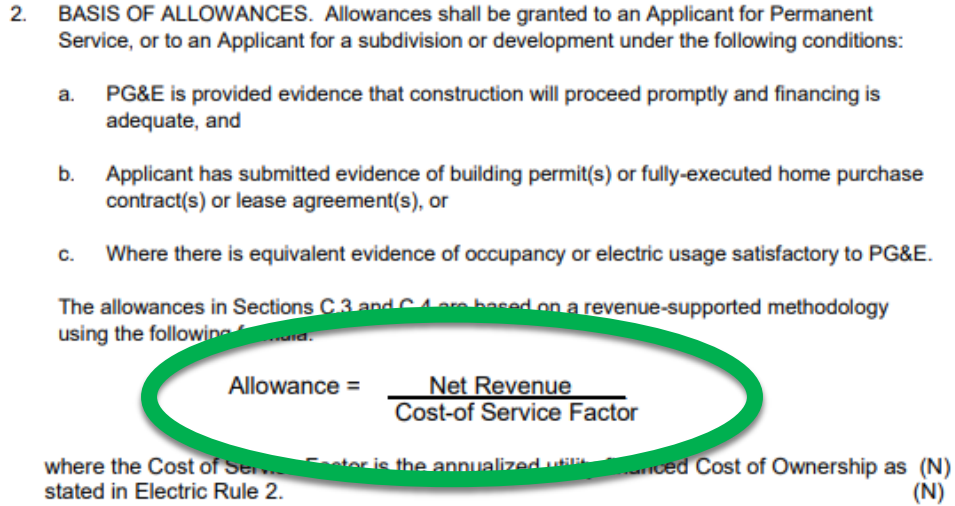
Restructured Markets
- Eversource CT
- Central Maine Power

Vertically Integrated
- SCE
- PG&E
- Alabama Power

Non-EV Specific Rates
- Dominion VA, GS-2

4. MAKE-READY / LINE EXTENSION POLICY

- Line extension policies historically defray upfront system upgrade costs for new customers.
- Can provide allowances based on “Net Annual Revenue”
- Sometimes based on multiple years of “Net Annual Revenue” – varies utility by utility.
- Utility upgrade costs can cost anywhere between $10,000 and $100,000 for a DCFC station.



2. BASIS OF ALLOWANCES. Allowances shall be granted to an Applicant for Permanent Service, or to an Applicant for a subdivision or development under the following conditions:

   a. PG&E is provided evidence that construction will proceed promptly and financing is adequate, and

   b. Applicant has submitted evidence of building permit(s) or fully-executed home purchase contract(s) or lease agreement(s), or

   c. Where there is equivalent evidence of occupancy or electric usage satisfactory to PG&E.

The allowances in Sections C.3 and C.4 are based on a revenue-supported methodology using the following formula:

$$\text{Allowance} = \frac{\text{Net Revenue}}{\text{Cost-of Service Factor}}$$

where the Cost of Service Factor is the annualized utility financed Cost of Ownership as stated in Electric Rule 2. (N) (N)

Example line extension allowance formula from PG&E’s Rule 15.

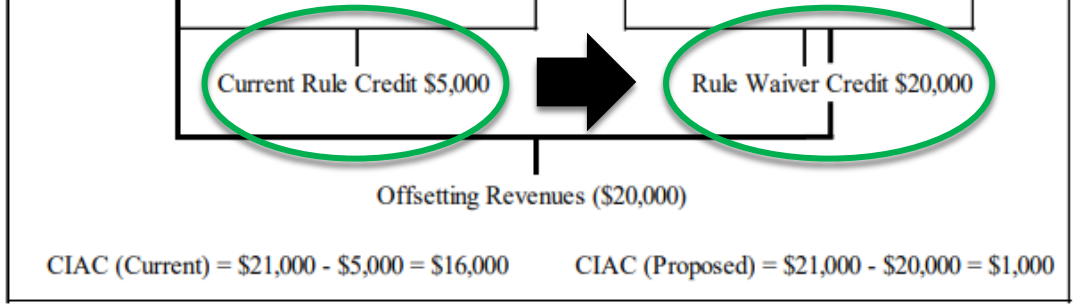
EV SPECIFIC LINE EXTENSION POLICY

- Tampa Electric Company (TECO)
- Extended the Net Revenue Allowance period from 5 years to 10 years.
- Example shows added benefit to EV charging → more usage in future.

Table 1-1
Potential Subsidy Under Current Rule Versus Proposed Rule Waiver

Based on Line Extension cost of $21,000 serving a single EV fast charger

Year	1	2	3	4	5	6	7	8	9	10	Total
Revenues	500	1,000	1,250	1,250	1,500	4,000	5,000	5,000	5,000	5,000	29,500



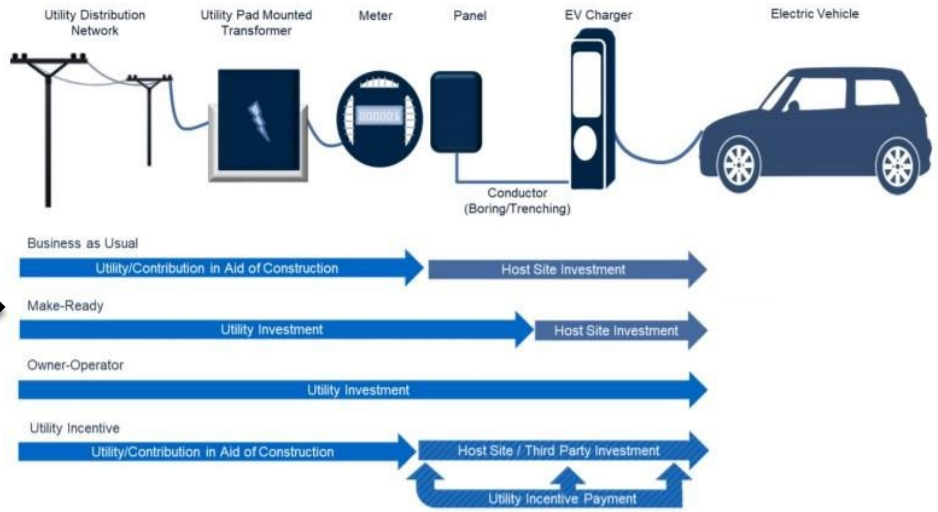
CIAC (Current) = $21,000 - $5,000 = $16,000

CIAC (Proposed) = $21,000 - $20,000 = $1,000

Example EV specific line extension allowance formula from Tampa Electric Company.

EV "MAKE READY" PROGRAMS

- Allows utility to provide EV charging utility-side infrastructure at no cost to customer.
- Sometimes utility will go beyond customer meter to bring infrastructure up to charger pedestal.
- Utility-side vs customer-side "make ready"
- Under the same umbrella as "line extension policy"

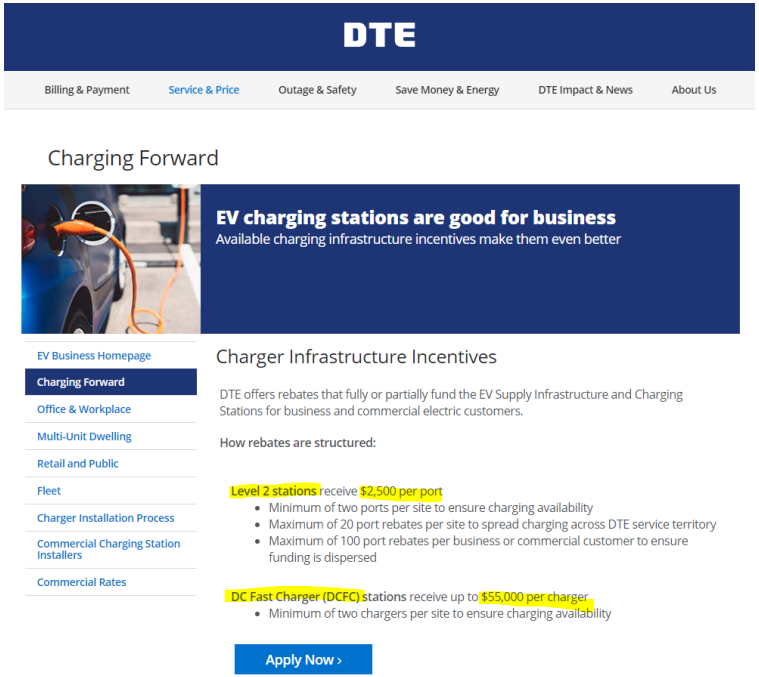


5. NON-RESIDENTIAL CHARGER REBATES

- Non-residential charger rebate use-cases:
  - Public Level 2
  - Multi-unit Dwelling (MUD) Level 2
  - Workplace Level 2
  - Fleet Level 2
  - Government
  - Public DCFC
  - Fleet DCFC

- Adders for specific locations or other policy goals:
  - Feeders w/ excess distribution capacity
  - Specific travel corridors
  - Disadvantaged communities (DACs)

- DCFC chargers are typically considered 50 kW and above.



Example EV rebates screenshot provided from DTE Michigan's website.

5 MAJOR COMPONENTS

1. Residential EV Charging Rate
2. Residential Level 2 Charger Rebates
3. Commercial EV Charging Rates
4. Make-Ready/Beneficial Line Extension Policy
5. Commercial Charger Rebates