



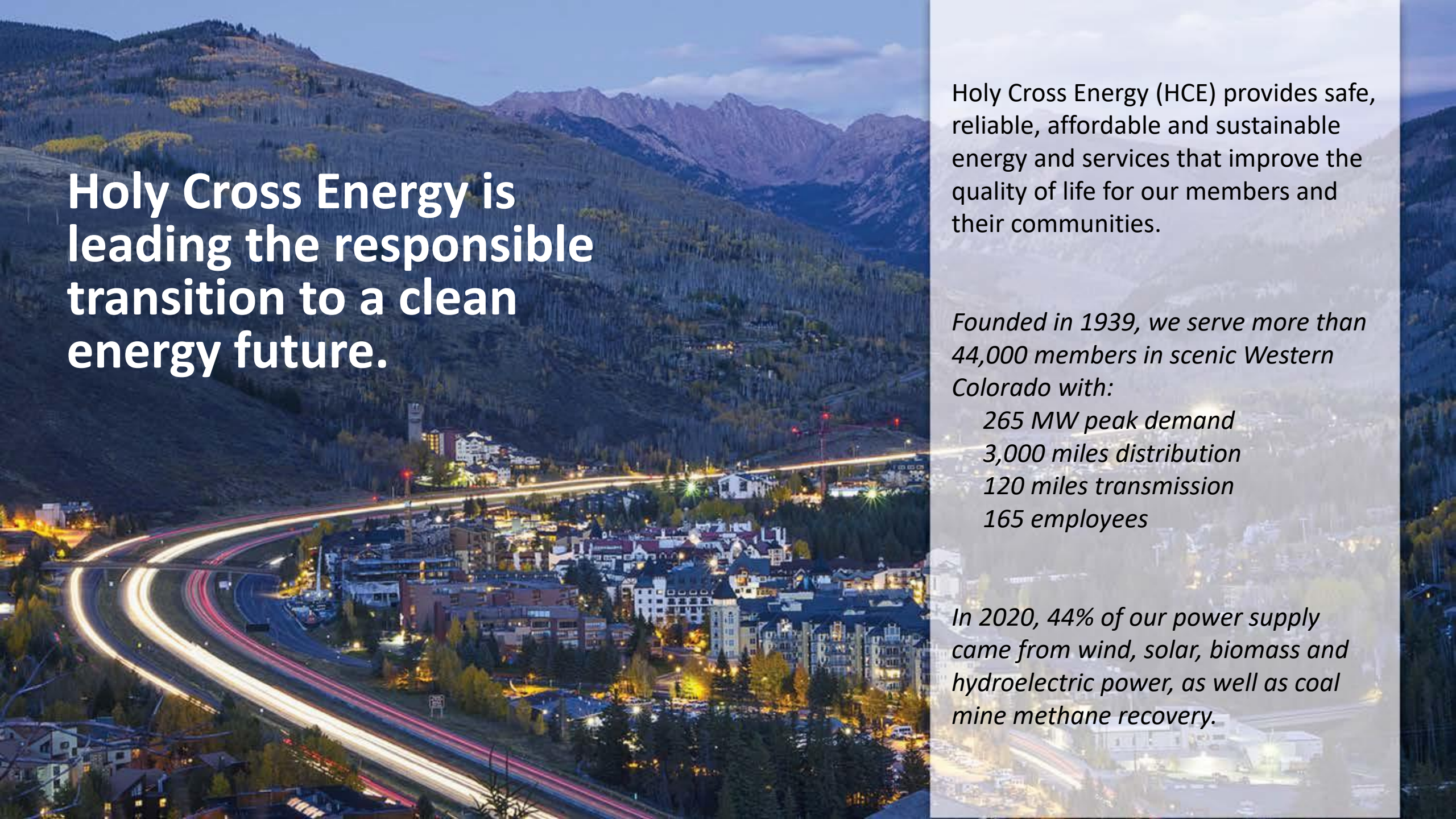
## Programs & Processes

**By Chris Bilby**

Voices of Experience

May 19, 2021





**Holy Cross Energy is leading the responsible transition to a clean energy future.**

Holy Cross Energy (HCE) provides safe, reliable, affordable and sustainable energy and services that improve the quality of life for our members and their communities.

*Founded in 1939, we serve more than 44,000 members in scenic Western Colorado with:*

*265 MW peak demand  
3,000 miles distribution  
120 miles transmission  
165 employees*

*In 2020, 44% of our power supply came from wind, solar, biomass and hydroelectric power, as well as coal mine methane recovery.*

# Fostering DERs for Grid Flexibility



## Basalt Vista House Project

An all-electric affordable housing project to demonstrate the value of DER to consumers and the grid.



## Distribution Flexibility Tariff (DFT)

Created an on-bill credit to allow HCE to manage behind-the-meter DER assets.



## Peak Time Payback & Green Up

Launched programs that pay members for a measured reduction or increase in usage compared with their baseline during a limited number of demand response event hours.



## Power+

Combines DER Service Agreement and DFT to offer members a new resilience option using Battery Energy Storage Systems with a 5MW goal.



2018

2018

2019

2019

2020

2021

2018

2019

2019

2021



## Charge at Home

Free EV home charger and an optional EVSE Rider that allow on-bill payments for the installation cost.

## Time of Day Rate

An optional rate structure to encourage load shifting. Tailored for DCFC and Transit.

- 24c/kWh on-peak (4-9 pm)
- 6c/kWh off-peak

## DER Service Agreement

Expanded the EVSE Rider to allow for a broader application of the tariff-based (service agreement) financing model.

## Camus Energy

HCE begins effort on a Zero Carbon Grid Orchestration combining system visibility with DER signaling.

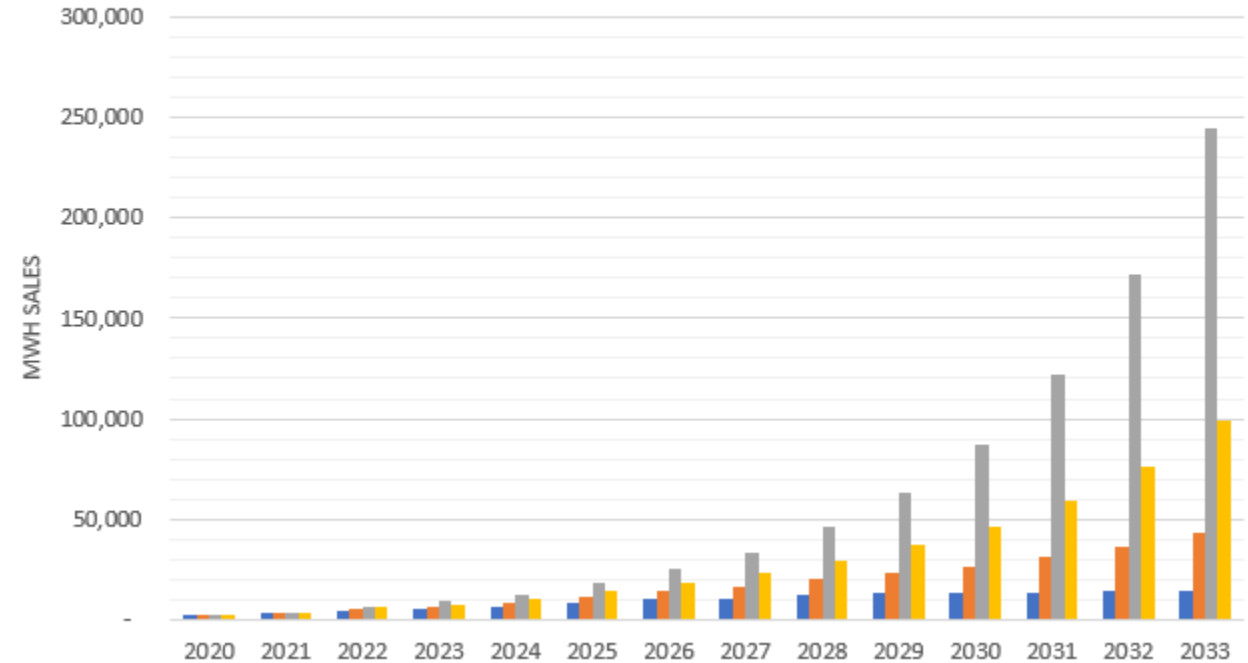
# YOY EV Growth Rate

## HCE Realized=34%

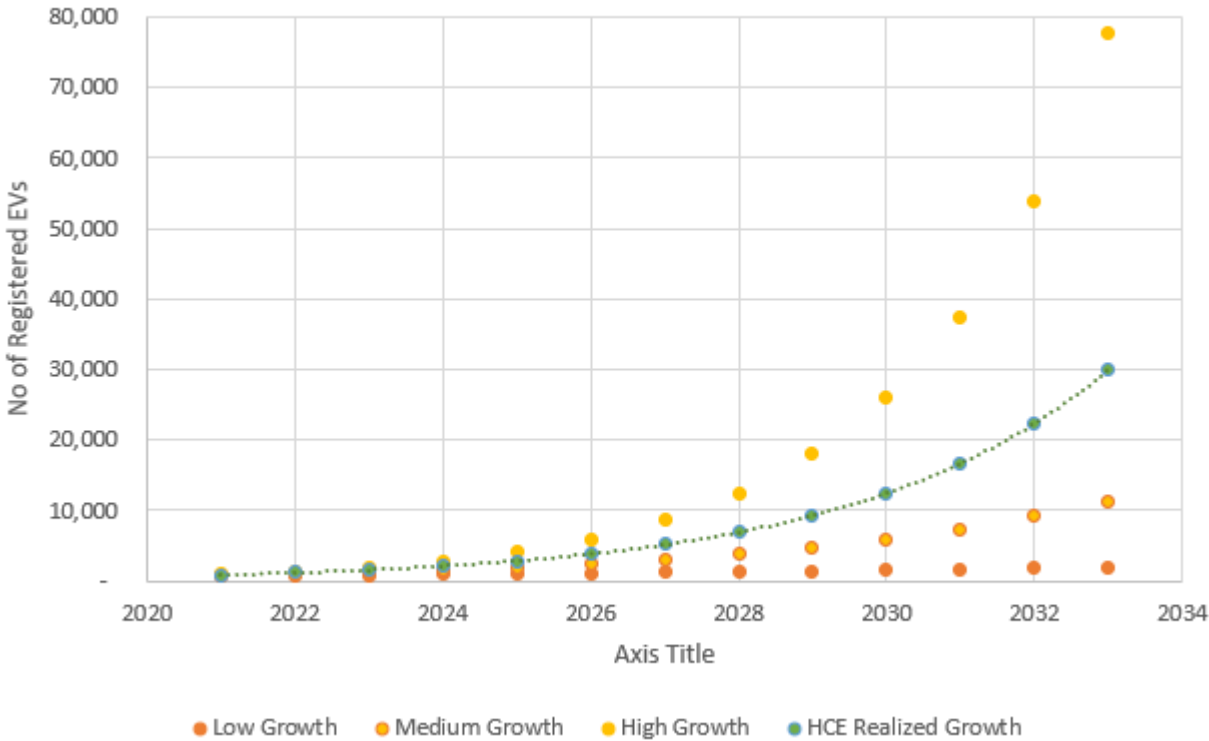


### MWh Sales/Year From EVs

EV Low Growth EV Medium Growth EV High Growth HCE Realized Growth



### Projected Registered EV Growth In HCE Territory



### Registered light duty EVs in HCE Territory

### Sales from LDV, MDV, and HDV



# Electrification of Transportation

## HCE's 2018 Plan

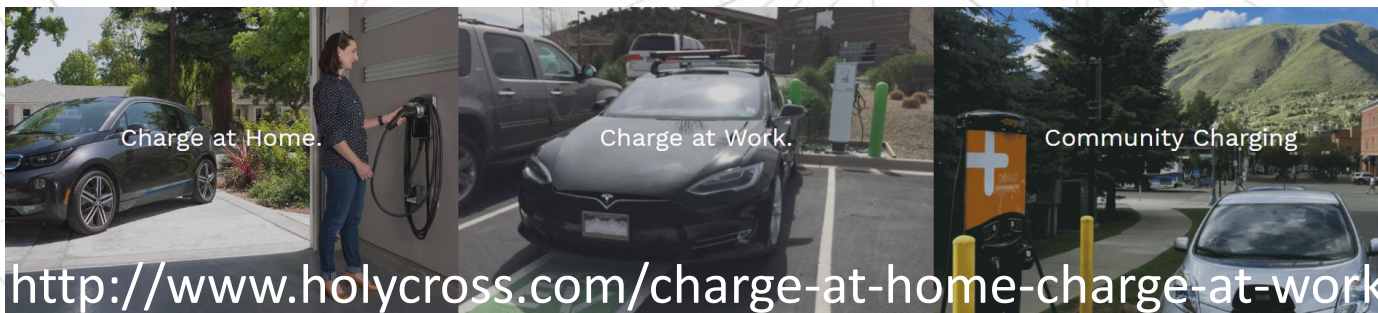
1. Charge at Home. Charge at Work.
2. Community Charging
3. Transit
4. HCE's Fleet

## Since then

1. 2kW of net-metered PV
2. E-Bike Rebate (\$200)
3. Custom BE Rebate

ESVE RFP issued July 2018

2021 EV Plan Update



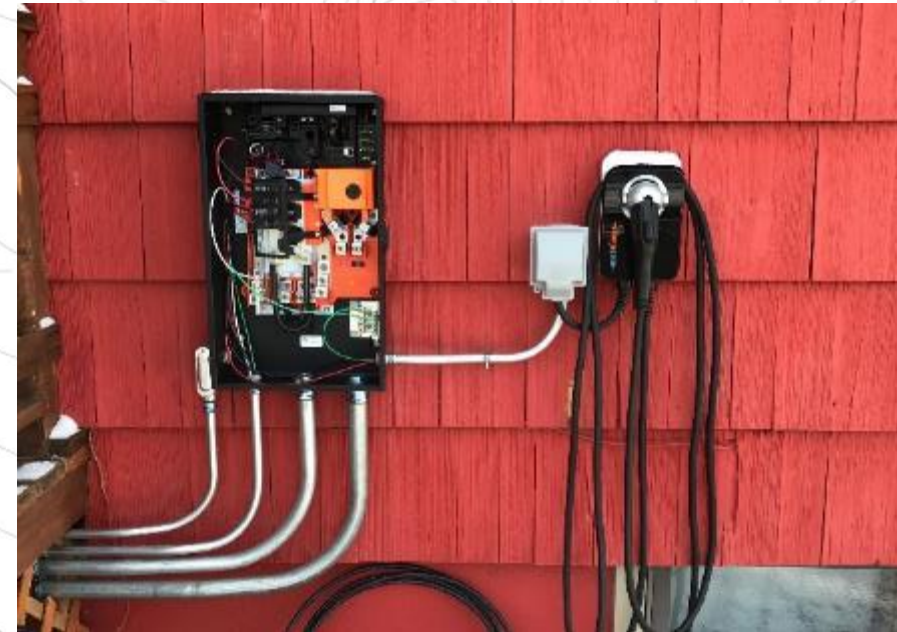
<http://www.holycross.com/charge-at-home-charge-at-work>



# Charge at Home. Charge at Work.

DER Payment Rider

- HCE provides rebated L2 charger upon residential customer request at no cost
- **DER Service Agreement** option: to have a local electrician provide the installation from the panel to the plug and HCE pays the electrician directly
- This allows the members to make payments for 36 months for the installation to help reduce upfront cost
- Auto-enrolled in Distribution Flexibility Tariff



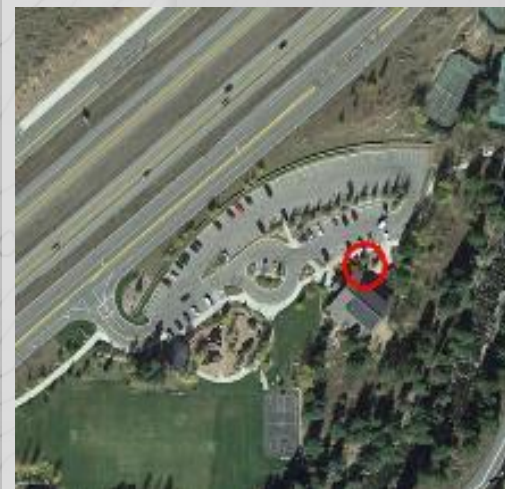
- 250 Home Chargers deployed
- 37% of registered vehicles
- ~15,800 session in 2020

# Community Charging

Clean Communities and Corridors

- HCE pre-approved 90 locations in service area best suited for DC fast charging
- If one of these sites is proposed by a town or community partner, HCE provides engineering support and up to \$150k in infrastructure upgrades
- 59 Commercial L2 and 10 DCFC in 2020
- 5,000 Charging Sessions

- ▶ **Best** – Very low infrastructure cost
- ▶ **Better** – Existing transformer, upgrade capacity cost
- ▶ **OK** – No 480V. New transformer installation required
- ▶ **Bad** – 300+ foot line extension plus transformer cost
- ▶ **Worst** – No three-phase infrastructure in the vicinity



- Location Score: 1-Best
- Line Loop #755P2
- Current Size: 300kVA, 480V
- Enough Capacity for an additional 300 kW of load
- All work on secondary side

# Electrify My Ride

## Transit Program

- As our *100x30* plan is implemented, HCE will likely have excess wind generation overnight
- Low cost, clean energy is perfect for utilization by transit fleets (ECO, RFTA) and school districts
- HCE has collaborated on infrastructure analysis, rate design including TOU with *no demand charge*, on-site solar PV and green pricing

Rate	Consumer Charge	Demand Charge	Energy Charge	ECA	Minimum
TOU	\$12.00	\$0.00	0.06¢ (off peak) 0.24¢ (on peak)	\$0.00	\$12.00

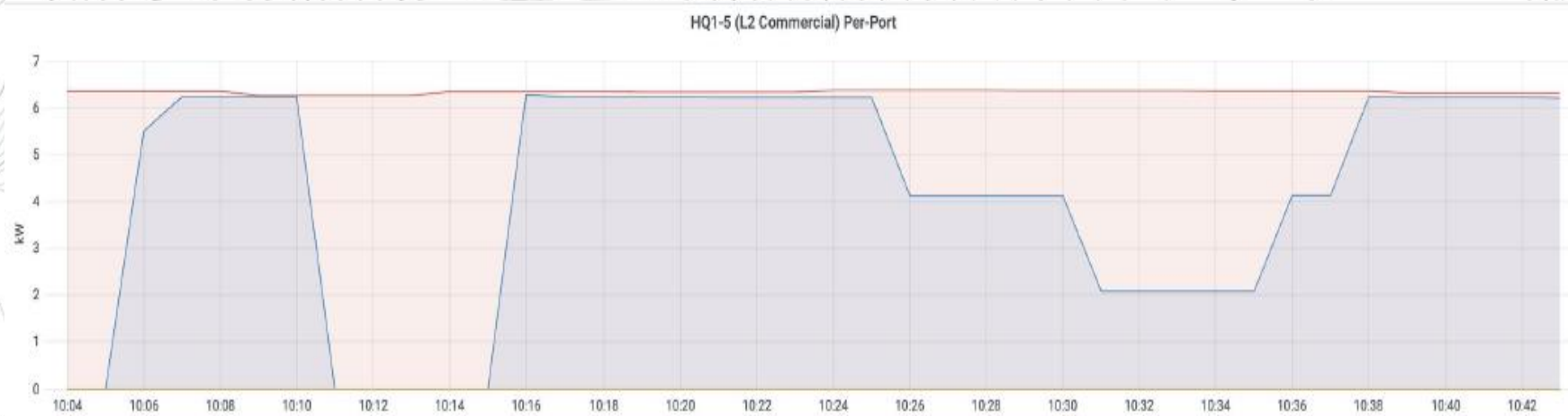
\*on peak defined as 4pm-9pm 7 days a week



# Energy Optimization



**CAMUS**  
Zero Carbon Grid Orchestration



Testing at HCE HQ on a CT-4000. Red line is a Tesla at a fixed charging rate; the blue line is a fleet Chevy Bolt charging at a predetermined varying rate



EV Charging over time in HCE's service territory: 125 ChargePoint stations; individual units (left) and aggregated perspective (right) illustrating nightly charging peak (July 2020).



## CONTACT

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