

Peterbilt

EV



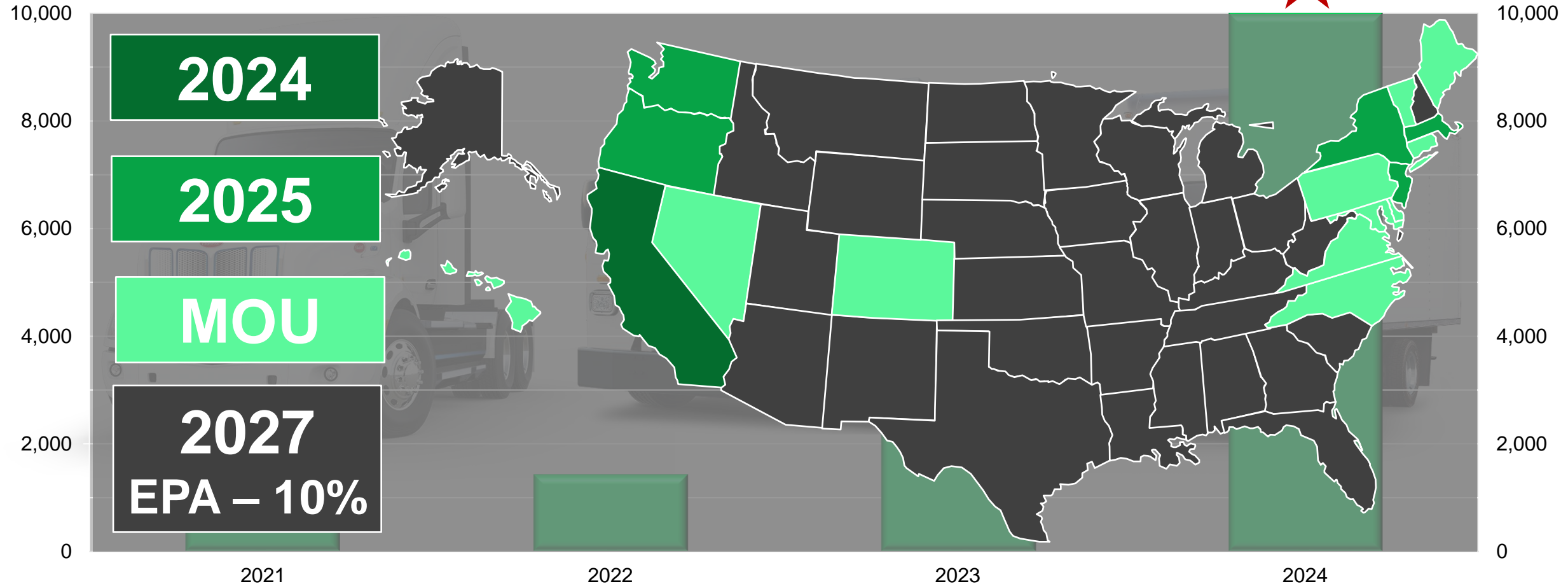
INDUSTRY EV VOLUME Requirements

Units

CARB ZEV Mandate



Units

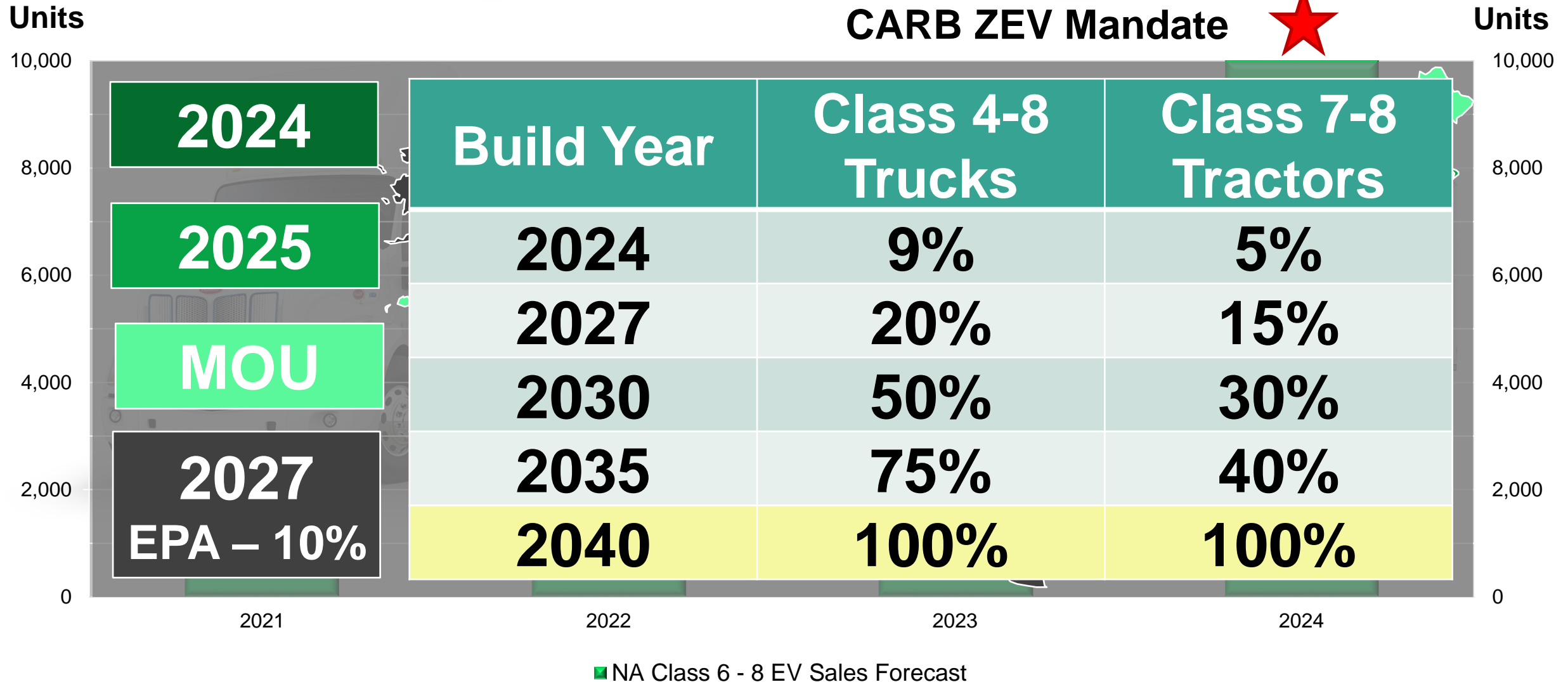


2024: CA

2025: OR, WA, MA, NY, NJ

MOU States: NV, CO, HI, ME, VT, CT, PA, RI, MD, VA, NC, & DC

INDUSTRY EV VOLUME Requirements



2024: CA

2025: OR, WA, MA, NY, NJ

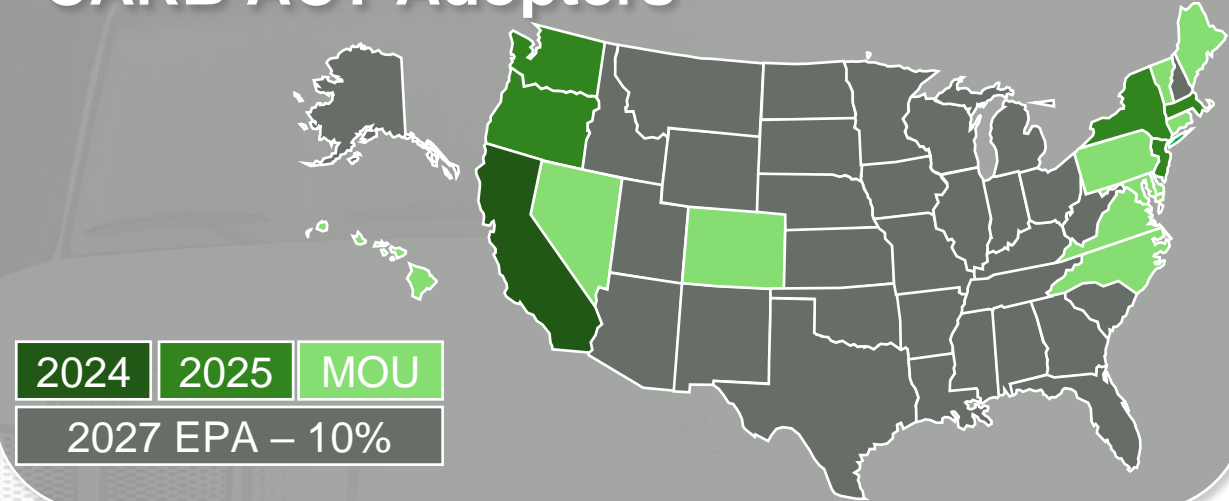
MOU States: NV, CO, HI, ME, VT, CT, PA, RI, MD, VA, NC, & DC

Regulatory & Technology Trends

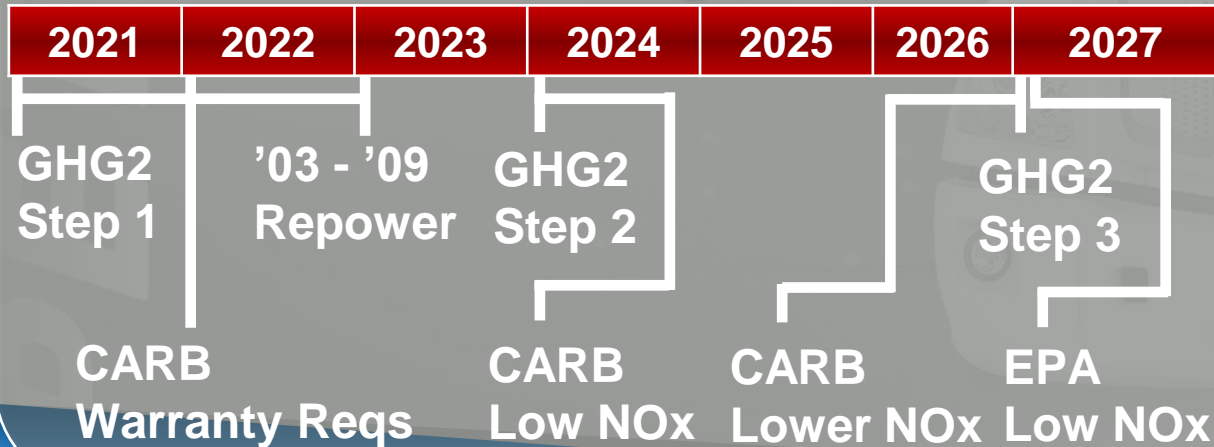
CA ZEV Mandate

Build Year	Class 4-8 Trucks	Class 7-8 Tractors
2024	9%	5%
2027	20%	15%
2030	50%	30%
2035	75%	40%
2040	100%	100%

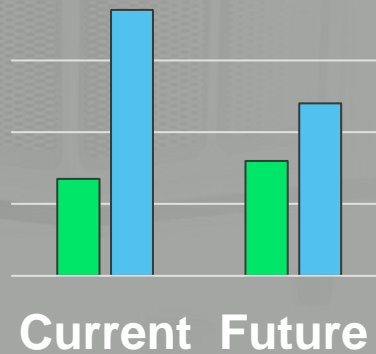
CARB ACT Adopters



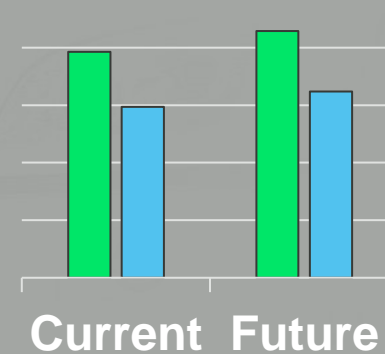
Diesel Emissions Regulations



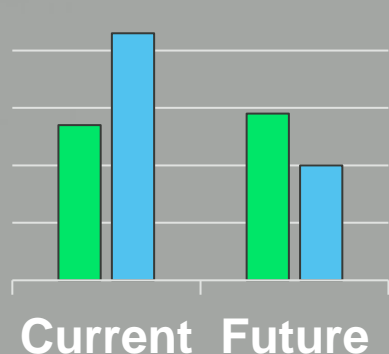
Truck Cost



Energy Cost



TCO



■ Diesel

■ BEV

EV Customer Journey



CARB States

- 2024 CARB ZEV Requirement – 5% Tractor / 9% Truck
- Truck Registrations
 - CARB Dealers, National Fleets, Body Builders

2022		2023		2024	
			 1	→	19
					
			 1	→	11
					

LEADING THE CHARGE

Leader in EV



The Whole EV Package

Truck



220EV

Funding

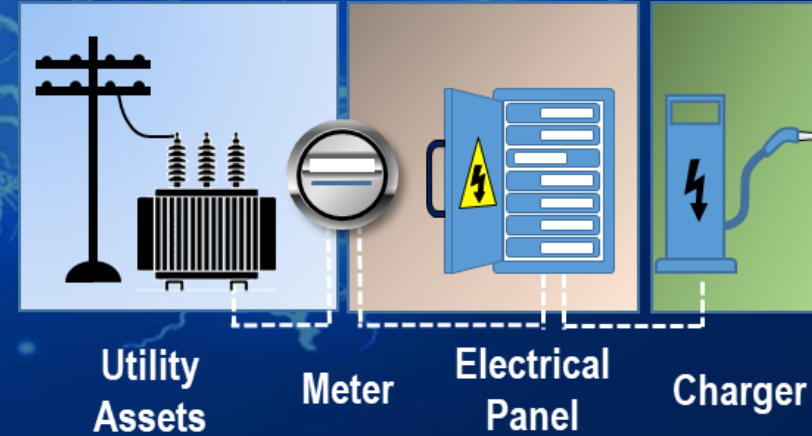


Charger

PACCAR PARTS



Infrastructure



Applications for EV Adoption



Less than 200 Miles Driven Each Day

Cube Out / LTL / Diminishing Load

Stop Start Duty Cycle

Return Home Every Night



579EV



520EV

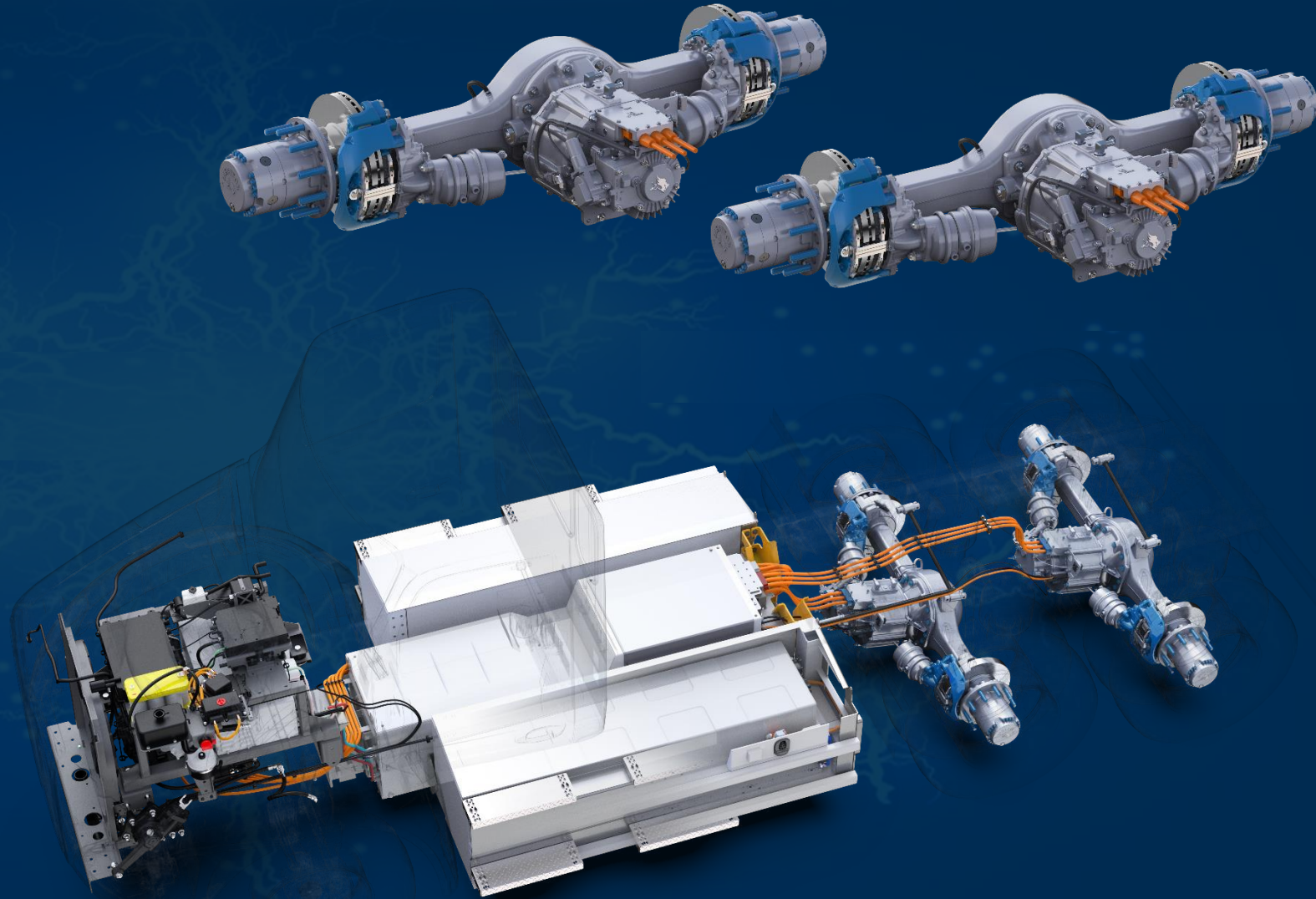


220EV

579EV Spec Overview



- Powertrain - Meritor eAxle
 - 6x4 - 82,000 # GCW
- Wheel Bases: 190" & 216"
 - ePTO Options Available
- Power:
 - 400kW (536hp) continuous
 - 500kW (670hp) peak
- Range:
 - 150 Miles - 400 kWh Battery Pack
- Thermally Managed Batteries
- 6,000 - 7,000 lb. Weight Increase
- Charge Time
 - AC Charging: ~36 Hours
 - Fast DC Charging: 3.1 Hours



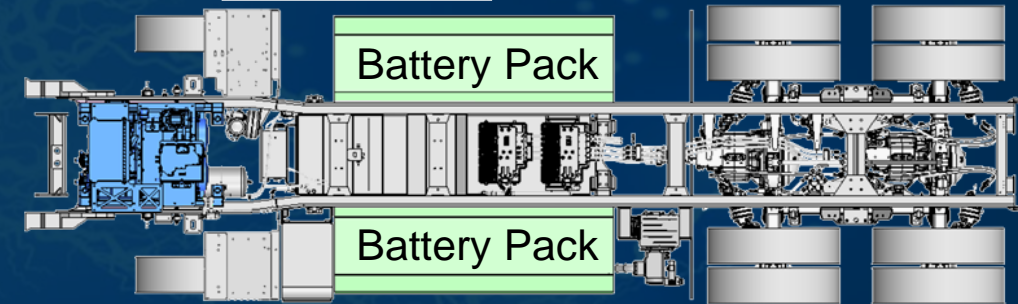
S20EV Spec Overview



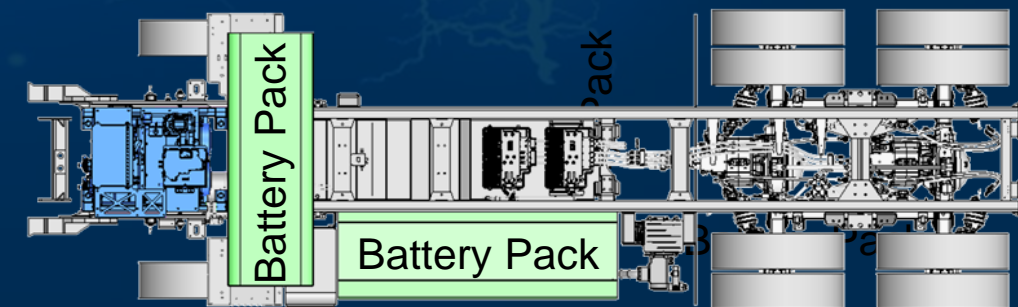
- Powertrain - Meritor eAxle
 - 6x4 - 80,000 # GVW
- Wheel Bases: 200" & 215"
 - ePTO Options Available
 - Front/Rear/Side Loader Configurations
- Power:
 - 400kW (536hp) continuous
 - 500kW (670hp) peak
- Range:
 - 80 – 120 Miles Range / 1,100 Bins / 400 kWh Battery Pack
- Thermally Managed Batteries
- 6,000 - 7,000 lb. Weight Increase
- Charge Time
 - AC Charging: ~36 Hours
 - Fast DC Charging: 3.1 Hours



215" Front/Rear Loader with ePTO



215" Right Side Loader with ePTO



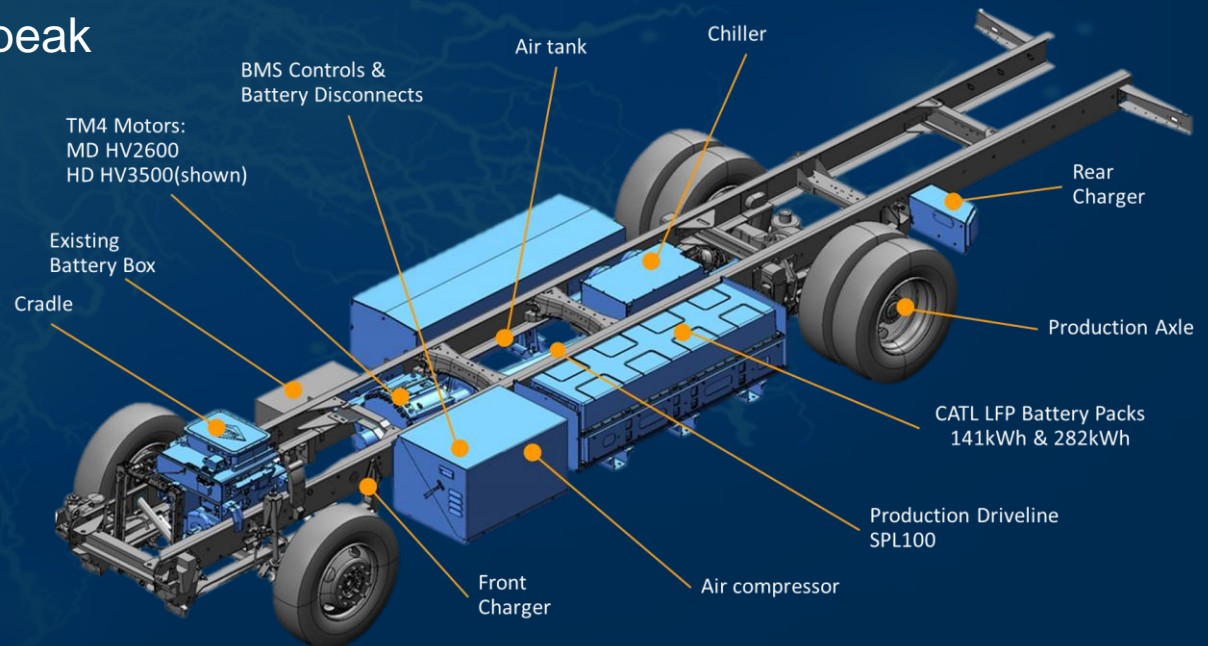
220EV Spec Overview



- Powertrain - Dana/TM4 Midship Motor Electric
 - 4X2 - 26,000 Lbs (Class 6)
 - 4X2 - 33,000 Lbs (Class 7)
- Wheel Bases: 206" / 218" / 274"
 - Body Lengths: 24' / 26' / 30'
- Power:
 - Class 6: 154kW (207hp) continuous; 265kW (355hp) peak
 - Class 7: 259kW (347hp) continuous; 350kW (469hp) peak

- Range
 - 100 / 150 / 200 Miles
 - 141 / 209 / 282 kWh Battery Pack
- Thermally Managed Batteries
- 2,000 lb - 4,000 lb Weight Increase

- Charge Time
 - AC Charging: 8 - 26 Hours
 - Fast DC Charging: 1 – 2.1 Hours





Utah Clean Diesel Program



- Utah Dept. of Environmental Quality
- ~\$9 Million Available
- Up to 45% Reimbursement of EV and Charger
 - 2009 or Older Diesel Replacement ideally
 - Operated 7,000 Miles/Year for Prior 2 Years
 - Operated 50%+ in Priority Counties:

Box Elder	Cache	Davis	Duchesne
Salt Lake	Tooele	Uintah	Utah
Weber			





California HVIP



- **\$400M+*** Available for All Fleets

*As of Jan 23rd

- **No Scrap Required**
- **Price Reduced at Point of Sale**

Class / Application	Voucher Amount	Peterbilt Vehicles Eligible
Class 8 Drayage	\$150,000	579EV
Class 8	\$120,000	579EV, 520EV
Class 6 / 7	\$85,000	220EV



EV Incentives



- Voucher / Rebate Programs
 - California, New Jersey, Texas, Canada
- Scrap Programs
 - EVERY state
- Low Carbon Fuel Source (LCFS) Programs
 - California, Oregon, Washington
- Federal Tax Incentives
 - \$40,000 / truck
 - Up to \$100,000 for charging/infrastructure



Product Offering

UPTIME



DC50



**CHARGEMAX
90/120/180**



**POWERCHOICE
175HC/350HC**



AC20



DC20



**POWERCHOICE
HVC 100/150**











**HELIOX MOBILE
25/50**



PACCAR PARTS Chargers



Charger Power	DC 20 kW	DC 50 kW	DC 120 kW		DC 180 kW	
 Charge Time 	 20 hrs	 7.9 hrs	 3.9	 7.8	 3.1	 5.2
	7-14 hrs	3-6 hrs	1.5 - 3	3 - 6	1.5 - 3	3 - 6

Minimum

Base

Fast

Entry Level



Charger Comparison

<p>Charger</p>			
<p>DC Output</p>	<p>50 kW</p>	<p>120 kW</p>	<p>180 kW</p>
<p>Dual Truck Charging</p>	<p>No</p>	<p>Yes</p>	<p>Yes</p>
<p>Class 8 Charge Time</p>	<p>8 Hours</p>	<p>4 Hours</p>	<p>3 Hours</p>
<p>Charger + Infrastructure</p>	<p>\$\$-\$\$\$*</p>	<p>\$\$\$*</p>	<p>\$\$\$+*</p>

*Range dependent on installation site current electrical architecture and subject to exceed maximum

Energy Comparison

UPTIME

400kwh
2-3
Hours



Peterbilt 579EV

VS.



Average Household

35kwh
24
Hours

PACCAR PARTS
A DIVISION OF PACCAR

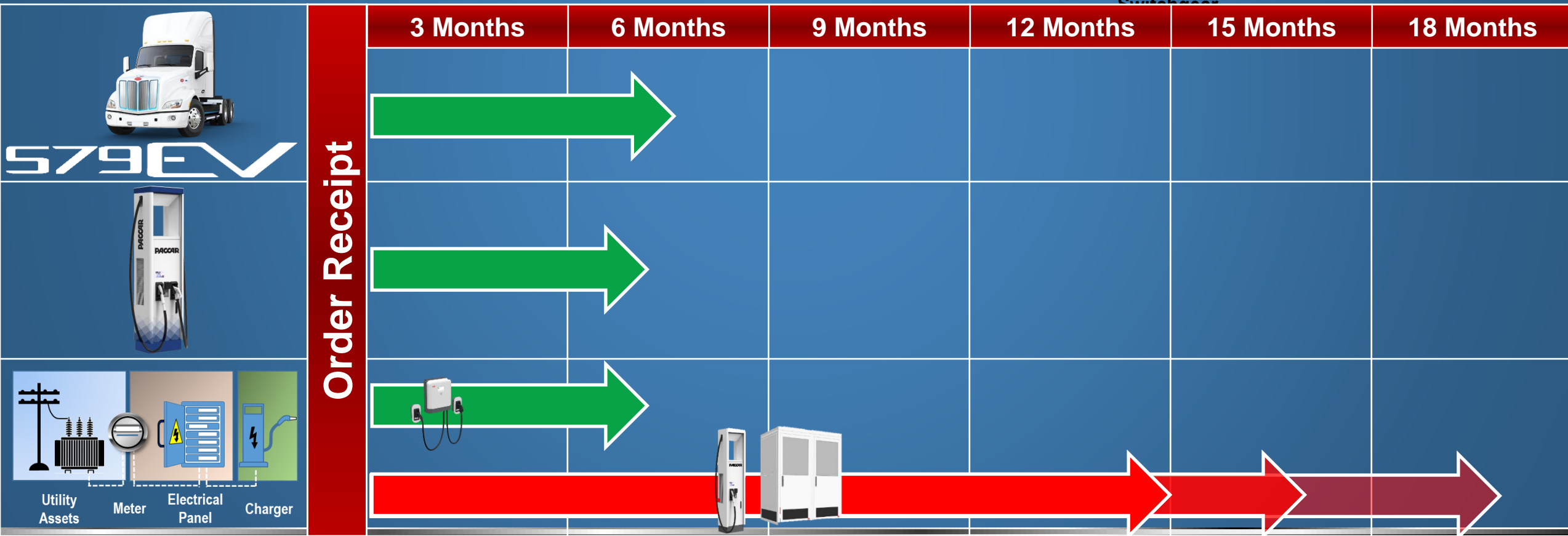
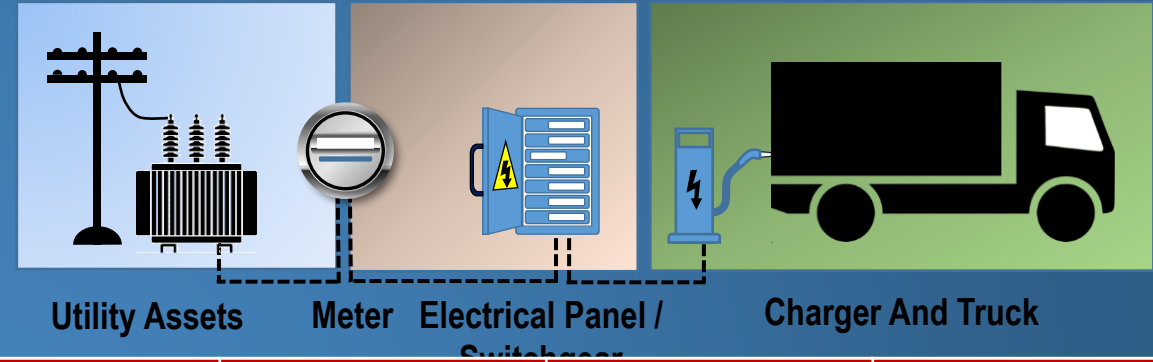


ENTECHTM
SOLUTIONS
A DIVISION OF FTI...



Infrastructure Timelines

- Infrastructure Timing Based on Site & Utility
- Higher Power Level Increases Utility Design
- Start Planning Early



EV TCO

- Peterbilt.com



- Choose:

- Fuel
- Vehicle

The screenshot shows the Peterbilt website's EV TCO calculator interface. At the top is the Peterbilt logo and navigation menu with links for TRUCKS, PRODUCTS & SERVICES, INNOVATION, RESOURCES & SUPPORT, and ABOUT US. There are also links for Shop Peterbilt, Careers, and Contact. Below the navigation is a selection area with two options: DIESEL (represented by a drop icon) and ELECTRIC (represented by a lightning bolt icon). The ELECTRIC option is highlighted with a red underline. Below this is a 'SELECT VEHICLE:' section with three vehicle options, each featuring a lightning bolt icon and a red oval highlight around the truck image:

- 220 EV Medium-Duty**: A white medium-duty box truck.
- 520 EV Vocational**: A white vocational truck with a trash compactor body.
- 579 EV On-Highway**: A white on-highway truck with a conventional cab.

EV TCO

- Peterbilt.com




- Choose:
 - Fuel
 - Vehicle
- Input Costs

STEPS TO CALCULATE:

1 ✓ <u>ELECTRICITY COSTS</u> \$5,569	2 EQUIPMENT COSTS \$40,000	3 OTHER COSTS \$58,750
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Peterbilt 220EV ELECTRIC



ELECTRIC COST INPUT

Mileage (miles/year) 37,500

Electricity Costs (\$/kWh) 0.110

WILL A VOCATIONAL BODY USE POWER FROM THE ELECTRIC CHASSIS ▾

EV TCO

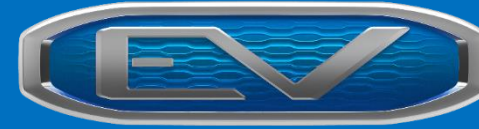
- Peterbilt.com



- Choose:
 - Fuel
 - Vehicle
- Input Costs
- Compare

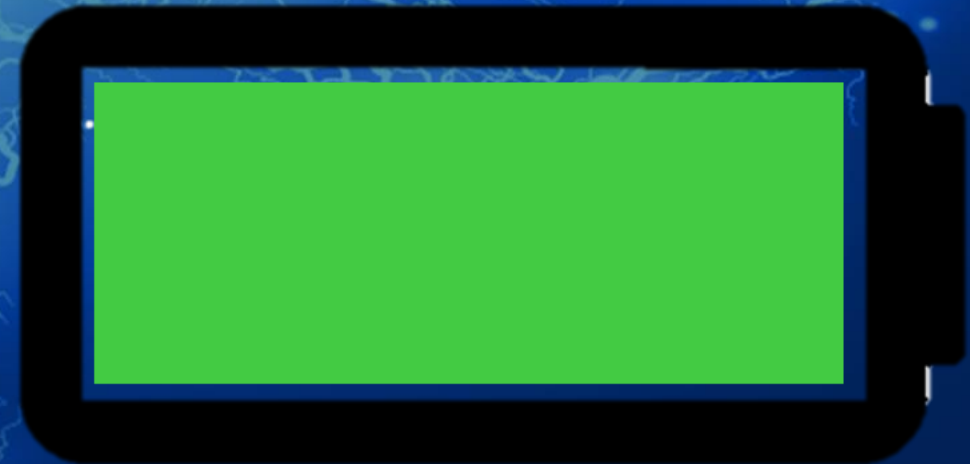
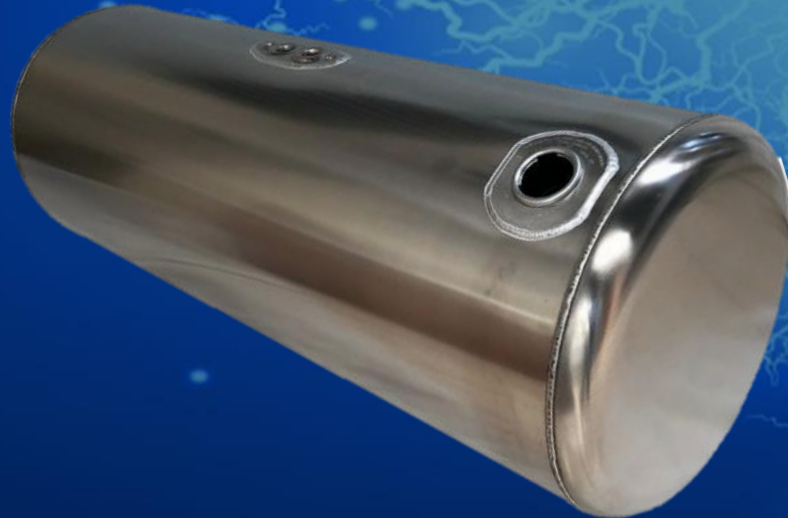


Cost of Ownership



150 Miles
7 MPG
\$5/Gal
\$107

150 Miles
317 kWh
\$0.11 / kWh
\$35



Production Deliveries

2021



City of Anchorage
Anchorage, AK



Frito Lay
Modesto, CA



Republic Services
Boise, ID

1H 2022



Pride - Mississauga, ON



Benore Logistics
Greer, SC



Marketing Trucks



Sales Demo Trucks

2H 2022

In Service
Quantix



At Body Builder

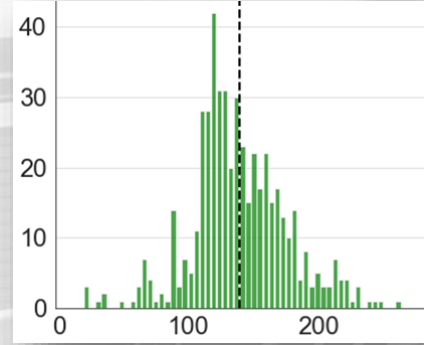


EV Success Takes Planning

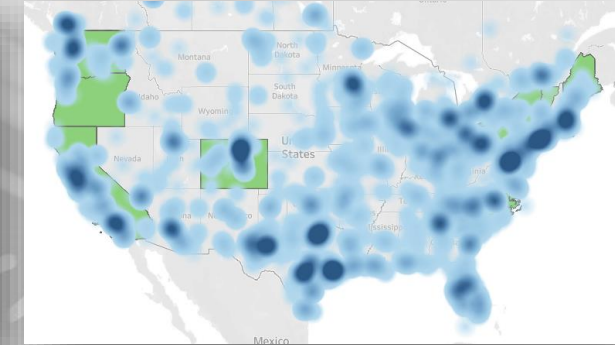
- ✓ Learn about EV Technology

Applications
Charging
Infrastructure
TCO
Route Planning

- ✓ Analyze Potential Routes
 - Range/Payload/Efficiency



Miles Driven



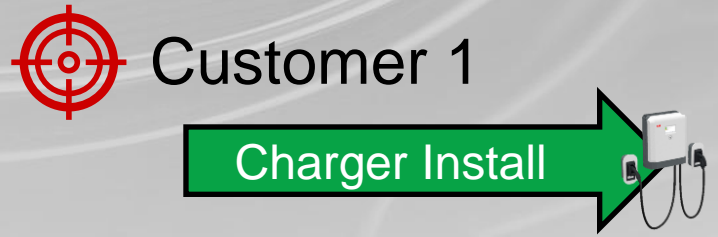
Return to Home

- ✓ Utilize EV Demo Fleet
 - Grow Confidence



- ✓ Must Plan for Charging of Demo
 - Charger Install Takes Time

Target Cust	1 Month	Demo
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Demo Period



EV Team

Truck



Funding



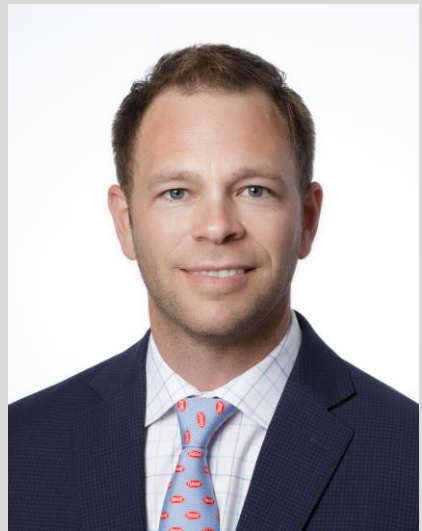
Marketing



Charger



Infrastructure



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