American Owned
American Made
Advanced Clean Truck (ACT)

<table>
<thead>
<tr>
<th>Model Year</th>
<th>Class 4-8 Vocational</th>
<th>Class 7-8 Tractors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2024</td>
<td>9%</td>
<td>5%</td>
</tr>
<tr>
<td>2025</td>
<td>11%</td>
<td>7%</td>
</tr>
<tr>
<td>2026</td>
<td>13%</td>
<td>10%</td>
</tr>
<tr>
<td>2027</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>2028</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>2029</td>
<td>40%</td>
<td>25%</td>
</tr>
<tr>
<td>2030</td>
<td>50%</td>
<td>30%</td>
</tr>
<tr>
<td>2035</td>
<td>75%</td>
<td>40%</td>
</tr>
<tr>
<td>2040</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Sales Targets
New Trucks ZEV by 2027

CARB MOU

17 States & Canada
30% ZEV by 2030

Federal

Climate Policy
Net-Zero Emissions by 2050
**Heavy Duty BEVs**

**Kenworth T680E**
- 150 mi Range
- 82k lb Gross Combination Weight
- Weight: 23k Lbs (7,400 lb impact)
- 6x4 Tractor or 6x4 Straight Truck
- 3 Hour Charge Time
- 5 Yr Battery Warranty Standard

**Peterbilt Model 579EV**
- 80 – 120 Miles / 1,100 Bins
- 80k lb Gross Combination Weight
- 7,000 lb Weight Impact
- 6x4 Straight Truck
- 3 Hour Charge Time
- 5 Yr Battery Warranty Standard

**Peterbilt Model 520EV**
- 80 – 120 Miles / 1,100 Bins
- 80k lb Gross Combination Weight
- 7,000 lb Weight Impact
- 6x4 Straight Truck
- 3 Hour Charge Time
- 5 Yr Battery Warranty Standard
Medium Duty BEVs

Kenworth K Series

Peterbilt Model 220EV

Class 6 & 7
100-200 Miles of Range (3 batteries)
Three Wheelbases (24-30’ box)
1 to 2 Hours to Charge
6 Yr Battery Warranty
PACCAR Charging

Hardware
20kW – 350kW+

Installation

Software & Service
Coming Soon

ABB
heliox

Schneider Electric

ENTech Solutions
Sales Experience

Order Now!

- Sales Depend On Strong Incentives (e.g. HVIP In CA)
- Key Customer Concerns Are Range, Cost, Weight, and Infrastructure
Early Experience:

- Trucks Drive Smoothly And Have Good Acceleration
- Range Is Limiting Compared To Diesel, Used For Specific Routes
- Maintenance Costs Are Lower Than Diesel
- Infrastructure Delays Caused Deployment Delays
Infrastructure Considerations

- Fleet Operations Require Charging at Depots & Warehouses
- Public Charging Needed For Range & Trial Deployments
- Trucks Require Space, Height, Pull-Through, & Higher Power
- 20-30c/kWh To Match Diesel (Incl. Energy, Equipment, O&M, Driver)
- Other Infrastructure Barriers:
  - Unpredictable Routes (For Hire Carriers) Cannot Plan their Infrastructure
  - Lease/Rental Facility Operational Models Cannot Invest in Infrastructure (Facility Ownership)
Infrastructure Timelines

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

**Charger Lead Time**

- **Low**
  - Site Assessment
  - Design
  - Permitting
  - Construction
  - Variance

- **Medium**
  - Site Assessment
  - Design
  - Permitting
  - Construction
  - Variance

- **High**
  - Site Assessment
  - Design
  - Permitting
  - Construction
  - Variance

**Utility Equipment**

- 16-52 Weeks

**Construction**

- 7 months

**Variance**

- 30 Weeks
Accelerating ZEV Transition

• Focus on Key Sectors
  • Port Drayage
  • Regional/Short Haul
  • Intercity

• Incentivize Early Adopters
  • Incentives & Subsidized Leasing
  • Simplified Programs for Small Business
  • Education, Fleet Assistance

• Encourage Infrastructure
  • MD/HD-Accessible Charging

PACCAR Is Ready To Collaborate
R&D Focus

RANGE

APPLICATIONS

COST

PRODUCTIVITY
ZEV Powertrain Outlook

**Local**
- Current: Battery Electric
- Future: Hydrogen (Or Opp. Charge)

**Regional**
- Current: Battery Electric
- Future: Hydrogen (Or Opp. Charge)
  - Range: < 200 mi.
  - Range: 200-400 mi.

**Longhaul**
- Current: Battery Electric
- Future: Hydrogen

**Today**
- 2030+

---

**Notes:**
- Hydrogen provides a clean energy alternative for long-distance travel.
- Battery Electric vehicles are more prevalent in local and regional applications.

Early Experience:
• Trucks Are Easy To Fill And Operate
• Much Higher Range Than BEVs
• Extensive Technician Training Needed
• Infrastructure & Hydrogen Are Expensive

Featured Partners: Toyota Motor North America, Shell Oil Products U.S., Toyota Logistics Services, UPS, Total Transportation Services Inc., Southern Counties Express, South Coast Air Quality Management District, Port of Hueneme, Cap and Trade, California Air Resources Board (CARB), California Climate Investments (CCI)
Hydrogen In WA

- Fleet of Fuel Cell Trucks Can Provide A Large Demand For Hydrogen
  - PACCAR Ready To Engineer & Produce Vehicles
- Adds To Other Regional Demand – Maritime, Rail, Industrial, Etc.
- Abundant Green Energy To Support Hydrogen Generation
- High Corporate & Non-Profit Interest in Hydrogen Hub