Saving the planet, one truck at a time

Safer. More reliable. Lower cost.

Technological Maturity

- EV technology is more than 100 years old
- Battery and motor technology keeps getting smaller, better, more affordable and reliable
- Over-the-road trucks are emerging quickly, but are not yet viable for widespread use (Daimler, Volvo, Tesla, Nikola, others)
- Terminal tractors have been deployed for more than 5 years and can **begin improving the air in your community today!**

Western Brewery Journal - 1905

http://www.kcstudio.com/colelect1903b.html

What is a Terminal Tractor?

- AKA: Yard Goats, Hostlers, Tugs, Shuttles, Yard Dogs …
- Move trailers/containers in warehouse yards, distribution centers, ports, rail yards, etc.
- Duty cycle
  - Varies, but moderate to heavy operations run trucks 3,000-6,000 hours per year
  - High torque, low speed (<25 mpg), short wheel-base and radius for tight yards
  - Pull 80,000 lbs
  - Can have long pauses between pulls (high idling)
  - Occasionally used for short distances on-road hauling containers between yards

Diesel-Powered Terminal Tractors

- Extensive idle time
- Emissions reduction equipment doesn't work well at low speeds
- NOx emissions likely "more than five times the certification limit for the average heavy-duty vehicle"*
- Drivers, employees and communities exposed to significant, unhealthy emissions

By Mr.choppers - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=78026691

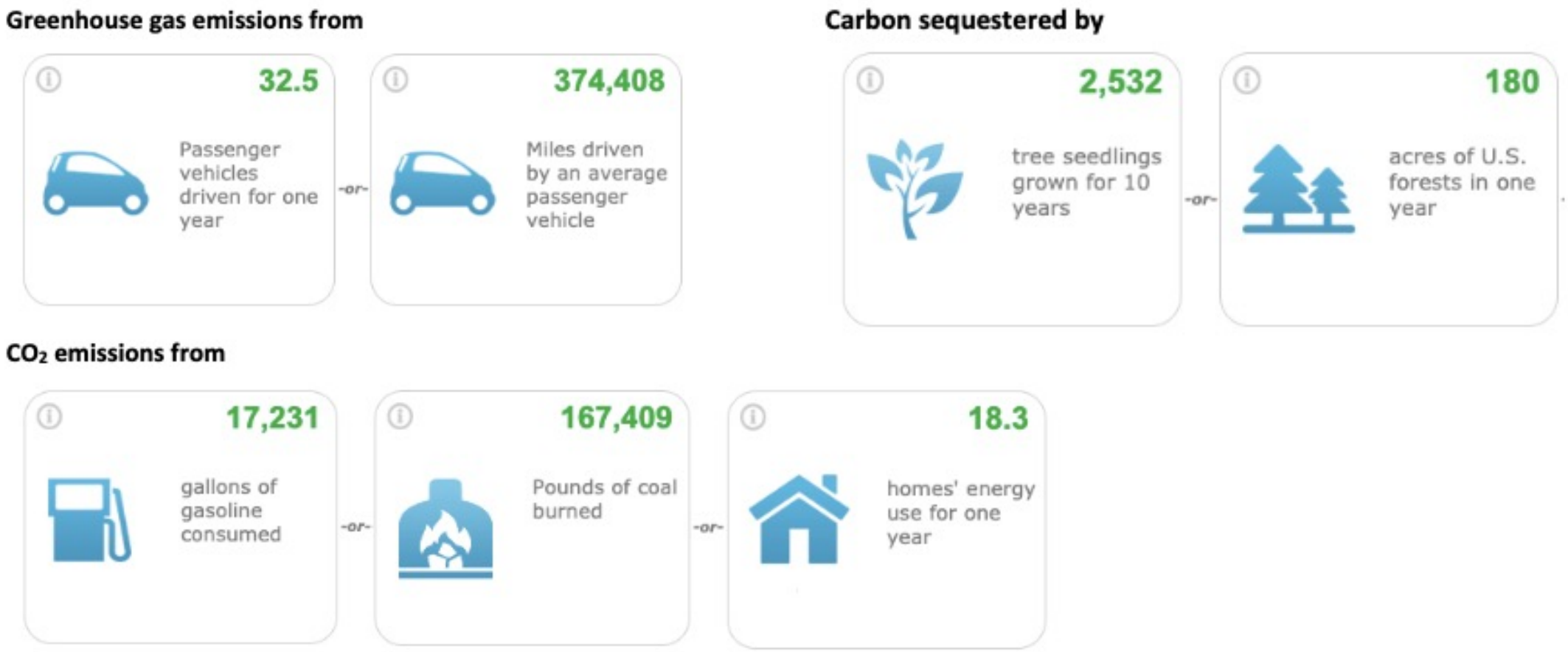
*Huzeifa Badshah, Francisco Posada, Rachel Muncrief. *Current State of NOx Emissions from In-Use Heavy Duty Diesel Vehicles in the United States*. White Paper published by the International Council on Clean Transportation, 2019.

Pure Electric Terminal Tractors

- Better for the community
  - Zero emissions
  - Cleaner and quieter
- Better for drivers and employees
  - Cleaner, quieter, smoother, safer
  - Higher driver satisfaction
- Better for businesses
  - Higher reliability
  - Lower fuel costs
  - Payback varies, but for heavy duty sites can be:
    - With incentives: 2 to 3 years
    - Without incentives: 4 to 5 years

Replacing One Heavy-Use Diesel-Powered Terminal Tractor with One Pure Electric Terminal Tractor…

…is equivalent to:



Orange EV Terminal Tractors

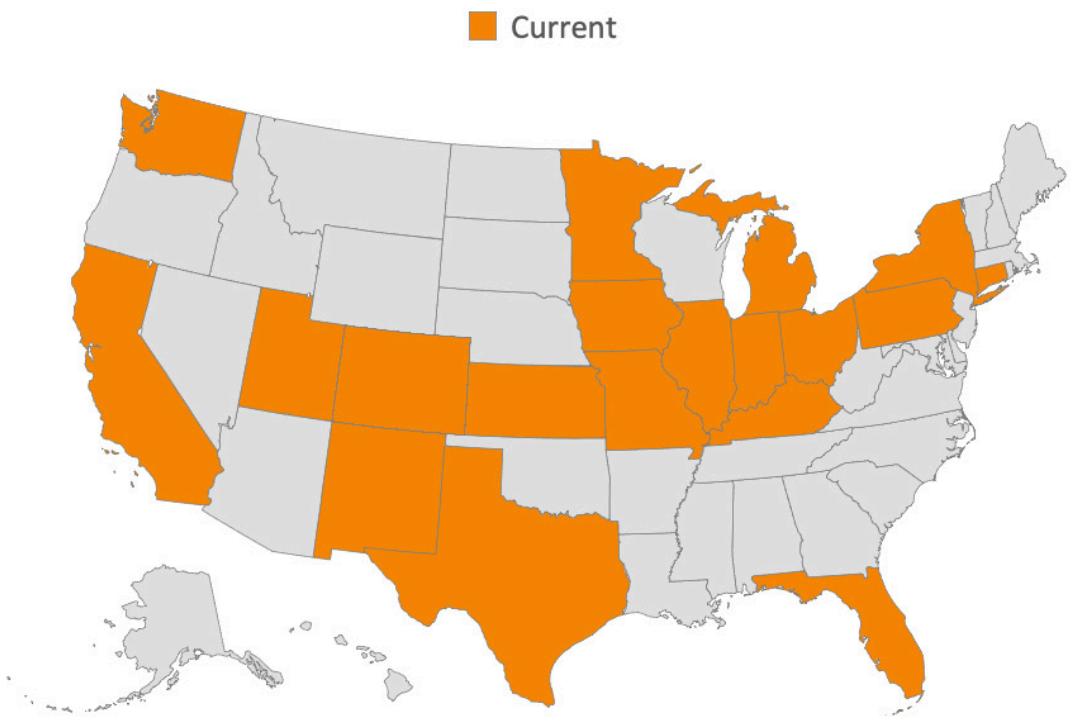
Proven and Preferred

- Deployed nationally since 2015 initial production, across weather and duty cycles
- Growing exponentially since first deployment, now with more than 250 trucks in service
- Chosen by more than 90 fleets across 19 states, Canada, and the Caribbean
- Commercially deployed fleet has surpassed 846,000 hours and 2.7 million miles

Who Uses EV Terminal Tractors?

Of the McDonald's NALC

Orange EV U.S. Commerical Truck Deployments



Truck Specifications and Pricing

Tailored to meet customer needs

- Specifications and pricing for each truck dependent upon site, duty cycle and other factors affecting usage profile.
  - Multiple battery pack options
  - Multiple charging system options
  - Multiple axle configurations
- Average 2x to 3x the cost of diesel

Incentives for Terminal Tractors

A general overview in California

Terms to Know

Voucher VS. Reimbursement

Scrap

Clean Off-Road Equipment Voucher Incentive Project

$100,000 to $158,800 depending upon truck configuration

No scrap required

Voucher

Carl Moyer Program

Up to 80% of the cost of the new truck

Scrap required

Reimbursement

Community Health Protection Grant Program

Similar to CMP, but with additional funding for projects located in and disadvantaged communities (including AB 617s)

Up to 85% of the cost of the new truck

Scrap required

Reimbursement

VW Mitigation Trust: Zero-Emission Freight and Marine Grant

Up to $175,000 towards the cost of the new truck

Scrap required

Reimbursement

Learn More at OrangeEV.com

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