

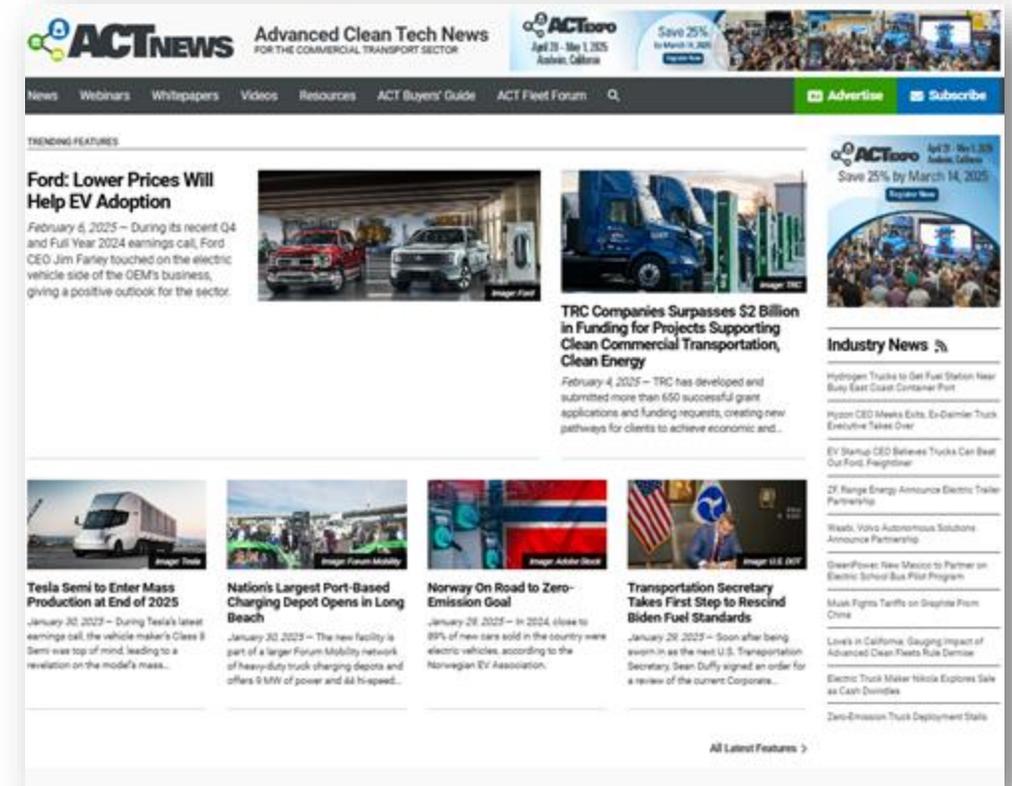
Strategizing Successful BEV Adoption

April 22, 2025

MESSY MIDDLE
BOOTCAMP

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Messy Middle Bootcamp Series

 **Diesel Drop-In Alternatives: Ultra-Low Sulfur, Bio-, and Renewable** (February 11th) ✓

 **Decarbonizing with Natural Gas** (February 25th) ✓

 **Future Prices & Availability of Existing Infrastructure: What's Next?** (March 11th) ✓

DIESEL AND NATURAL GAS WORKSHOP (March 25th) ✓

 **The Current State of HD BEV: Technologies and Capabilities** (April 8th) ✓

 **Strategizing Successful HD BEV Adoption** (April 27th)

 **Charging Depots, Networks & the Economics of Fleet** (May 6th)

HD BEV WORKSHOP (May 20th)

 **The Production Processes of Hydrogen Fuel** (June 3rd)

 **Moving Hydrogen from Here to There: The Distribution and Storage of Hydrogen Fuel** (June 17th)

 **The Opportunities and Challenges of Selling Hydrogen to the Industry** (July 1st)

HYDROGEN FUEL CELL WORKSHOP (July 15th)

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2023 Bootcamp is still available at: <https://runonless.com/electric-depot/>

2025 Messy Middle Fleets



Update from The Run Planning...

Follow the Fleets, Drivers, providers, and more on:

RunOnLess.com and on Twitter @RunOnLess



Today's Bootcamp Sponsor



PROLOGIS



Quiz for Today's Session

Completing Today's Quiz:

- Go to runonless.com and click back into the session
- Click 'Take Quiz' button
- Create username and password to keep track of your progress
- Provide your name and email to enter a drawing for a Run on Less - Messy Middle swag bag



What You Should Know

Q&A

Submit your questions to the host using the Q&A box in the upper right-hand corner

Recording

A recording of today's webinar will be available on runonless.com

Technical Issues

Contact Stephane Babcock at sbabcock@trccompanies.com



Today's Bootcamp Speakers

Strategizing Successful HD BEV Adoption



Alexa Branco

Director of Sustainability
NFI Industries



Chris Henry

Director of Fleets
Purolator



Jeremy Hock

*Manager - Engineering and
Sustainability*
Schneider



Dave Mullaney

Chief Transformation Officer
truCurrent



Deploying to achieve zero emissions

Chris Henry
Director National Fleet
Purolator



60%

electrification of last-mile delivery vehicles

42%

reduction in Scope 1 and Scope 2 emissions

100%

renewable electricity

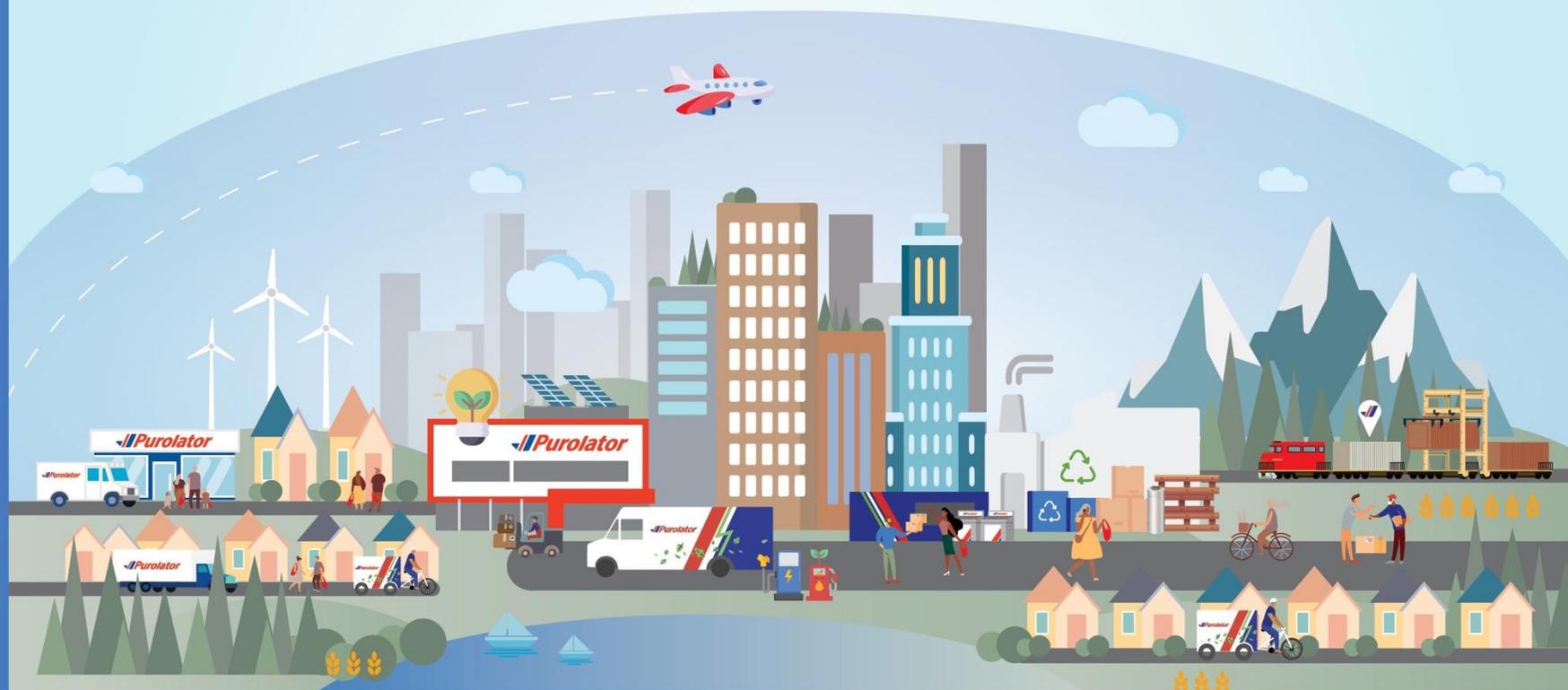
70%

diversion of non-hazardous waste from landfill

2030 Goals

Our ambition is to be the greenest courier in Canada

To avoid the catastrophic impacts of climate change, we are doing our part by setting 2030 goals that put us on the path to net-zero by 2050. Our ambitious science-based target uses a 2020 emissions baseline and the methodology set out by the Science Based Targets initiative. Our goals focus on taking meaningful action in key areas of our business that support our ambition to be the greenest courier in Canada.



Facilities

- Design and build facilities to reduce energy consumption
- Procure renewable electricity
- Apply green building design elements to new builds (e.g., solar panels)

Waste

- Implement comprehensive recycling solutions
- Minimize waste
- Adopt reusable solutions (e.g., pallet wraps)

Transportation

- Invest in alternative-fuel vehicles and supporting infrastructure
- Use clean fuels (renewable diesel)
- Optimize routes and trailers
- Switch to lower-carbon transportation (e.g., rail)

Innovation

- Invest in emerging low-carbon technologies (e.g., e-bikes, carbon capture)
- Pilot innovative solutions (e.g., Urban Quick Stops)

Our pathways to GHG emissions reduction



Fleet emissions – retiring older fleets and investing in alternative-fuel vehicles



Renewable electricity – procuring renewable energy for our facilities



Waste – reducing waste and standardizing recycling in our operations



Building emissions – installing energy-efficient equipment in our facilities



Value chain emissions – engaging with our suppliers and customers to reduce our Scope 3 emissions



Fuel consumption – using more fuel-efficient modes of transportation and leveraging route optimization and telematics

How did we get here? Our business-case approach

- Started with big assumptions
- Socialized early
- Brought in external support
- Layered in SBTi goals
- Refined and booked a special sessions with key stakeholders
- Recognized that “slow and steady” wins the race
- Take stakeholders along for the journey



Key considerations for facility and route prioritization

A (>75 vehicles)
18 Terminals

B (>50 vehicles)
15 Terminals

C (>20 vehicles)
33 Terminals

D (≤ 20 vehicles)
68 Terminals



Last-mile
~ 5,000 P&D vehicles
~ 240 straight trucks

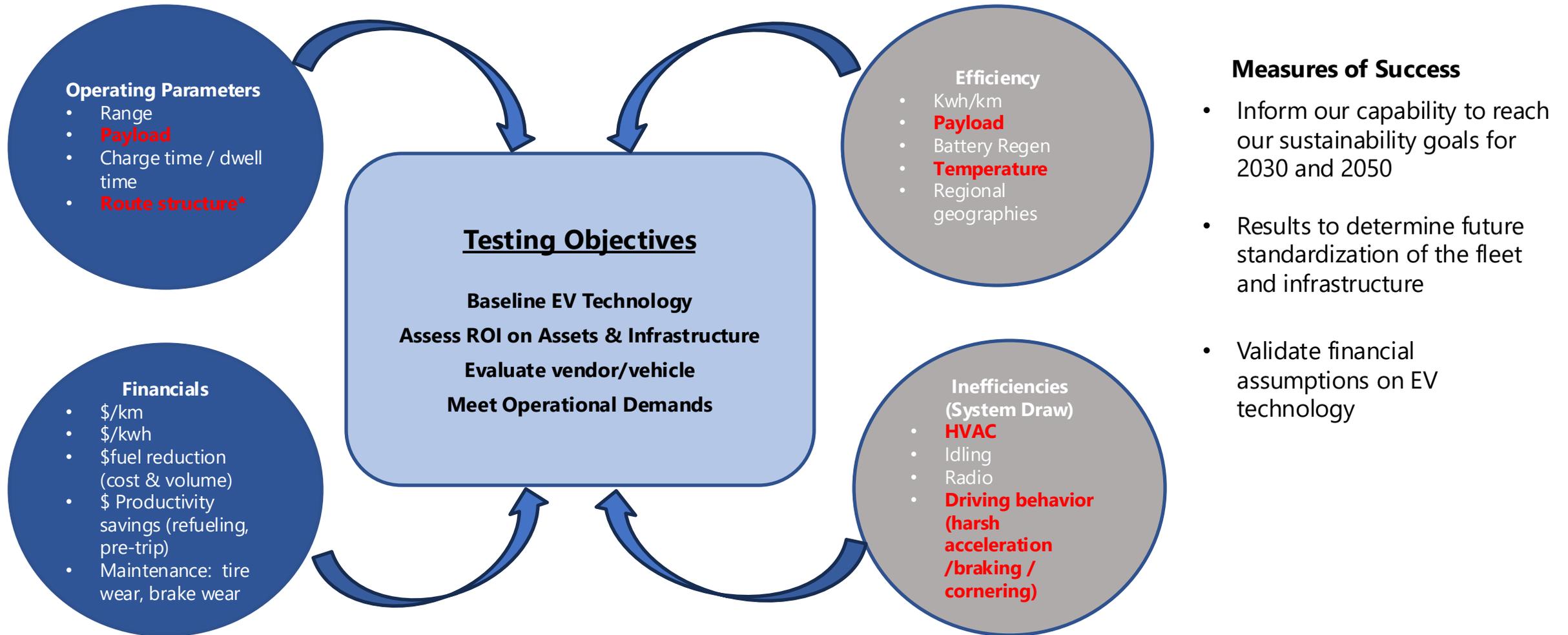
- Leased vs owned terminals (lease term)
- Grid emissions intensity
- Loading layout (indoor vs outdoor)
- Service upgrade requirement
- Available incentive programs (e.g., B.C., Que)
- Provincial utility costs

- Balance pace of electrification to reduce risk
- Vehicle performance (climate, geography)
- Right vehicle, right route:
 - Vehicle range capability
 - Payload, cubic capacity



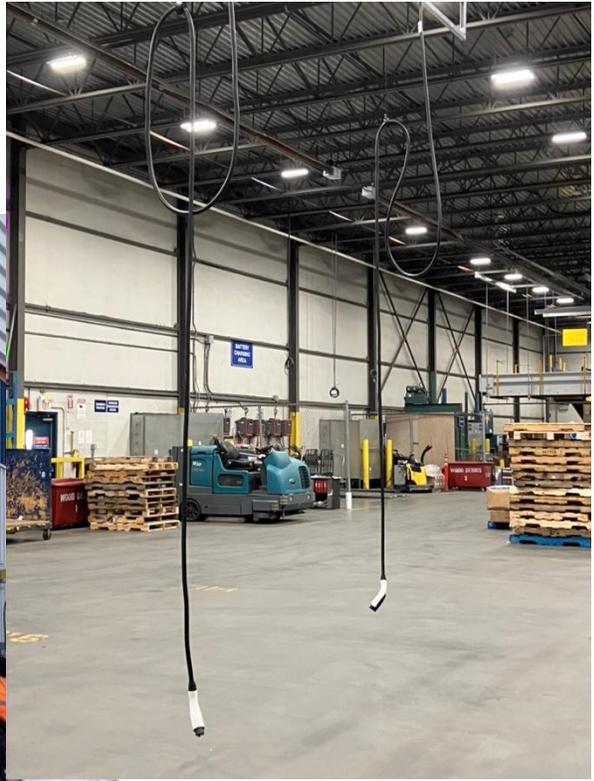
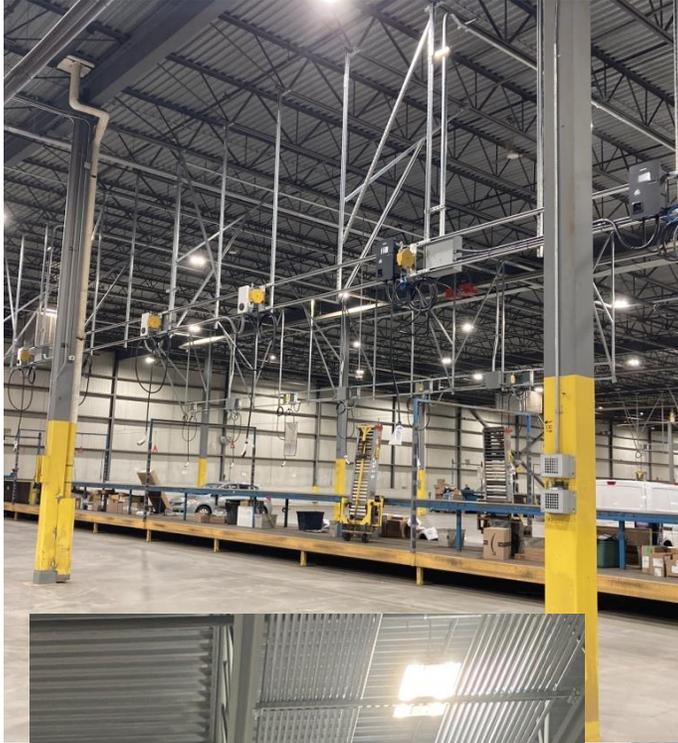
EV Pilot Test Plan - Objectives

Our EV Pilot will test the capability and integrity of our vehicles (EV's) and charging systems. Information, data and insights gathered will be the basis to inform and plan subsequent years of the GHG Roadmap .



* In conjunction with Route Optimization, right vehicle, right route
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Infrastructure Installations

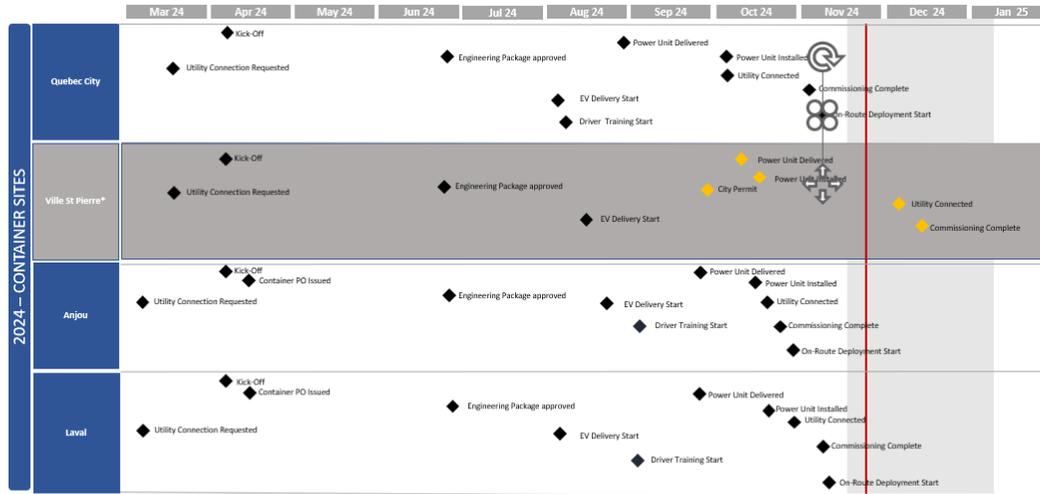


Infrastructure Installations



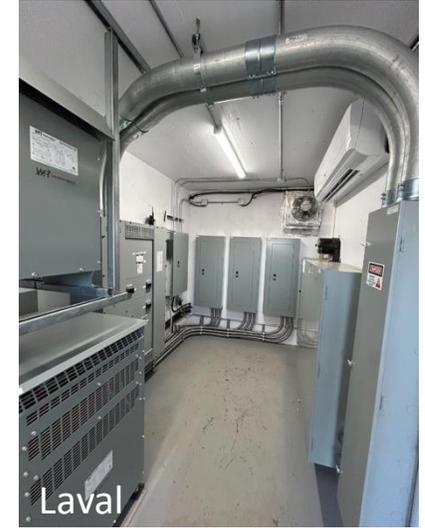
Phase 1 EV Infrastructure (Containerized Solution)

We have successfully deployed three movable containerized charging solutions complete with 75 L2 and 3L3 chargers across Quebec, accelerating 2024 Fleet electrification efforts.



*VSP- Decision to not progress container solution and proceed with charger installation for existing power capacity

◆ Completed
 ◆ On Track
 ◆ At Risk with plan to recover
 ◆ At Risk without a plan to recover
 — Current Date



Vehicle Deployments

Introducing our 2025 Electric Fleet, now deployed across 9 sites in Richmond, Mississauga, North York, London, Laval, Anjou, VSP, Drummondville & Quebec city.

"This accomplishment represents a significant stride in our commitment to sustainable transportation and a greener future. A heartfelt thank you to all who played a part in making this initiative a resounding success. Together, we are steering towards positive change and contributing to a more environmentally friendly community"

Mario Fortin – District Manager
Quebec City

Ford eTransit



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Motiv



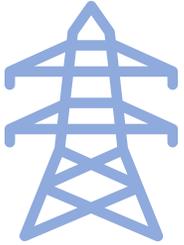
55

BrightDrop



165

Barriers to Heavy Duty EV Deployment



- Cost and timing of infrastructure to support heavy duty vehicles; long lead times for service upgrades and installation.
- Supply chain risks and long lead times to acquire equipment.



- Cost of heavy duty EV's.
- Availability of multiple vehicles (OEM), chargers and charge management solutions to perform comparison test cases.
- Limitation of current HD EV's based on range and carrying capacity. Limits the routes we can service.



Purolator has only deployed one HD EV to date

What is Needed for Wider Adoption of Heavy Duty EV's



Infrastructure Development:

Expanding charging networks and fast-charging stations , particularly in strategic locations like freight hubs, highways, and urban areas.



Cost Competitiveness:

Reducing the upfront costs of electric heavy-duty vehicles through advancements in battery technology and economies of scale.



Battery Technology Improvements:

Enhancing battery range, charging speed, and lifespan to meet the needs of heavy-duty applications.



Regulatory Support

Implementing policies that support infrastructure development and the creation of electric vehicle corridors and/or low-emission zones.



Partnerships To Increase Access For Small And Medium fleets:

Establish partnerships between manufacturers, transportation companies, industry groups and governments to develop pilot programs that give small & medium size Fleets the opportunity to trial electric vehicles without significant investment.



Learn more
purolator.com/environment



Driving Supply Chain Sustainability

NFI is leading the industry with sustainability initiatives

About NFI

Privately held by the Brown Family since its inception in 1932, NFI is a fully integrated third-party supply chain solutions provider. Serving customers around the world, across a variety of industries, NFI is dedicated to providing customized, engineered solutions that propel business to succeed.

Established in 1932

**\$3.6 billion
annual revenue**

18,000+ employees

**73+ million SF of
warehouse space**

5,000+ tractors

14,000+ trailers

**We deliver logistics solutions
that *transform* the way business
gets done.**



Social responsibility is part of the NFI fabric.

Our team focuses resources dedicated to identifying and implementing technology that helps NFI to become a greener 3PL and allows our customers to operate more sustainably.



Sustainability Overview



Transportation

- Will become the first 100% zero-emission fleet operator with the deployment of 100 battery-electric drayage tractors in our Southern California drayage fleet
- Operates Near Zero compressed natural gas trucks powered with RNG
- Aerodynamic build and components for fuel efficiency
- Ongoing pilots with the industry's leading green manufacturers



Infrastructure

- 10 350kW fast chargers installed at California campuses, currently generating 1 MWh of solar energy. 38 additional 350 kW fast chargers will be installed in 2024.
- Additional solar energy will be installed, capable of generating 2.4 MWh of zero-emission energy
- First-of-its-kind electric vehicle maintenance shop to launch in 2023



Warehousing

- Electric and propane Material Handling Equipment
- Solar panels installed on warehouse roofs
- All new construction meets LEED standards
- Recycling programs and eco-conscious packing materials

Early Adopters | ZEV Completed Pilots



Daimler Freightliner eCascadias

NFI was one of the first companies to deploy **Class 8 battery-electric Freightliner eCascadias** into its Southern California operations in September 2019, testing the battery-electric vehicles under real-world conditions and providing feedback to help **enhance the integration of commercial electric vehicles into operations at other companies**. The pilot project traversed over 750,000 emission-free miles and aided in the current production models success.



Volvo Low Impact Green Heavy Transport Solutions (LIGHTS)

The Volvo LIGHTS project is part of a California initiative to reduce greenhouse gas emissions, strengthen the economy, and improve public health and the environment - **particularly in disadvantaged communities**.

Through 2021, NFI demonstrated the ability of battery electric heavy-duty trucks and equipment to reliably move freight between Los Angeles' two major ports and inland warehouse facilities with less noise and zero emissions. **On-site charging infrastructure** was installed, paired with **solar panels** to capture renewable electricity, and **on-site energy storage** to bolster resiliency.

Project Partners | JETSI

About the Project

Announced in 2021, the JETSI (Joint Electric Truck Scaling Initiative) Project, led by South Coast AQMD, is the largest commercial deployment of battery-electric trucks in North America to date. Helping to significantly increase the number of zero-emission heavy-duty trucks available for goods movement while achieving necessary emission reductions, accomplishments JETSI and NFI will achieve by 2023 include:



690,000

Diesel-Gallons Replaced

8,247

Metric Tons of GHG Eliminated

5 Tons

Pollutants reduced annually



30

Additional **Class-8 battery-electric Freightliner eCascadias** will be deployed by NFI from DTNA

30

20 Volvo VNR electric trucks will be deployed through JETSI and 10 through additional funding

19

350 kW Ultra-fast DC Cabinets will be installed, with **38 fast chargers**



1 MW

Solar power installed onsite

5 MWh

Energy storage built onsite

2.4 Million

kWh of zero-emission energy generated annually

Key Project Partners



NFI's Sustainability Journey



Demonstration Projects

In 2019, NFI partnered with **two leading OEM demonstration projects** with Daimler and Volvo to prove the efficacy of Class 8 battery-electric daycab tractors in real world operations.

- 14** Battery-electric Class 8 tractors deployed
- 27** Battery-electric yard tractors deployed
- 9** 150kW fast chargers installed

Operational Milestones

NFI held the grand opening of our Ontario, CA HD electric charging depot and maintenance shop in Feb 2024, a crucial next step to move from demonstration phase to fully operational.

- 90** Battery-electric Class 8 tractors operating
- 38** 350kW fast chargers powered by mid '25
- 18** Additional battery-electric yard tractors
- 1** MWh of solar energy generated onsite
- 1** Dedicated heavy-duty electric vehicle maintenance shop



Total GHG reductions to date

Demonstration & pilot projects displaced:
307,692 gallons of diesel consumption
3,415 metric tons of GHG emissions

50 JETSI tractors will reduce:
4,400 metric tons of GHG annually
2.45 tons of weighted criteria pollutants/yr
2.75 million diesel gallons to be displaced in 5 year project

10% reductions YOY the past three years by owned company tractor

NFI sustainability in the works

2025 Commitments

Deploy 100 BETs, becoming **first 100% zero-emission drayage fleet in Southern CA**

Install solar infrastructure and 7.7 mWh of storage for 38 high capacity DC fast chargers

150+ lithium battery powered MHE in operation in CA & PA

Additional Pilots & Partnerships

NFI's first East Coast BET deployment

Piloting Tesla Semi

Committed to pilot Hydrogen Fuel Cell technologies

Pilot eTRUs

Full Circle Sustainability

Energy Star facility certification roadmap

Community solar discovery

Piloting Solar panels powering liftgate trailers

All new construction meets LEED standards

Measurements

GHG Protocol emissions tracking – Scope 1 & 2

Full waste audit

Target-setting in order to support our customers sustainability goals. Reporting to requested surveys.



Get in Contact

Alexa Branco | *Director of Sustainability*
alex.branco@nfiindustries.com



TRIAD1828 | 2 COOPER STREET | CAMDEN, NJ 08102

www.nfiindustries.com



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**Our commitment
to a sustainable
future**

Jeremy Hock
Schneider

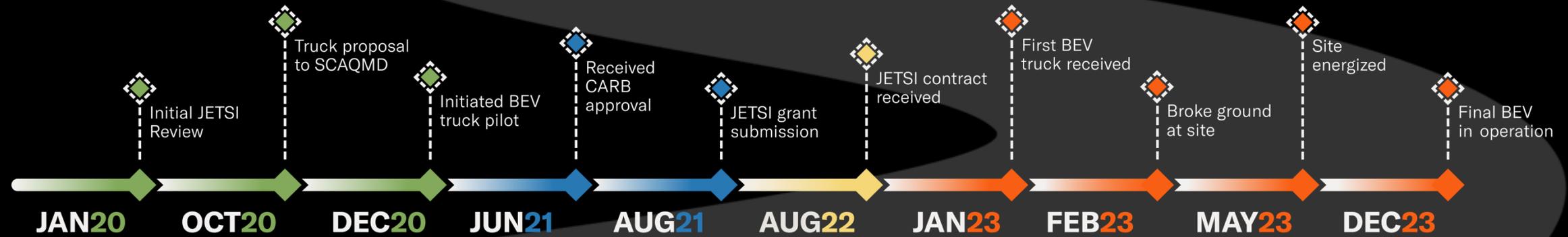
Operations at scale

- **92 battery** electric trucks
- South El Monte, CA
- \$13.2 Million – JETSI Grant
- **24/7/365** local Intermodal drayage.
- On average, trucks cover **177 miles per shift.**
- **Charge to 80% in 90 minutes** via depot with 16 charging units.



The road to electrification

DRIVING CHANGE



JETSI: Joint Electric Truck Scaling Initiative

CARB: California Air Resources Board

SCAQMD: South Coast Air Quality Management District

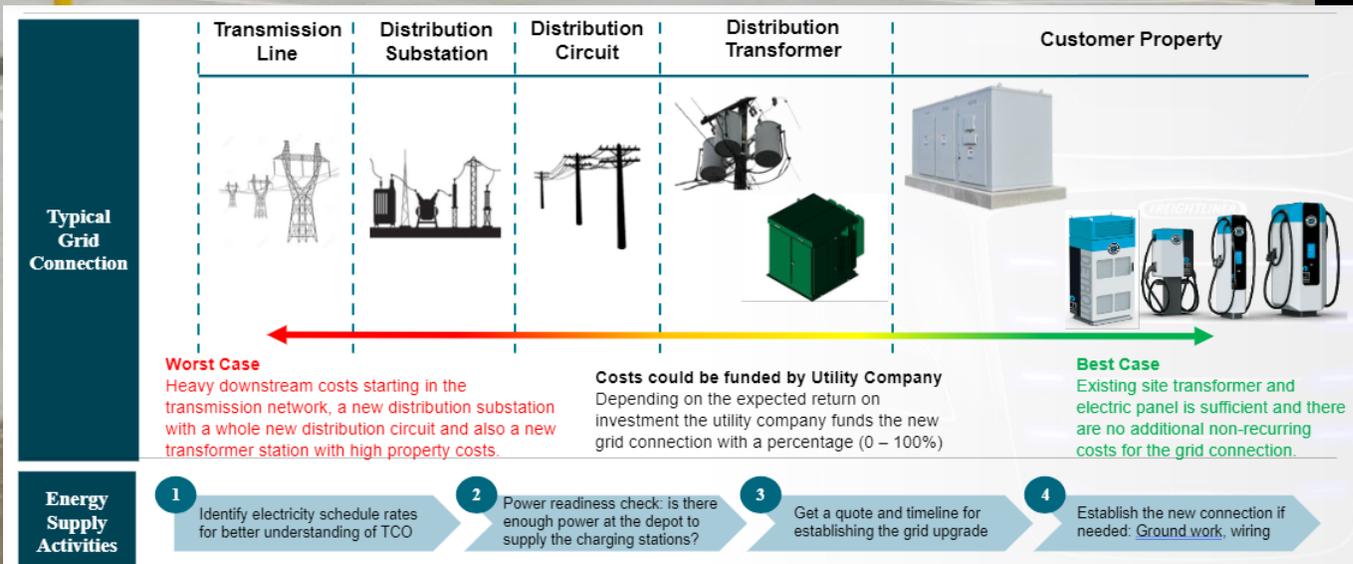




Infrastructure modifications

Two-year process

- Grid upgrades to support an additional 4.8MW
- 4 **1.2MW NB15000** power cabinets
- 16 NBDC350 dual cord parallel chargers
- Over **16,000sqft**
- Daily energy consumption is equivalent to 2,000 homes





Schneider delivered over six million zero emission miles in two years.

That's **over 20 million pounds** of carbon dioxide emissions avoided and the equivalent of:

Over 2,100 gas-powered vehicles removed from the road a year.

SCHNEIDER



Lessons learned

- **Grid upgrade** delays
- Permitting
- Charging hardware changes over long build timeline
- **Driving characteristics** and range variations
- Equipment costs



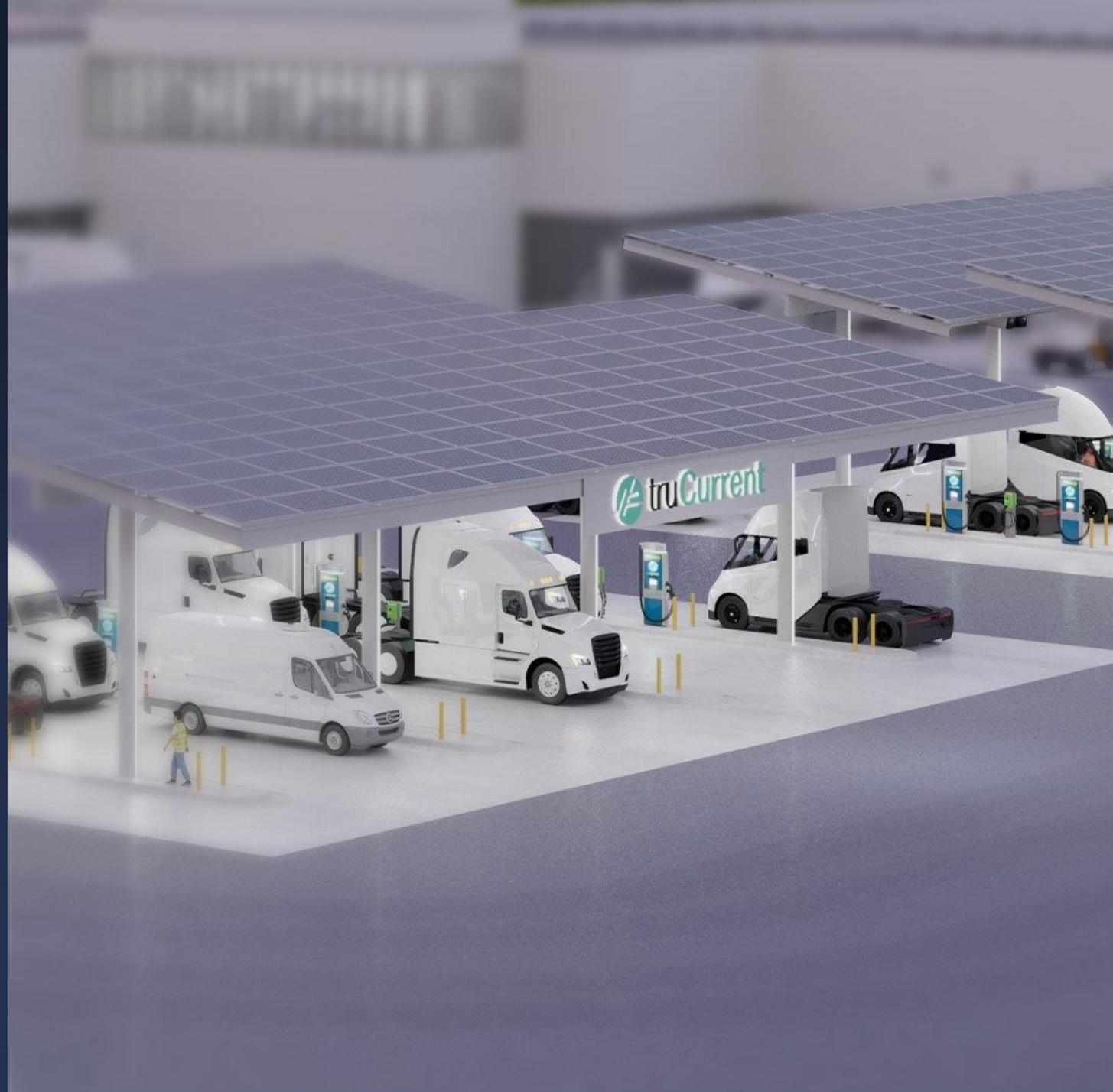
QUESTIONS?

Thank You

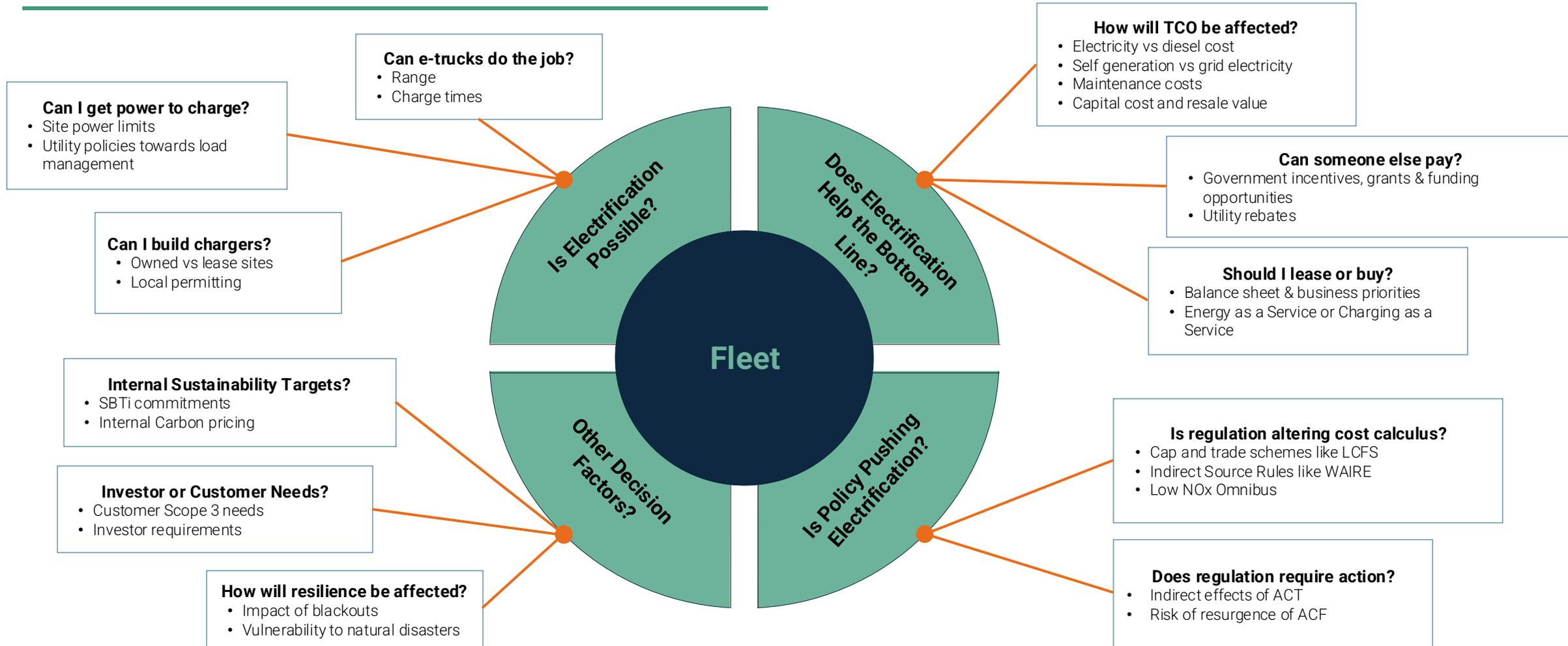
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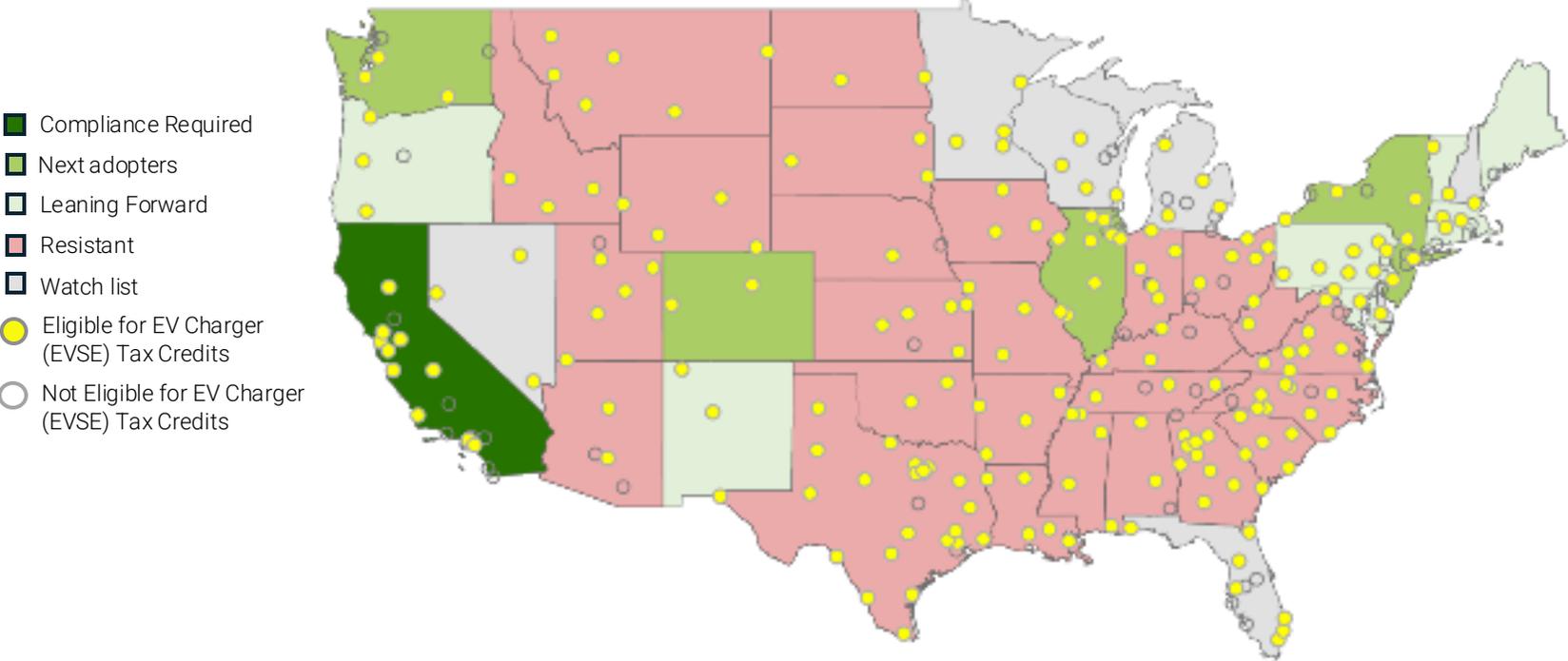


Fleets Face a Complex Landscape when Considering Electrification



Key Decision Parameters Vary for Each Site in a Fleet's Network and Change Over Time

Fleet Regulations (2024)



Just some of the complexity fleets navigate when electrifying

Regional idiosyncrasies

- Scrappage required for truck subsidies funded by VW settlement
- Preference for small fleets in California vehicle subsidies
- Widely varying electricity costs
- Varying desirability of onsite DERs
- EVSE incentive availability census tract dependent

Rapid change in policy

- Withdrawal of ACF Waiver
- Potential delays on ACT implementation in several states
- Potential spread of LCFS and WAIRE
- Exhaustion of funding sources for vehicle and charger Capex
- Potential withdrawal of IRA related incentive facilities

Technological Change

- 500-mile trucks
- Megawatt level charging
- Rapid development of EREVs, hybrids, and other drivetrain options

Note: Locations represented are for a national fleet operator.

truCurrent Helps Fleets Navigate that Complexity in Stages through our Roadmap Process

	Stakeholder Engagement	Energy Transition Roadmap	Project ID & Prioritization
Purpose	<p>Define success: align energy strategy to fleet financial, operational, and sustainability goals.</p>	<p>Create a strategy: prioritize geographies, technologies, and financing models suited to fleet goals</p>	<p>Apply tactically: deep dive on dynamics at specific sites with a goal of deploying solutions</p>
Deliverables	<ul style="list-style-type: none"> ✓ Drivers/Levers ✓ Customer Objectives ✓ Go/No-Go Parameters 	<ul style="list-style-type: none"> ✓ Deployment Strategy ✓ Rollout Schedule Scenarios ✓ Risk ID & Mitigation 	<ul style="list-style-type: none"> ✓ Proposed DER & EV Projects ✓ Rationale for Project ID ✓ Next Steps to Develop
Description	<p>Coordinate with fleet function leads to:</p> <ul style="list-style-type: none"> • Establish goals, expectations & requirements • Determine impact of energy strategy on corporate KPIs • Exchange, validate & review energy-related data 	<p>Develop an energy strategy based on:</p> <ul style="list-style-type: none"> • Cost • Regulation, policy & incentives • Facility & fleet operations • Technology & finance • Sustainability considerations • Fleet contract preferences 	<p>Assess & prioritize fleet sites for development projects:</p> <ul style="list-style-type: none"> • On-site rooftop & ground mount solar • Battery storage • Alternative generation • Grid services programs • Fleet electrification

Project Identification & Prioritization Puts the Roadmap into Action at Specific Sites



FLEET ELECTRIFICATION FEASIBILITY ANALYSIS

Range Analysis: Use telematics data to identify vehicles and routes best served by existing EV models

Stop Analysis: Identify how vehicles would charge based on dwell time and preceding trip energy use

Charging Load Analysis: Aggregate all charging events into a facility load profile

Charging Cost Analysis: Apply utility rates to charging load profile – evaluate if managed charging can reduce cost

Vehicle Policy Analysis: Evaluate if incentives or penalties impact costs of vehicles of various power types

TCO Analysis: Evaluate costs of operating electric vehicles relative to other



ON-SITE DER STRATEGY

Rate Tariff Analysis: Evaluate how on-site generation and storage are treated by utility

Policy Analysis: Evaluate incentives for DERs and any requirements around their deployment

Energy Market Analysis: Evaluate other revenue available to DERs through electricity export or grid services

Real Estate Review & PV Project Viability: Evaluate if PV is feasible and improves TCO

Battery Storage Project Viability: Evaluate if onsite electricity storage is feasible and improves TCO

Other Generation Viability: Evaluate if other generation (linear generators, fuel cells) are feasible and improve TCO



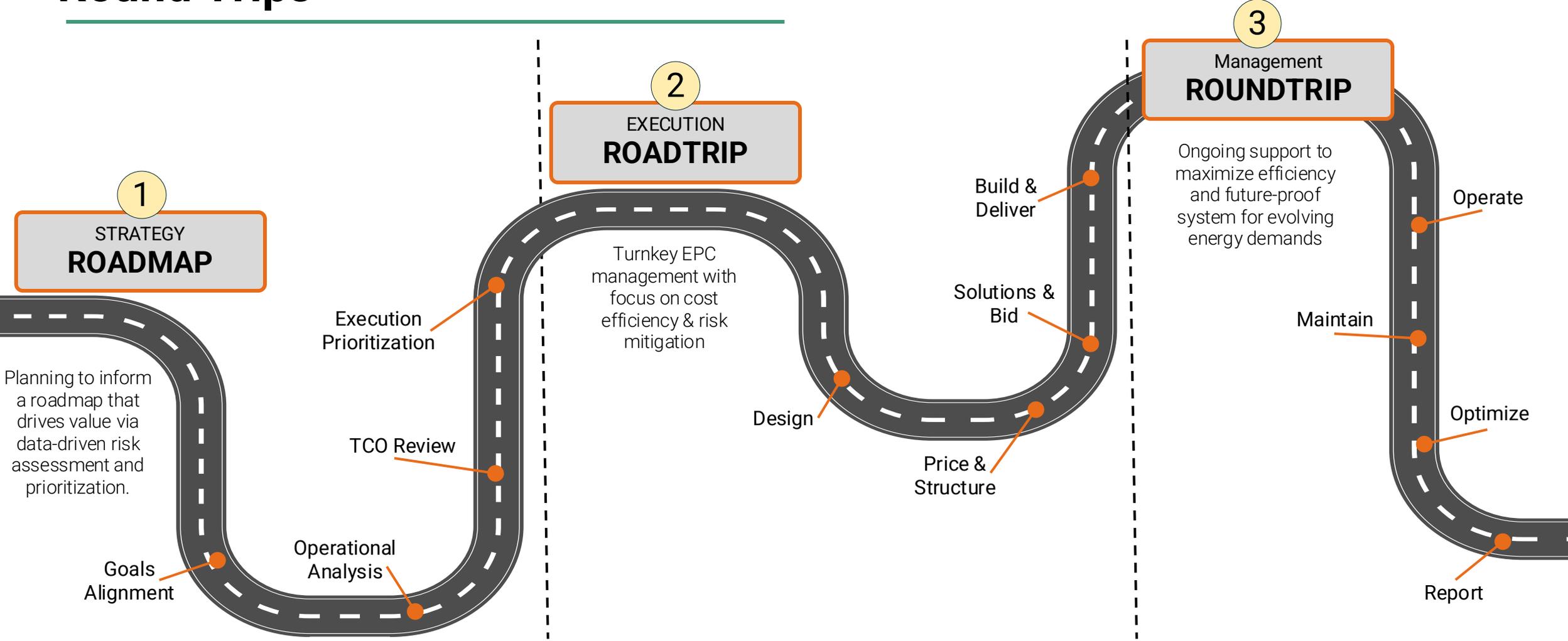
PROJECT PRIORITIZATION & RECOMMENDATIONS

Apply Go/No-Go Parameters to Sites: Evaluate if sites meet performance criteria established in roadmap

Propose Priority Sites for Development: Suggest sites for development priority to client fleet

Conclusion & Recommendations: Provide briefings and written synopsis of site recommendations

The Roadmap Process Sets Fleets up for Success in Road Trips and Round Trips





Thank you!

Strategizing Successful HD BEV Adoption



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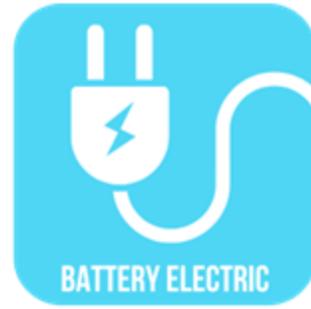
*Manager - Engineering and
Sustainability*
Schneider



Dave Mullaney

Chief Transformation Officer
truCurrent





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