



U.S. General Services Administration



What's New with Suppliers- Medium/Heavy Trucks

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Today's Presentation Topics

What's new in the world of Medium & Heavy Duty Trucks

- Please describe your current and new conventionally fueled offerings in the next 1 - 3 years.
- Please describe your current and new electric offerings in the next 1 - 3 years.
- What is your best advice for selecting the best truck for the mission?
- As a Federal customer, is an EV truck in my future? What do I need to consider?
- Closing thoughts

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2023 Navistar GSA Offerings

MV Chassis Based Items

- Cab & Chassis 410, 414, 511, 513, 514
- Tractor 520
- Stake 430, 434, 531, 533, 535
- Dump 441, 444, 541, 543, 544
- Maintenance 561, 562, 563, 564
- Forestry 766
- Dry Van 471, 474, 571, 573, 574
- Reefer Van 481, 484, 581, 583
- Cable Hook Hoist *590
- Wrecker 972
- Carrier 978, 979, 980
- *=new items
- 6.7L or 9L power



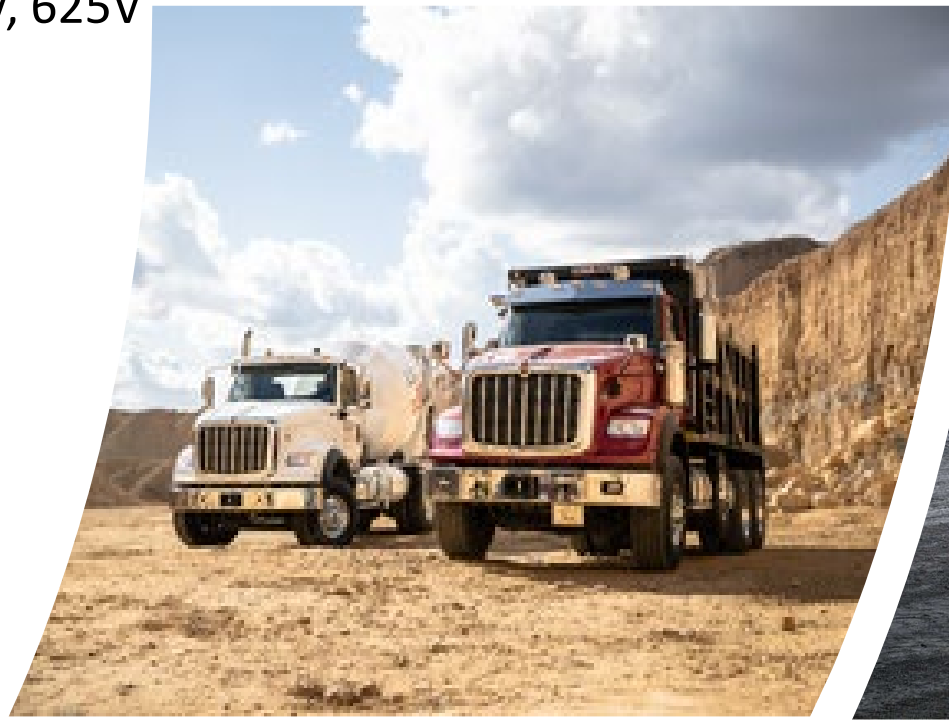
HV Chassis Based Items

- Cab & Chasssis [614](#), [615](#), 712, 714, 715
- Tractor [524](#), [622B](#)
- Stake [633B](#), [634](#), 732, 734, 735, 833A
- Dump [644](#), [645](#), 742, 744, 745, 844
- Maintenance [682](#), 761, 763, 764, 765
- Dry Van [575](#), 771, 774
- Refer Van [585](#), 781, 784
- *Cable Hook Hoist *591, *592, *[601](#), *[671](#), *[674](#)
- *Fuel/Water *966C, *[966F](#), *[969W](#)
- Wrecker 973, 974, [975](#)
- Carrier [981](#), [982](#), [983](#)
- * = new items
- _ = 13L power



HX Chassis Based Items

- Tractor 624V, 625V
- Dump 648
- 13L or 15L power



LT Chassis Based Items

- Tractor 624H, 624S, 625H, 625S
- 13L power



eMV Chassis Based Items

- Stake *531e, *533e
- Dry Van *571e, *573e
- *=new items







California Air Resources Board Clean Air Rule Passed June 2020

- By 2024, an OEM must have 9% of class 4-8 sales be zero-emissions
- By 2035, 75% of class 4-8 straight truck sales must be zero-emissions
- 15 states may follow California's push to electrify trucks and busses
- CARB states account for 34% of total Class 6-7 market and 21% of Class 8 market

Model Year	Class 2b-3	Class 4-8	Class 7-8 Tractor
2024	5%	9%	5%
2025	7%	11%	7%
2026	10%	13%	10%
2027	15%	20%	15%
2028	20%	30%	20%
2029	25%	40%	25%
2030	30%	50%	30%
2031	35%	55%	35%
2032	40%	60%	40%
2033	45%	65%	40%
2034	50%	70%	40%
2035	55%	75%	40%

ZERO-EMISSION PRODUCT ROADMAP

	Vehicle		Engineering Vehicles	Market Availability
1	CE Electric School Bus		Complete	Complete
2	eMV Medium Duty pickup and delivery		Complete	Mid 2021
3	BEV eTractor regional haul tractor		2021	2023
4	FCEV eTractor		2022	2023

PROVEN TECHNOLOGY MEETS INNOVATION

- Built off the proven MV Series
 - Same cab and interior for driver familiarity
 - Same proven chassis
- Same batteries, motor and electrical system as International's CE electric bus
 - Accelerate innovation
 - Economy of scale
 - Improve Uptime

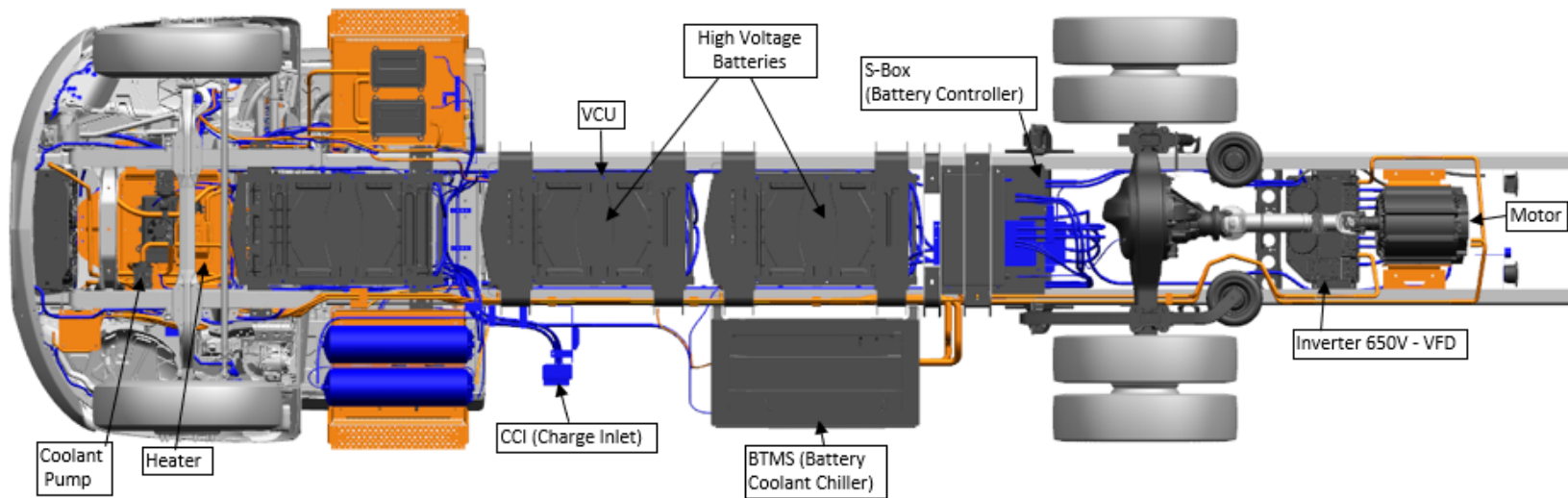


Vehicle Performance

Peak power: 335hp (250kW)
Continuous power: 215 hp (160kW)

Battery Capacity

135 miles
210 kWh



State of the art Instrument Cluster

- Temperature
- Ready to Move
- Propulsion & Regenerative Load
- State of Charge/Energy gauge
- Regenerative brake indicator

Feature

Availability

Axle Configuration

4X2

Body Configuration

Dry Van, Stake

Wheelbases / A.F. (Dry Van)

272" / 112" (26' box)

254" / 106" (24' box)

236" / 100" (22' box)

214" / 100" (20' box)

Wheelbase (Service Body)

217"

12V Liftgate

Available

GVWR

25,999 and 33,000 lbs.

Interior

Flat Panel

Brakes

Air Brakes

Maintenance Schedule

Coolant flush	5 Year
Filter changes on Air compressor	1 Year
Standard Air Brake System maintenance schedules	

Vehicle Warranty

<u>Vehicle Coverage</u>	<u>Years</u>	<u>Miles</u>
Chassis Warranty	2 Years	Unlimited
Drive Battery	5 Years	100,000
Drive Motor	5 Years	100,000
Drive Charger & Cables	5 Years	100,000
Steering Pump/Air Compressor	1 Year	Unlimited

- Warranty is not pro-rated
- Contract International for optional extended warranty coverages

Charging Fundamentals

Level 1: Provides charging through a 120 V AC plug and does not require installation of additional charging equipment

- Residential / Auto Charger
- Typically 1.9 kW
- **Not suitable for commercial vehicles**



Level 2: Provides charging through a 240 V (for residential) or 208 V (for commercial) plug and requires installation of additional charging equipment.

- Commercial Charger
- 3kW – 19.2kW
- Typically 19.2 kW for commercial
- Suitable for overnight charging
- eMV compatible



DC Fast Charge: Provides charging through 208 – 600 V AC input and requires specialized equipment to be installed at your vehicle location.

- Commercial Charger
- Multiple Power Options
- 24 kW to 350 kW
- Full Charge in < an Hour
- eMV compatible





THANK YOU

An aerial, top-down view of a multi-lane highway at night. The road surface is dark, with white dashed and solid lane markings. On the left side of the highway, a small white car is driving away from the viewer. On the right side, a Volvo truck is driving towards the viewer. A bright green, glowing energy trail follows the truck's path, extending both forward and backward along the road. The background beyond the highway is a dark, textured expanse, possibly water or a forest. The Volvo logo is positioned at the top center of the image.

V O L V O

Electromobility Eco-system

Accelerate the Shift

Towards fossil-free transport

50%
CO₂ reduction by
2030

100%
CO₂ reduction by
2040



Global platform to decarbonize transportation

■ Press release

Volvo Trucks to be customer testing trucks in 2025

2022-09-20

Volvo Trucks are running tests of fuel cell electric trucks with an operational range comparable to diesel trucks. The trucks will follow in a few years' time and will see customer testing.



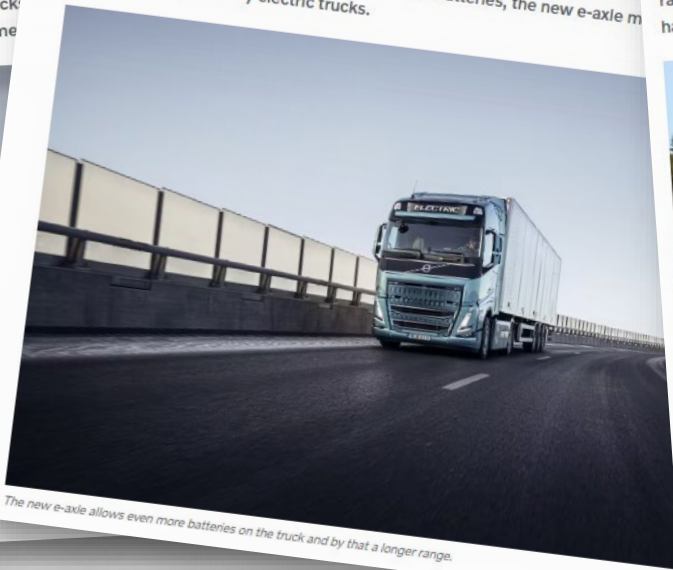
When running the pilots, the filling of green hydrogen...

■ Press release

Volvo Trucks presents a fully electric axle for extended range

2022-09-19

Volvo Trucks unveiled a completely new, fully electric rear axle at the IAA in Hannover, Germany. Freeing up space for more batteries, the new e-axle increases the range for Volvo's battery electric trucks.



The new e-axle allows even more batteries on the truck and by that a longer range.

■ Press release

Volvo Trucks showcases new zero-emissions truck

2022-06-20

AB Volvo

Imagine a truck that only emits water vapor, produces its own electricity onboard and has a range of up to 1 000 km. It's possible with fuel cells powered by hydrogen, and Volvo Trucks has started to test vehicles using this new technology.



Hydrogen-powered fuel cell trucks will be especially suitable for long distances and heavy energy-demanding assignments.

VOLVO

The Roadmap to meet our global targets to reduce
climate impact

Three parallel roads

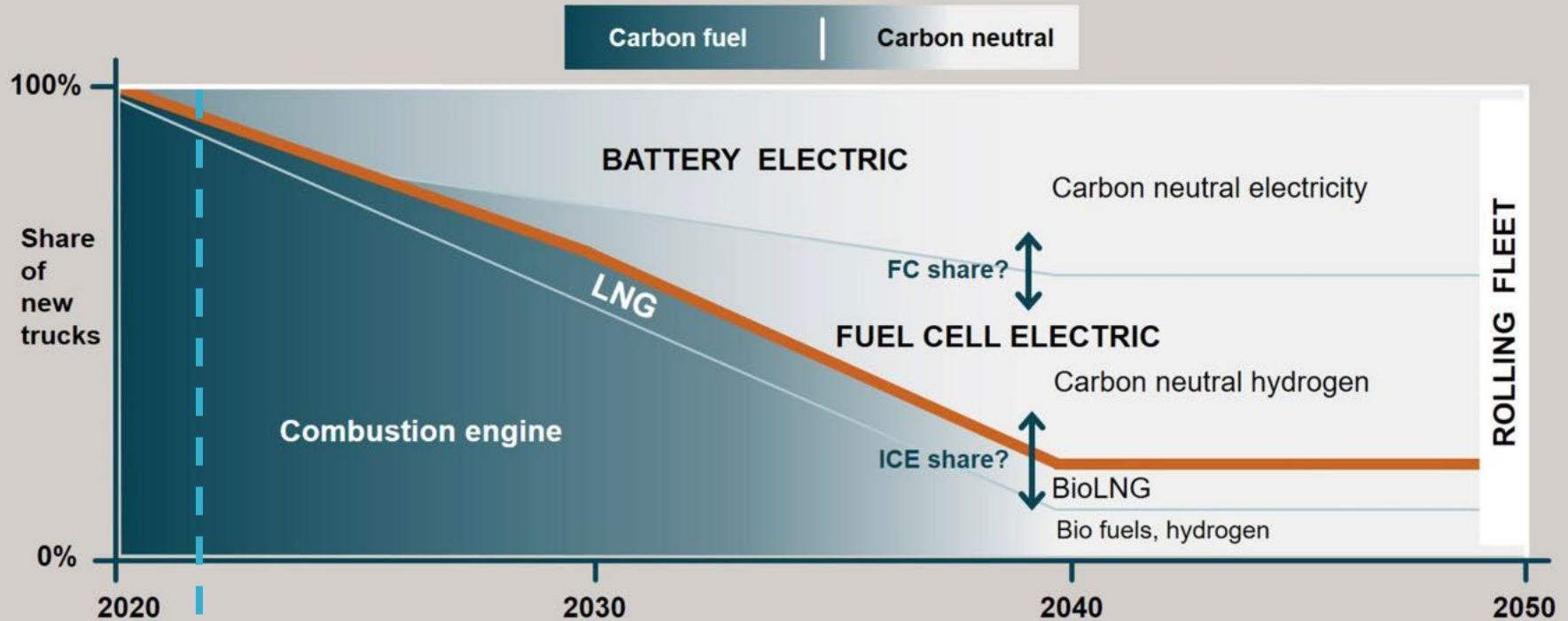
COMBUSTION ENGINE

BATTERY ELECTRIC

FUEL CELL ELECTRIC



100% fossil-free Volvo Group vehicles by 2040



Volvo Trucks North America key priorities

Sustainable growth

- Customer satisfaction
- Decarbonized transport solutions
- Uptime and fleet efficiency

V O L V O

accelerated go-to-market of the volvo VNR Electric



2018

Q4
Announcement
of VNR Electric
in North
America

2019

Q2
Establishment
of the Volvo
LIGHTS project

2020

Q4
Introduction
and sales start
of VNR Electric

2021

Q2
Production
start of VNR
Electric series

2022

Q1-Q2
Sales and
production start
of Next
Generation VNR
Electric

Configurations



VNR 300
4x2 Tractor
66,000 GCW
4 Battery Pack

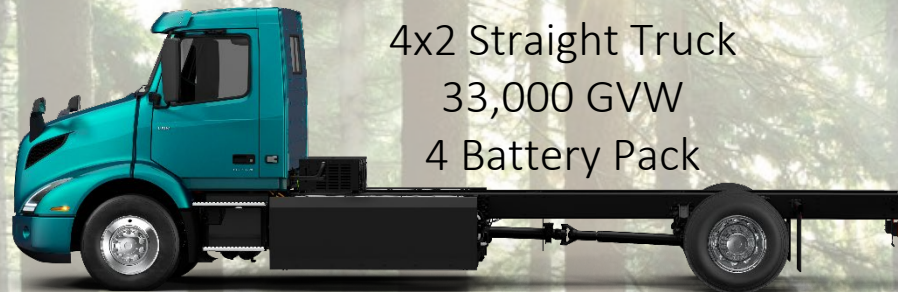


VNR 300
6x2 Tractor
82,000 GCW
4 & 6 Battery Pack



VNR 300
6x4 Tractor
82,000 GCW
4 & 6 Battery Pack

Configurations



VNR 300
4x2 Straight Truck
33,000 GVW
4 Battery Pack



VNR 300
6x4 Straight Truck
54,000 GVW
4 Battery Pack



V O L V O

Continue to decarbonize transportation of components and parts to the New River Valley plant

Local suppliers and carriers deploy zero-tailpipe emissions VNR Electric trucks to transport inbound parts and components

Agreement in place to scale the deployment of VNR Electric by an additional trucks by end of 2022

VOLVO

E ELECTRomobility ECOSYSTEM

Building the decarbonization journey for our customers

Financing



Truck



Service
Contracts



Insurance



Route
Simulations



Digital
Services



Charging



Telematics



Batteries &
Optimization

VOLVO

Scaling VNR Electric deliveries

Customers across North America are putting the VNR Electric into real operations to achieve decarbonized transportation



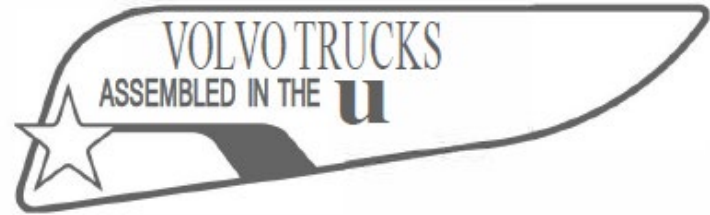
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VNR Electric



<https://www.volvotrucks.us/trucks/vnr-electric/>

V O L V O