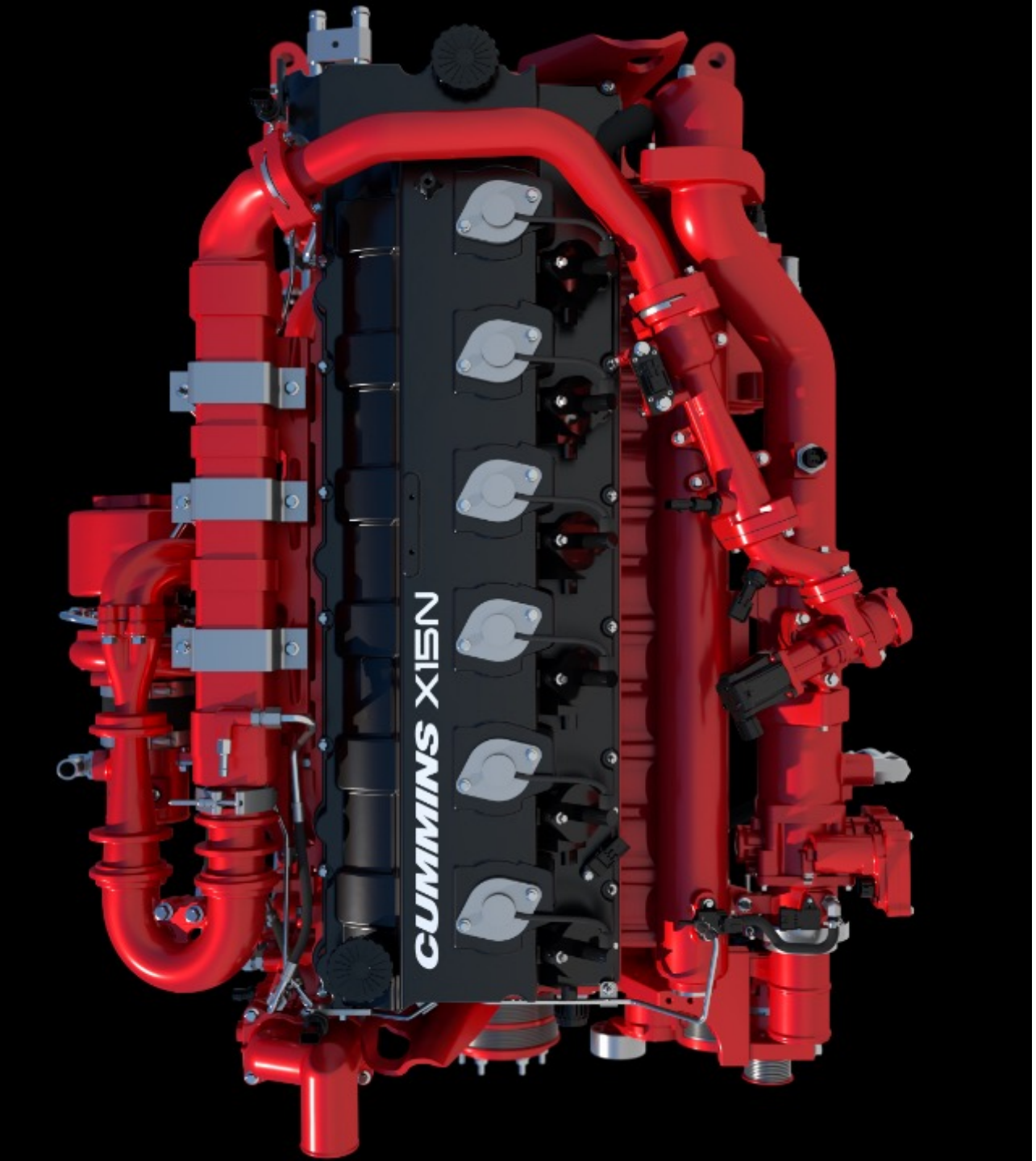


Cummins X15N

Destination Zero

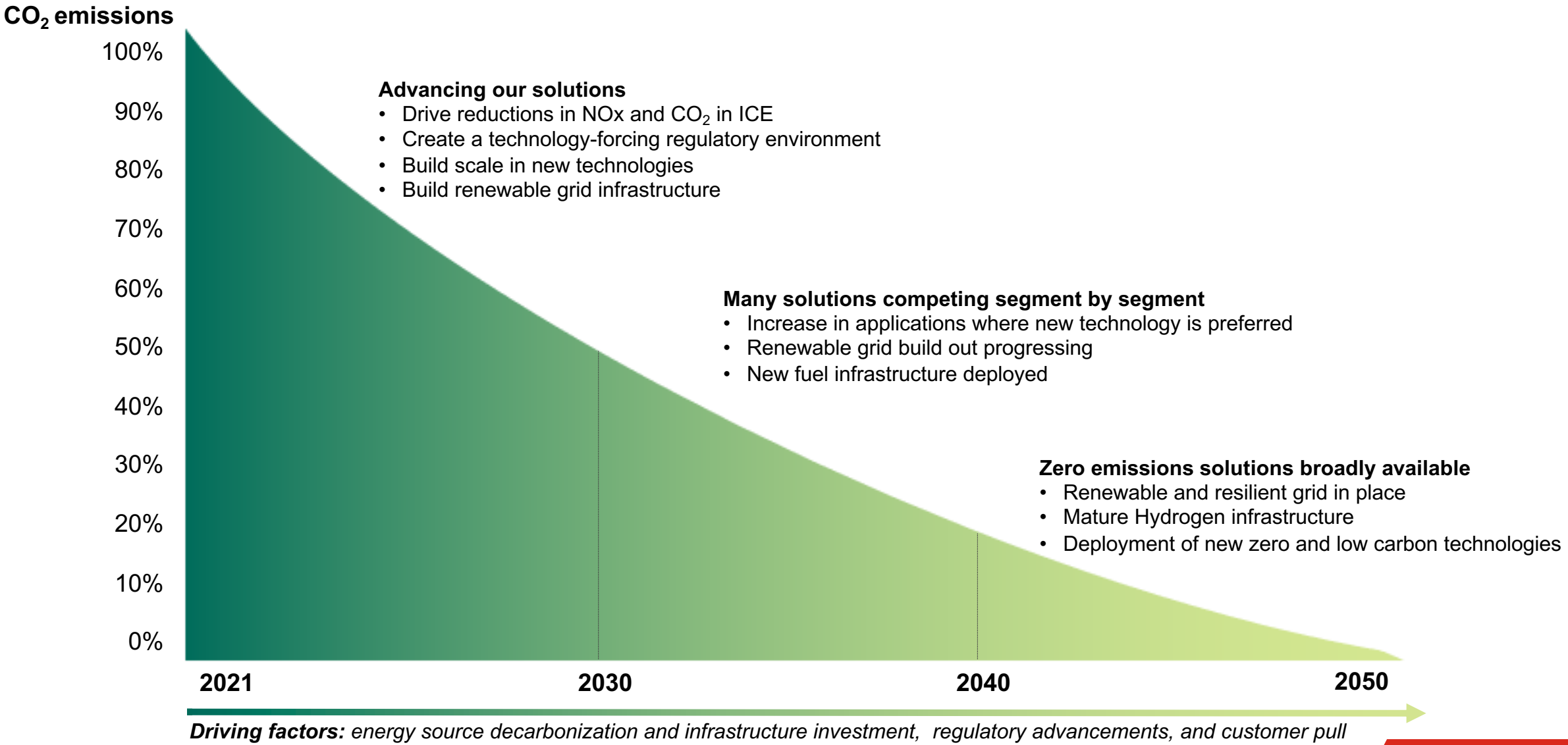
Lower emissions today

Reduce well-to-wheels emissions

Drive wide-scale customer adoption

Achieve zero emissions by 2050

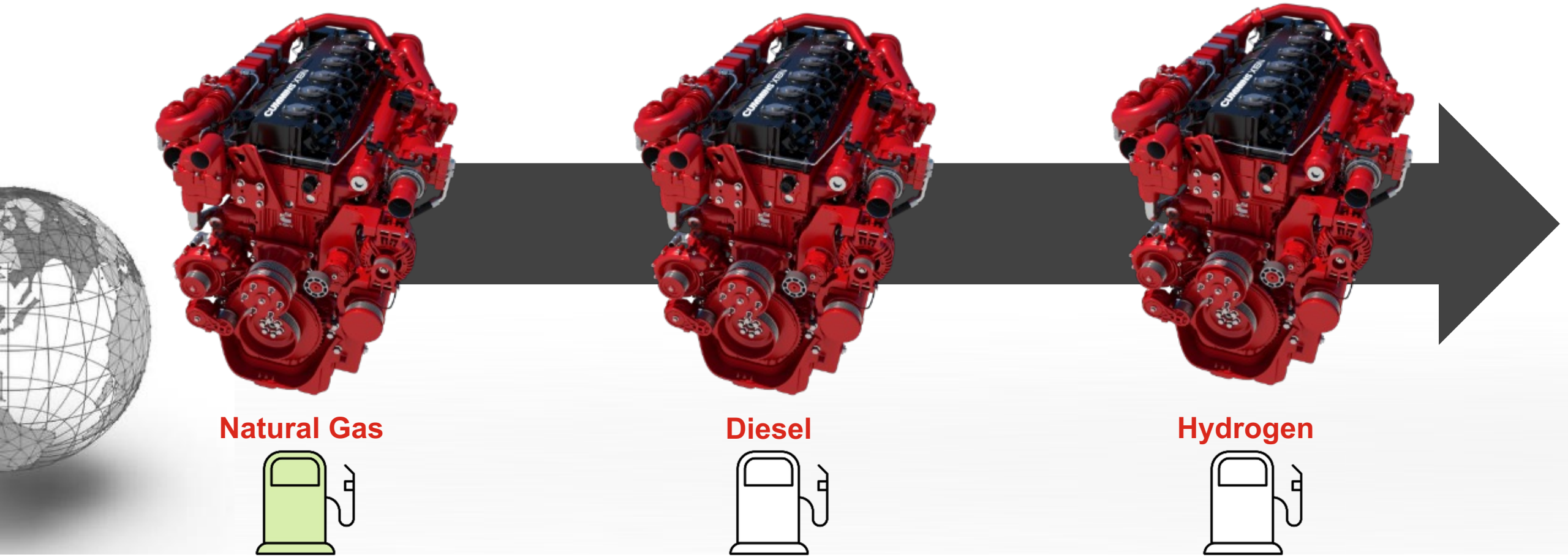
Reaching Destination Zero



Driving factors: *energy source decarbonization and infrastructure investment, regulatory advancements, and customer pull*

Global Platform: Fuel Agnostic

Reliable | Durable | Scale | Common



OPERATIONAL ADVANTAGES.

1. Abundant low-cost domestic fuel
2. Maintenance-free exhaust treatment
3. Ease of transition from diesel to natural gas
4. Diesel-like power and performance
5. Cummins support
6. The Cummins warranty

NATURAL GAS ENGINES

Top 4 biggest Influencers for NG adoption

- Increasing regulatory stringency drives Natural Gas product value and importance
- *Increasing Diesel technology costs*

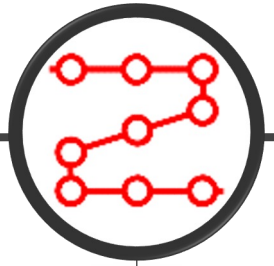
Regulations

ESG Goals

Higher demand due to private fleet Environmental, sustainability & governance goals

- Natural gas fueling stations are sparse
- But end customers might install private refueling stations

Infrastructure



Bridge to ZEV

- RNG is a carbon negative option
- Can work as near zero solution

The time is now

NATURAL GAS TAILWINDS

- ESG and sustainability goals
- Least commercially disruptive for long haul heavy duty
- Next best infrastructure after diesel
- Suitable for multi-shift operation
- Stable natural gas fuel pricing
- Improved total cost of operations to achieve reduced GHGs

NATURAL GAS BARRIERS

- Insufficient fueling infrastructure
- Higher vehicle cost and lower residual value
- Incomplete product lineup

Cummins NG business: North America

Close JV CWI

Open JV Momentum

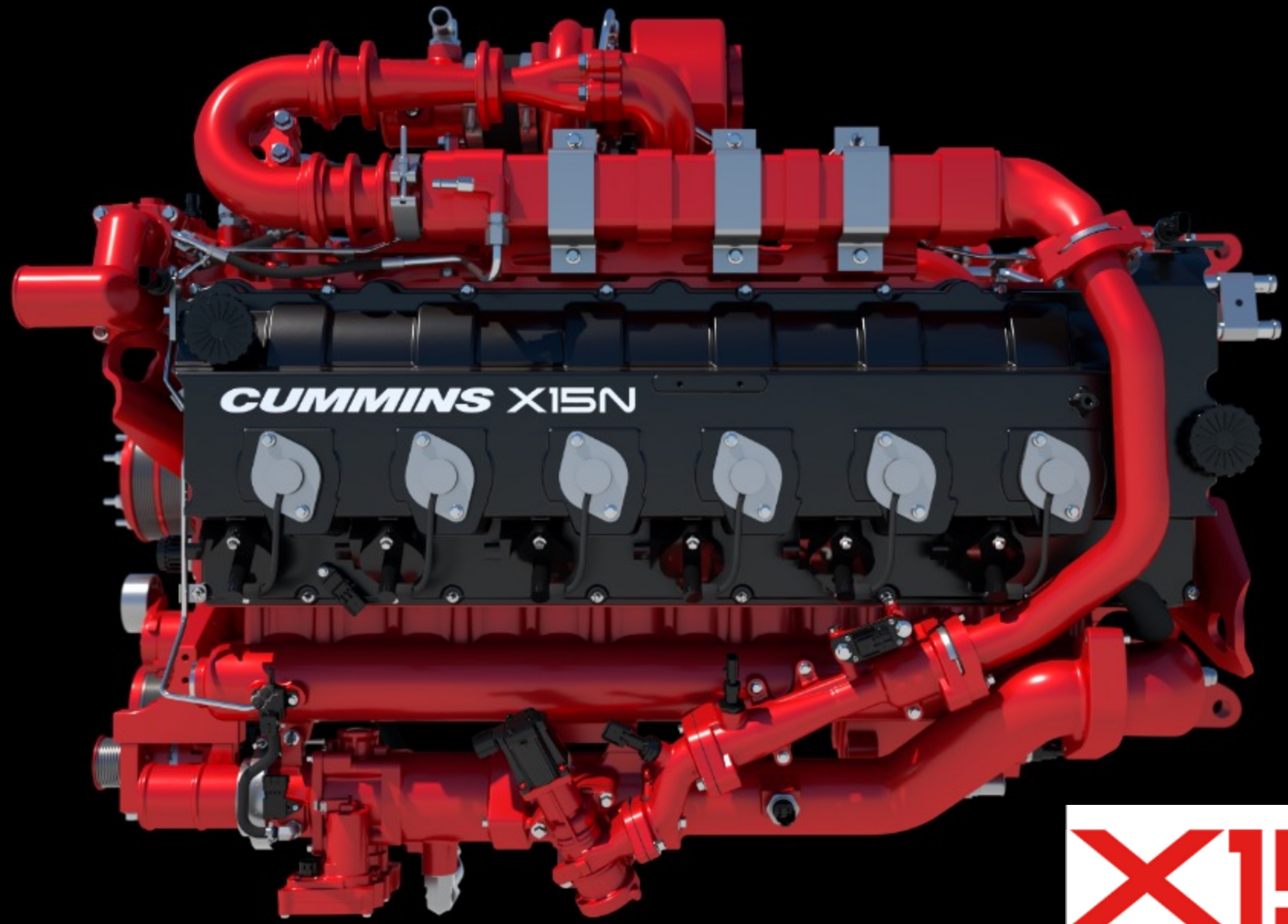
Launch X15N

Improve Fueling infrastructure

Increase support capability at our channel locations

- Aligned and supports destination zero vision
- Act now on well-to-wheels emissions
- Continued investment in current products and planning for new future products

ISX12N Applications: Foundation of the HD Market

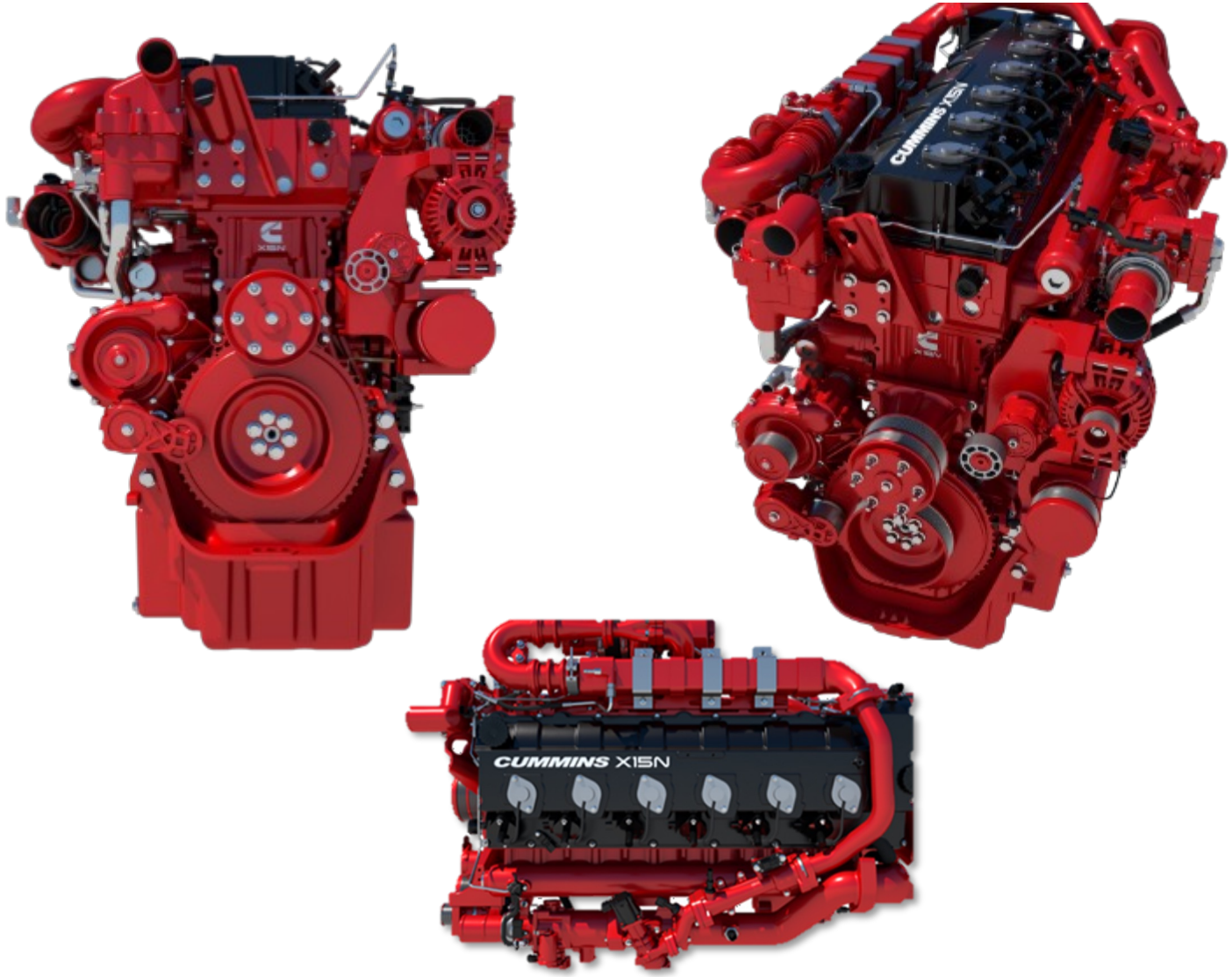


Cummins®

X15N™

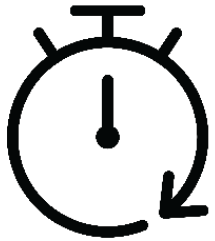
The Future of Natural Gas Power

Cummins New X15N



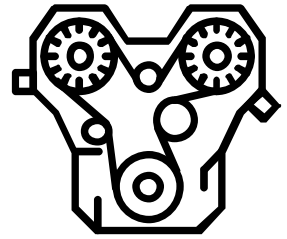
- Better fit for linehaul duty-cycles
- Up to 500 hp / 1850 lb-ft
- Leverages RNG for carbon-negative powertrain options
- Maintenance free passive aftertreatment

Cummins X15N Value Drivers



Reliability (Uptime)

Total Cost of Operation



Performance

X15N™

Path to Zero Emissions

X15N Product Introduction

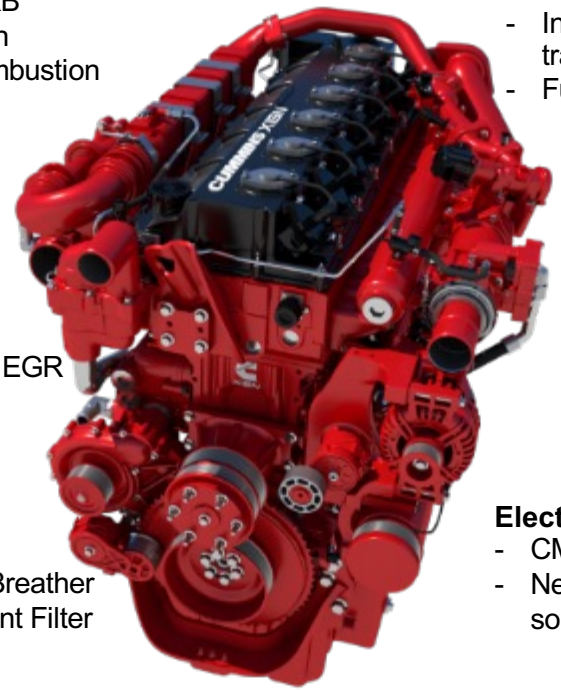
Design and deliverables to be confirmed through pending and final verification

X15N™

- Industry-first & market-defining ***Big Bore Natural Gas*** Powertrain
- Capable to ***meet stringent CARB24/27 and future EPA*** NOx regulations
- ***Compact 15 Liter*** – Targeting fit in ISX12N & 13L chassis installations, 500 lbs lighter than current 15L diesels
- Up to a ***10% Fuel Economy/GHG improvement*** over ISX12N
- 12L-15L Diesel matching ratings - ***up to 500hp & 1850lb-ft*** of torque
- Compact ***passive TWC aftertreatment*** system
- ***Integrated with Industry HD transmissions*** – Endurant and Allison
- Incorporates Cummins ***Powertrain Features & Strategies***
- Potential for ***Carbon Negative Solution with RNG***

Base Engine
- EPA and CARB
- Rear Geartrain
- Advanced combustion management

Vehicle Integration
- Compact 15Ldesign and reduced weight
- Integrated with Endurant (& Allison) transmissions
- Full powertrain feature suite



Air Handling
- Dual Wastegate Turbocharging
- Advanced Cooled EGR

Fuel System
- Next generation fuel system
- Integrated with vehicle fuel system partners

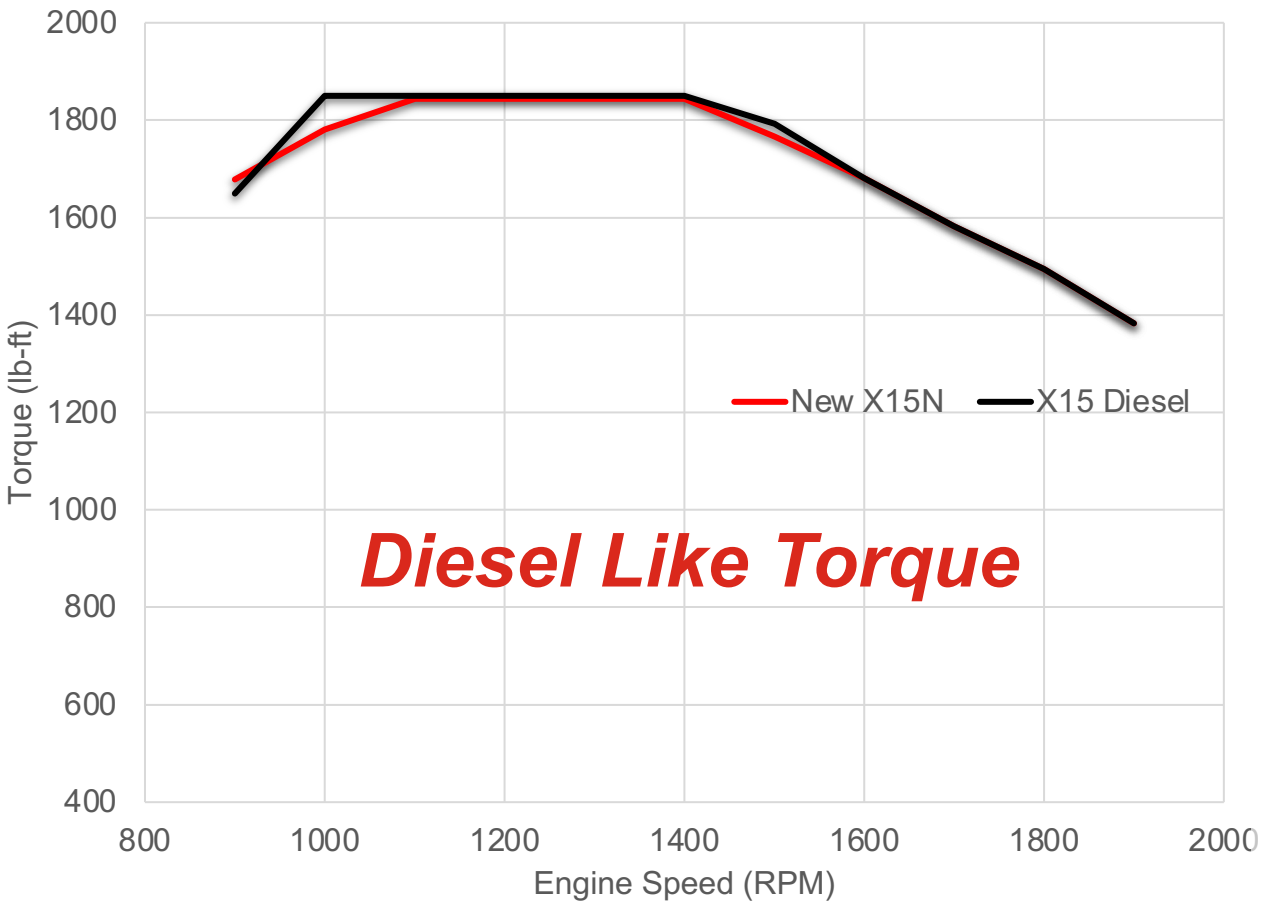
Lube and Cooling
- Closed Crankcase Breather
- Elimination of Coolant Filter

Electronics System
- CM2380 ECM
- Next generation connectivity solutions

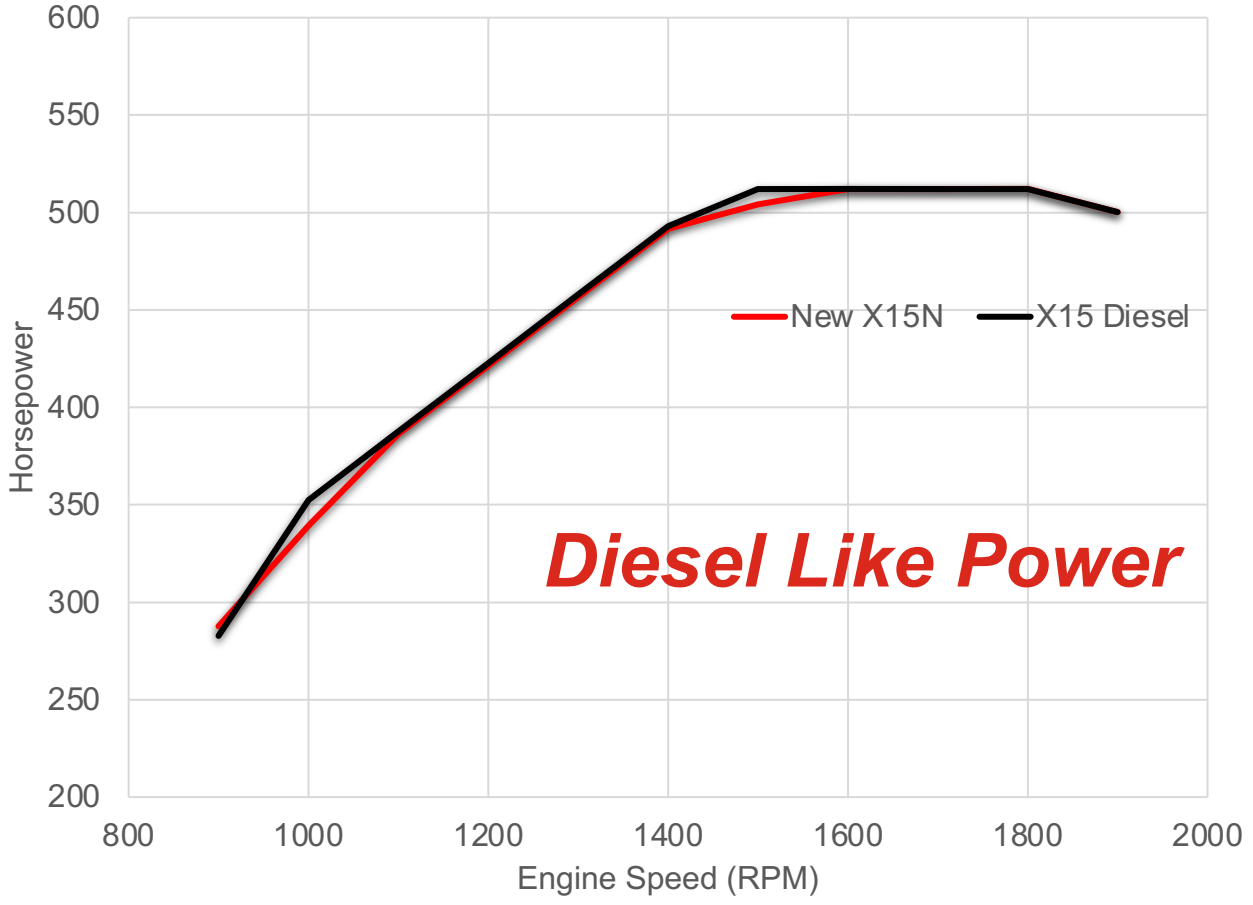
Exhaust System
- Single unit, maintenance free & fluid free, chassis mounted Three-Way Passive Catalyst

X15N vs. X15 Diesel *Preliminary*

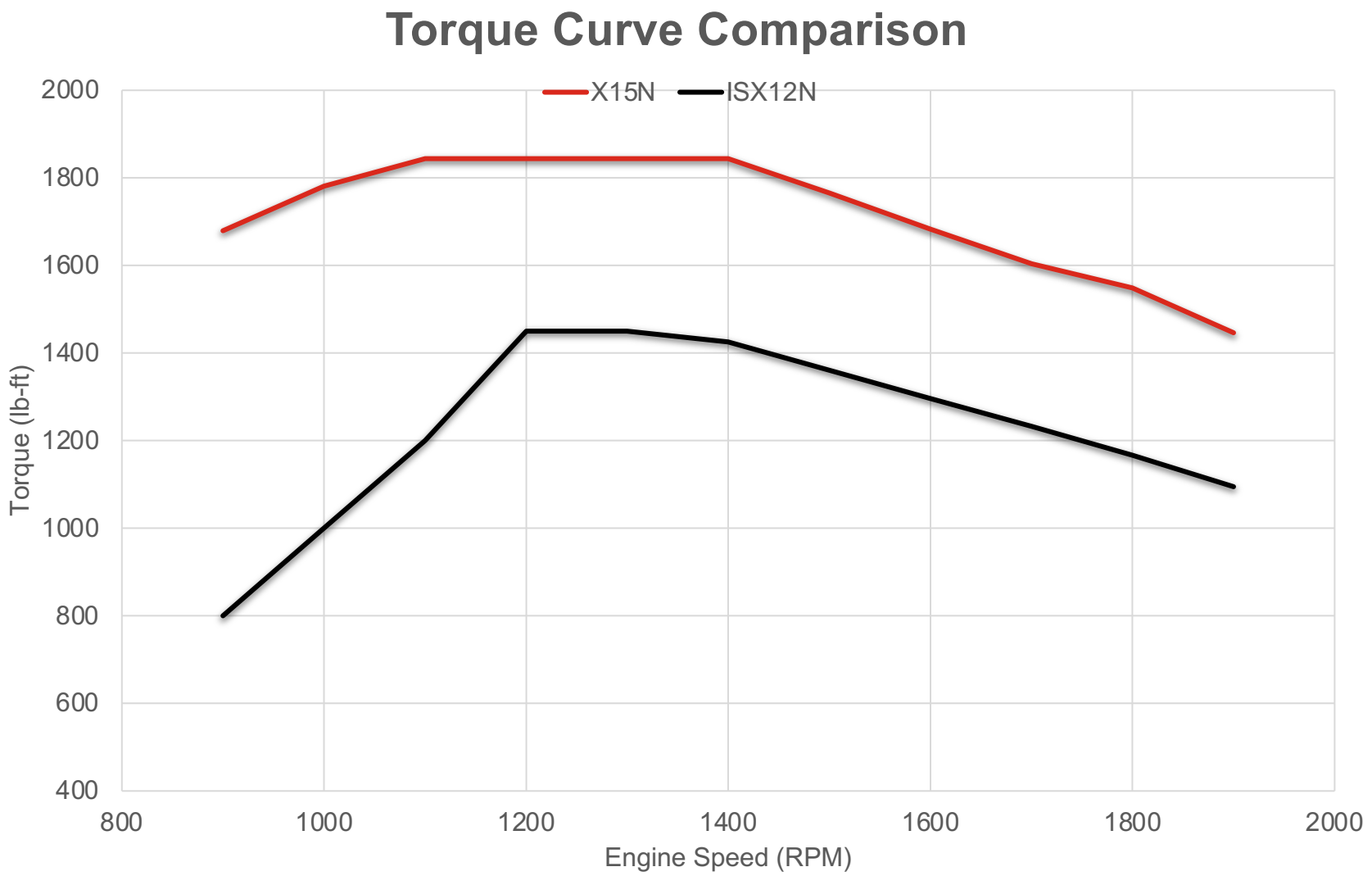
Torque Curve Comparison



Power Curve Comparison



X15N™ vs. ISX12N



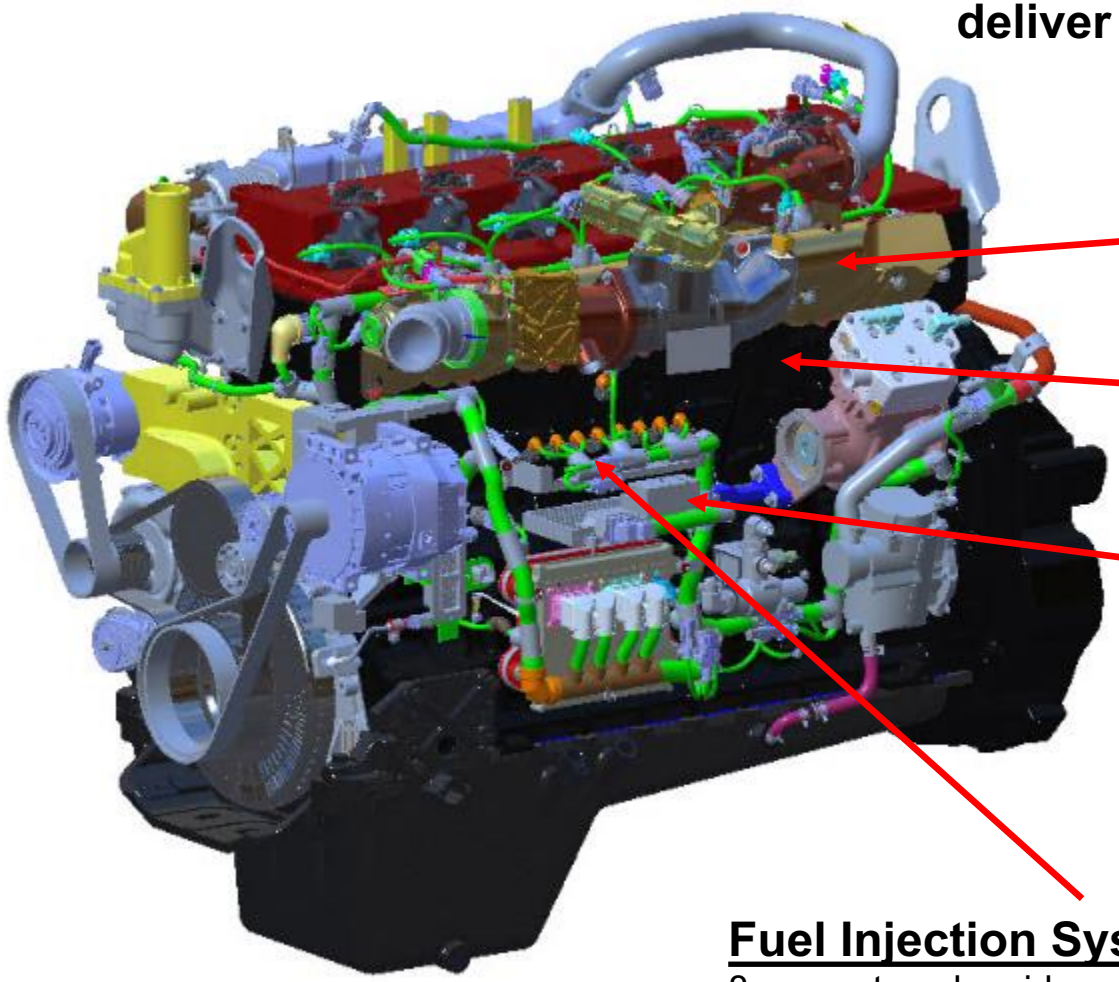
X15N Ratings - Preliminary

Rating	Reference	Gov Speed	Transmissions
400 / 1450	ISX12N	1900	End HD / A4k
400 / 1650	New	1900	End HD / A4k
400ST / 1450-1650	X15	1900	End HD
400ST / 1550-1750	X15	1900	End HD
400ST / 1650-1850	X15	1900	End HD
400EX / 1650	X15	1900	End HD
400EX / 1750	X15	1900	End HD
400EX / 1850	X15	1900	End HD
450 / 1650	X15	1900	End HD / A4k
450 / 1750	X15	1900	End HD / A4k
450 / 1850	X15	1900	End HD / A4k
450ST / 1450-1650	X15	1900	End HD
450ST / 1550-1750	X15	1900	End HD
450ST / 1650-1850	X15	1900	End HD
450EX / 1750	X15	1900	End HD
450EX / 1850	X15	1900	End HD
500 / 1650	X15	1900	End HD / A4k
500 / 1850	X15	1900	End HD / A4k
500ST / 1650-1850	X15	1900	End HD
500EX / 1850	X15	1900	End HD

X15N Uses The Learnings of the ISX12N

Increased Power & Torque

New platform with 15L displacement and engine management system to deliver up to 500hp/1850 lb. ft of torque



Power Cylinder

Improved oil control – Improved Oil drain intervals, reduced oil consumption and improved combustion control

Pistons

Steel pistons for durability and improved combustion chamber and component temperature control

Ignition and Injection Control System

New integrated ignition and injector control system vs 2 independent system

CCV System

Incorporates improved bearing system from ISX12N

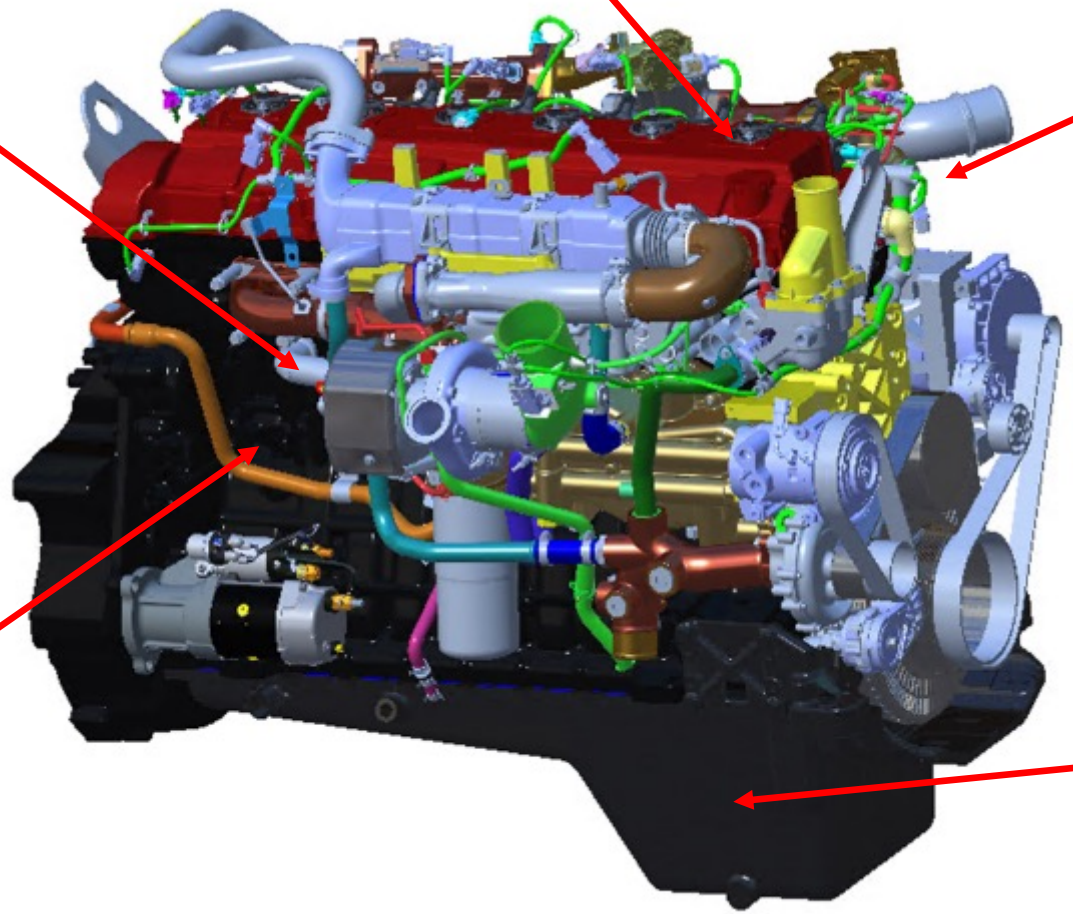
Fuel Injection System

8 separate solenoids vs. large single fuel control valve for improved fuel control

X15N builds on learnings of the ISX12N

Spark Plugs
Increased ceramic strength and electrode geometry and material for improved spark plug life

Turbocharger
Dual entry wastegate and upgraded materials for improved durability and altitude capability and performance



Cylinder Head
Natural gas specific head allowing for improved thermal distribution and improved spark plug life

High-Capacity Oil Pan
Increased oil capacity for extended oil drain intervals

Sculpted Block
Compact design and reduced weight vs ISX12N

Program Est. Timing

Preliminary

Limited Production

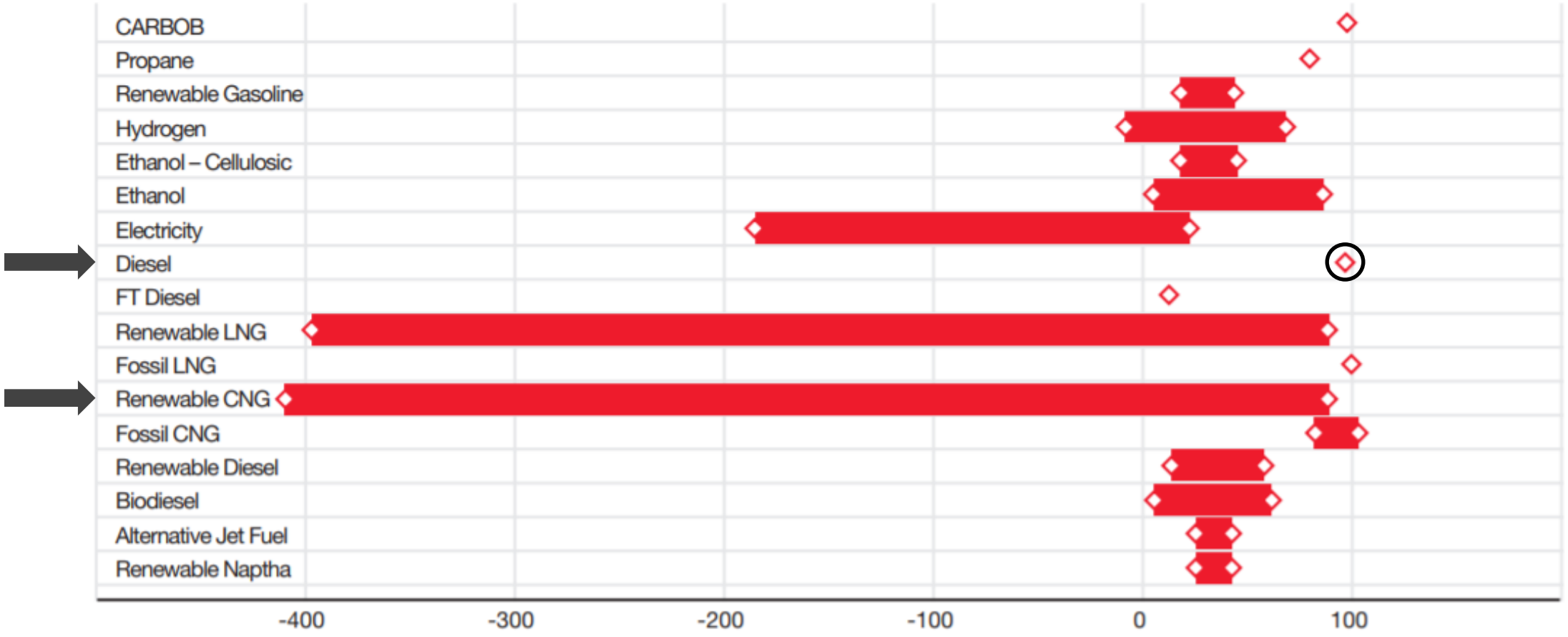
Q3 | Q4 | Q1 2022 | Q2 | Q3 | Q4 | Q1 2023 | Q2 | Q3 | Q4 | Q1 2024

Field Test

2021

Start of Production 2024

CALIFORNIA AIR RESOURCES BOARD CARBON INTENSITY VALUES BY ENERGY SOURCE



Source: California Air Resources Board, April 2020

CARB Confirms RNG Carbon Negative

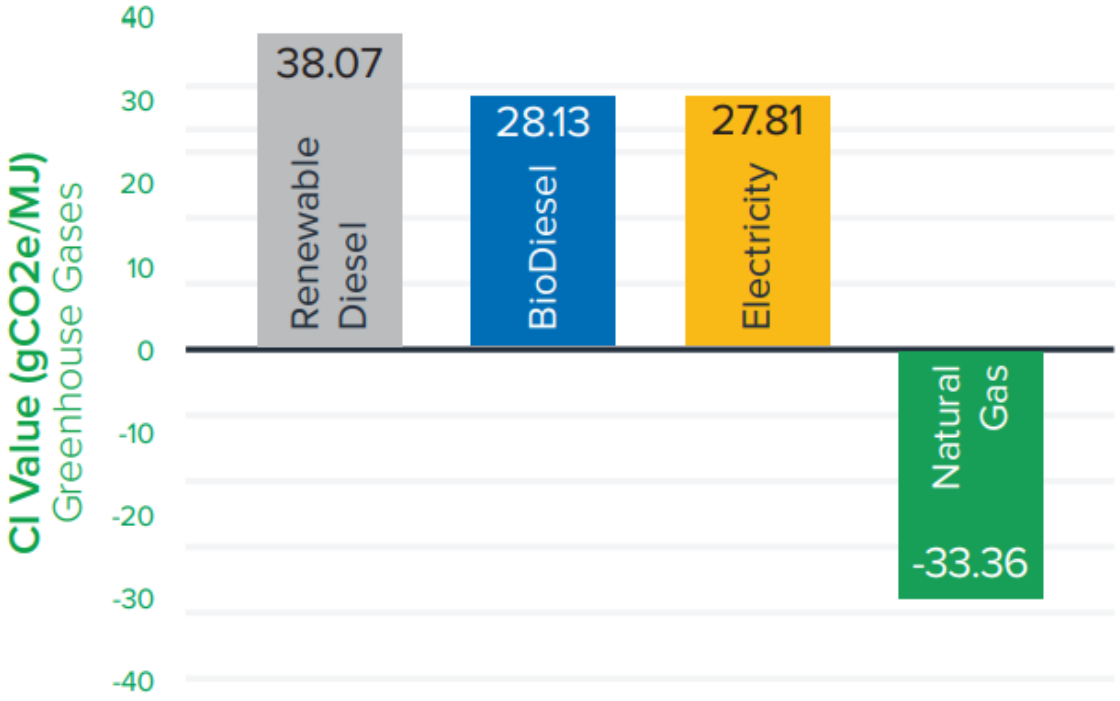
https://cngvp.org/

On April 30, 2022, the California Air Resources Board (CARB) released data for its Low Carbon Fuel Standard (LCFS) Program for Q1 to Q4 2021.

The data confirms that:

The average carbon intensity of all of the natural gas reported in the California LCFS is negative (-33.36 gCO2e/MJ).

Natural gas vehicles (NGVs) operating in California provide the greatest greenhouse gas (GHG) emission benefits compared to all other transportation fuels and should be a key component in the strategy to combat climate change.



Source: California Air Resources Board Low Carbon Fuel Standard Program 2021 Data

Go low or carbon-negative w/ RNG

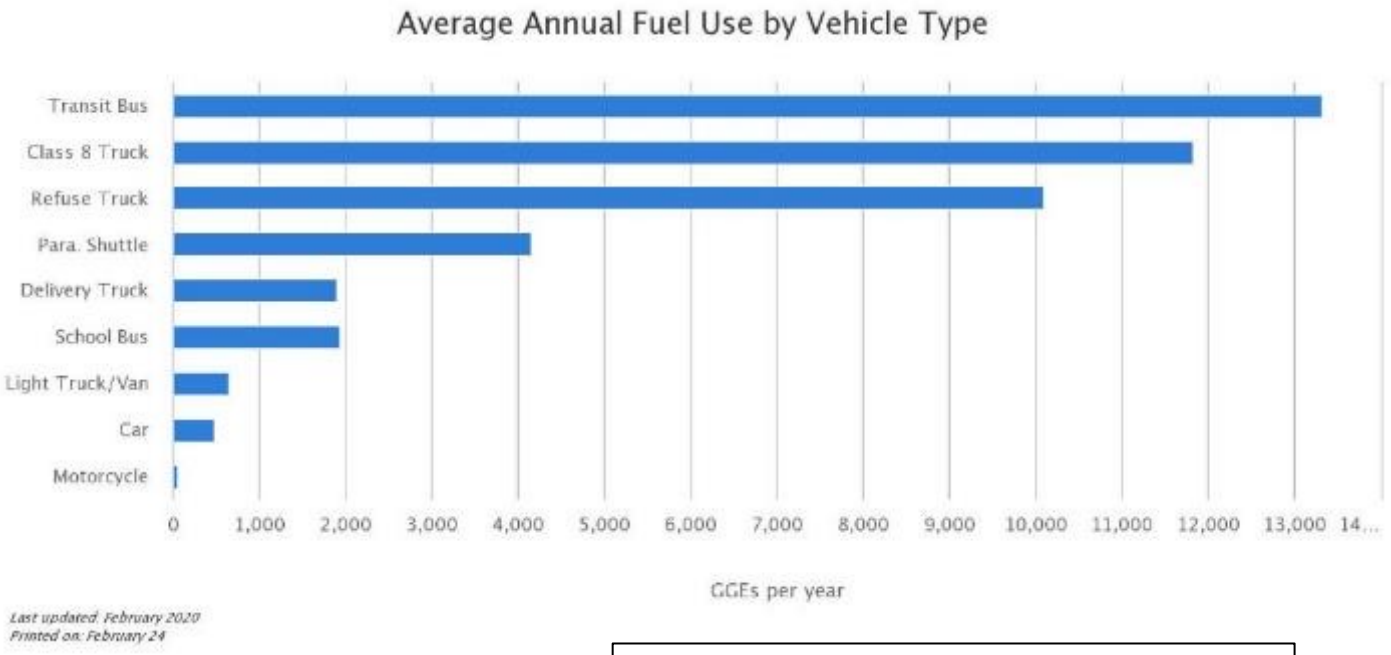
RNG made up **98%** of all CNG used for transportation in California in 2021

RNG made up **64%** of all CNG used for transportation in the U.S. in 2021

Natural Gas Vehicles America, "Decarbonize Transportation with Renewable Natural Gas," May 2022, accessed at https://ngvamerica.org.

RNG Availability for the Future

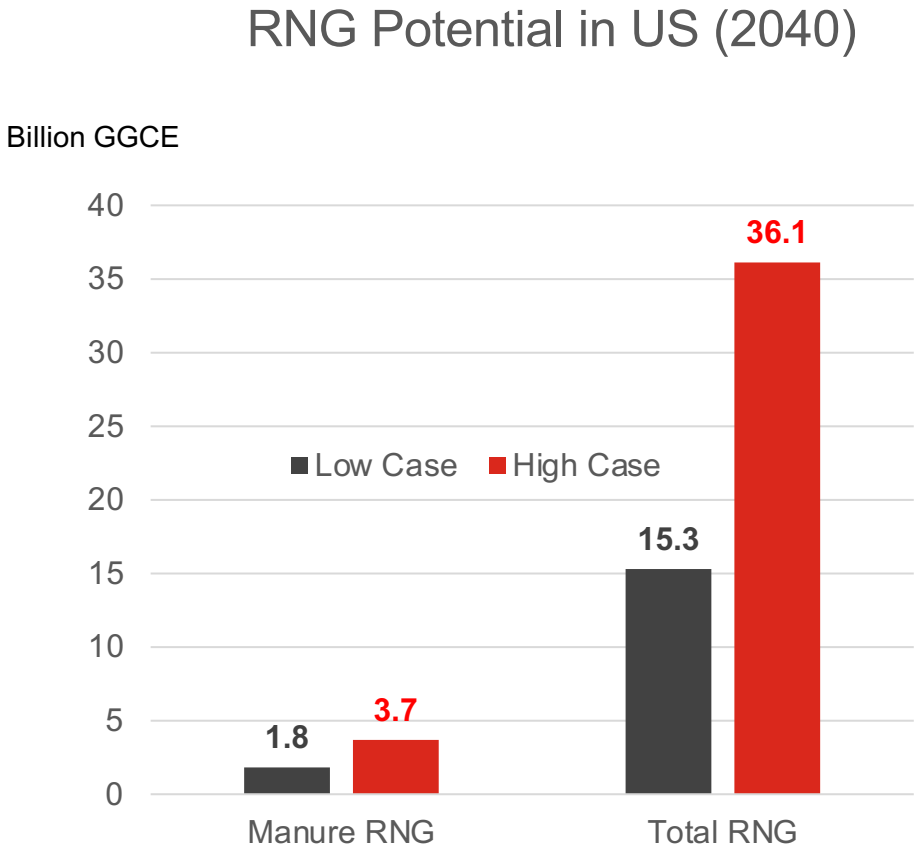
RNG and Manure RNG will grow to support NGV Adoption in the HD Truck Market.



Source:
https://afdc.energy.gov/data/10308

Diesel Fuel Consumption
Class 8 and Refuse: 21.9 B GCE

2020 CNG Volume: 0.65 Billion GCE
2020 RNG Volume: 0.35 Billion GCE

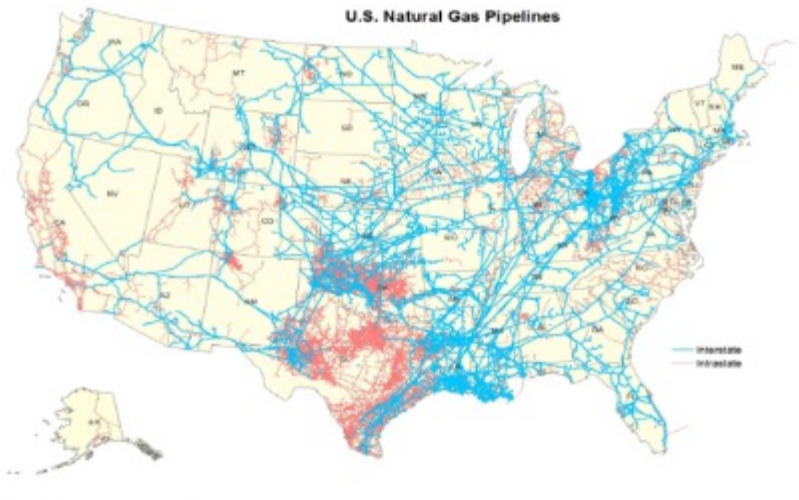


Source:
American Gas Association and ICF

US Natural Gas Pipeline

305,000 miles of Inter and Intrastate Natural Gas Pipeline in US

2.5 million miles of underground Natural Gas distribution lines in US



Investing! – to name a few...

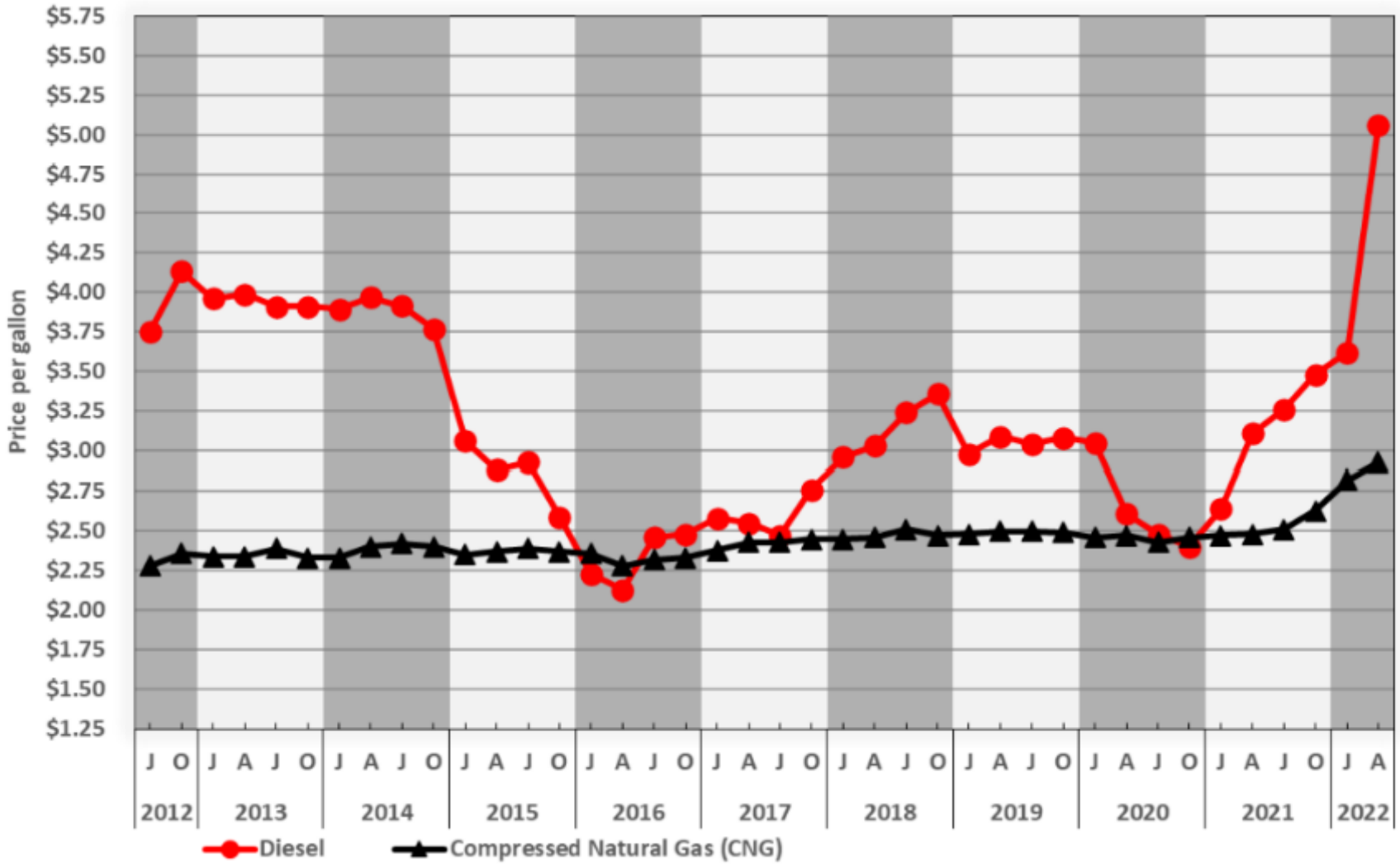
Natural Gas Fueling Stations - US

Current: 1680 CNG Stations, 144 LNG Stations

Planned: 50 CNG, 38 LNG

https://ngvamerica.org/fuel/ngv-station-map/?f#/find/nearest?fuel=CNG,%20LNG

Fuel Price Stability CNG vs. Diesel



National Average Price Between April 1 and April 15, 2022	
Fuel	**Price**
Biodiesel (B20)	$4.62/gallon
Biodiesel (B99-B100)	$5.06/gallon
Electricity	$0.14/kWh
Ethanol (E85)	$3.54/gallon
Natural Gas (CNG)	$2.59/GGE
Liquefied Natural Gas	$3.16/DGE
Propane	$3.53/gallon
Gasoline	$4.13/gallon
Diesel	$5.06/gallon

https://afdc.energy.gov/fuels/prices.html

https://afdc.energy.gov/files/u/publication/alternative_fuel_price_report_april_2022.pdf
Pg 9, CNG prices in DEG – Diesel equivalent gallon

CLEAN FUEL TECHNOLOGIES

Cummins Fuel Delivery Systems

- Cummins commitment to natural gas powertrains;
  - full value package and seamless integration - engine and fuel delivery system
- Work underway to upgrade Cummins locations to be able to service/ support the fuel delivery system
- Located near Dallas, Tx with over 100,000 sq ft. of space
- Systems designed considering customer pain areas and have multiple advantages over competition
- Ability to work with multiple installers, dealers, channels; can develop a standard product for OEM as first fit as well

Cummins Investments in Natural Gas

Cummins Clean Fuel Technologies

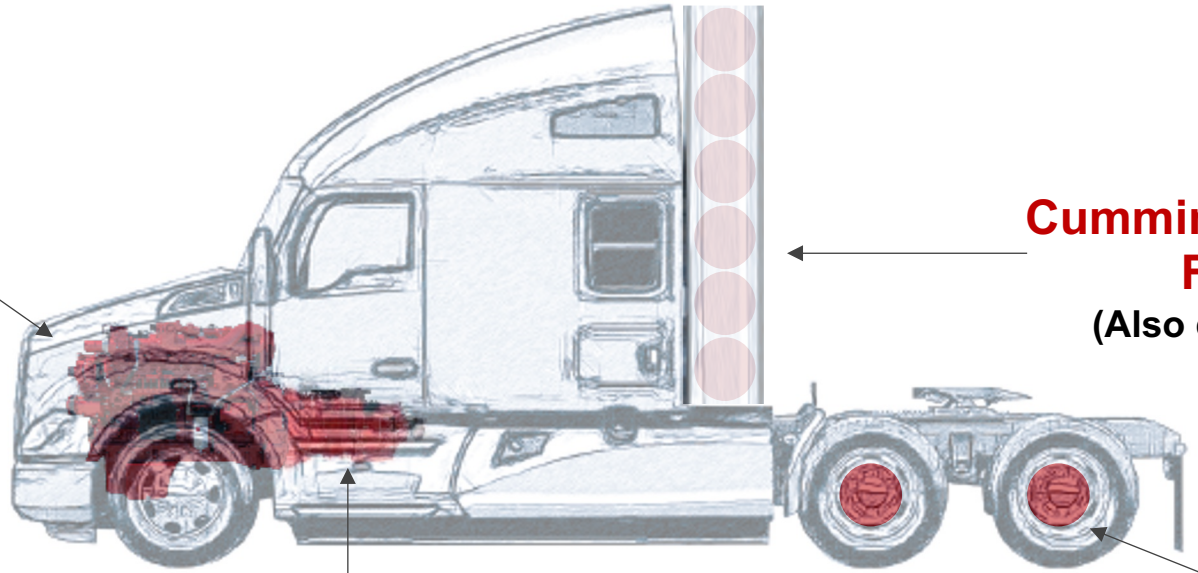
Launch X15N

Expanding Refueling Infrastructure

- Regionally aligned global product plan that leverages manufacturing economies
- Integration of end-to-end NG powertrain and fuel system
- Advocacy for RNG with leading bodies, government agencies
- Augment Cummins Sales and Service network to service and support end-to-end fuel delivery system
- Influence standard development for NG products (vehicle, infrastructure, regulation)

Cummins Integration Value Proposition

X15N™



Cummins Clean Fuel Technologies
Fuel Delivery System
(Also compatible with Agility & other)

Cummins + Meritor
(Axles, Brakes, etc)

Eaton-Cummins Endurant
Automated Transmission
(Will also have Allison 4000)

Q+A