

Powering a sustainable future for heavy-duty

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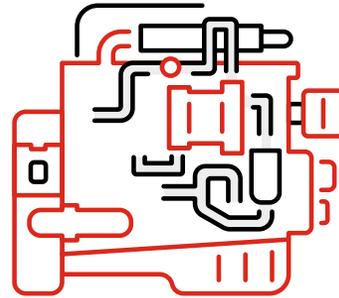
Public

A HISTORY ROOTED IN INNOVATION



Founded in 1919 by inventor Clessie Cummins and banker W.G. Irwin with a shared vision of what ingenuity and hard work could achieve.

100 YEARS OF TECHNOLOGY LEADERSHIP



Cummins took the available engine technology and transformed diesel into a reliable, everyday power source and today a broad portfolio of power solutions.

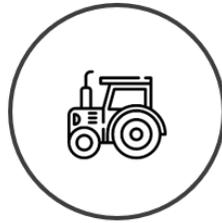
Powering a World that's Always On in a more sustainable way



Heavy-duty Truck



Medium-duty
Truck & Bus



Agriculture



Construction



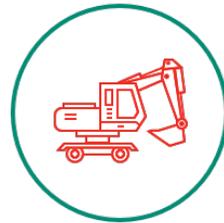
Oil & Gas



Fire & Emergency



Marine



Mining



Light-duty Automotive
& Recreational Vehicle



Defense



Power Generation



Rail

Disruptive Trends

1

Zero Emissions

**Zero emissions
vehicle trends drive
future technology**

2

Energy Diversity

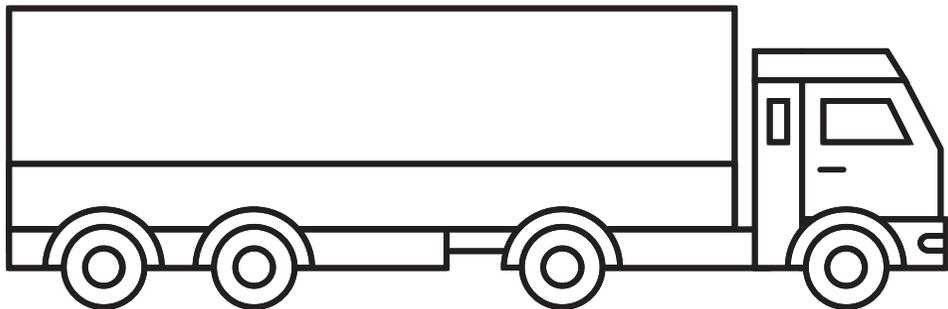
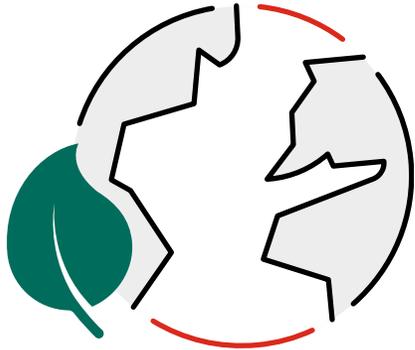
**There's high
demand for various
energy/energy
conversion
options.**

3

Connectivity

**Powering the future
requires energy
systems that
communicate
efficiently.**

BROAD PORTFOLIO OF POWER SOLUTIONS: ULTRA-CLEAN DIESEL



- ✓ Highly reliable and mature technology
- ✓ Particulate emissions have been reduced by 90 percent
- ✓ NOx emissions have been reduced by more than 95% in the past 25 years
- ✓ Ideally suited for a low CO₂ future

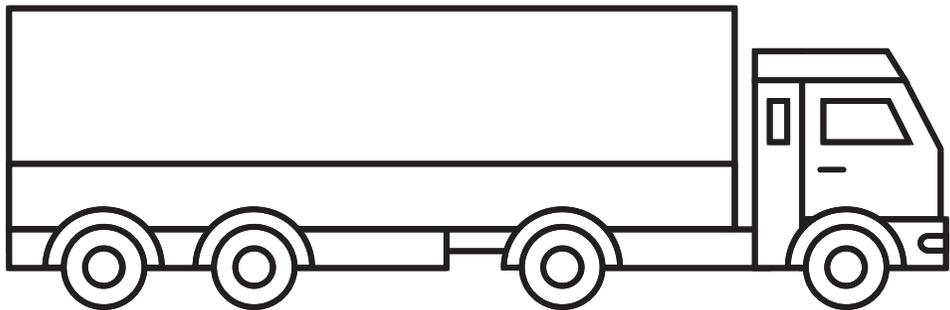
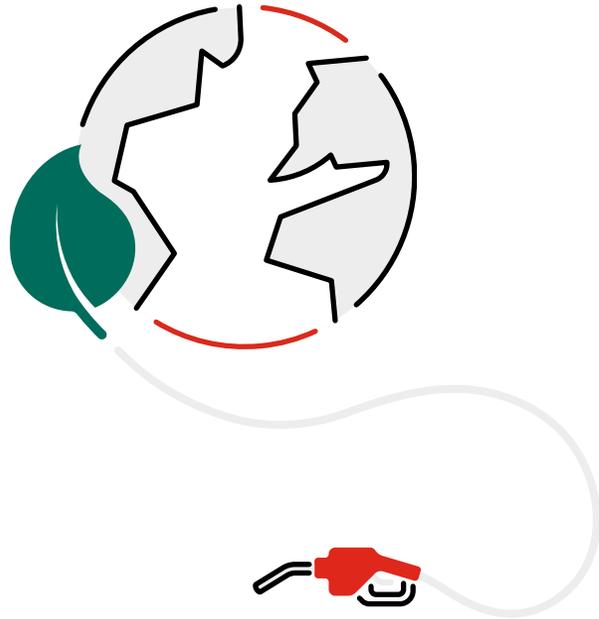
↑+ Power and torque

↓- Cost of operation

↑+ Efficiency

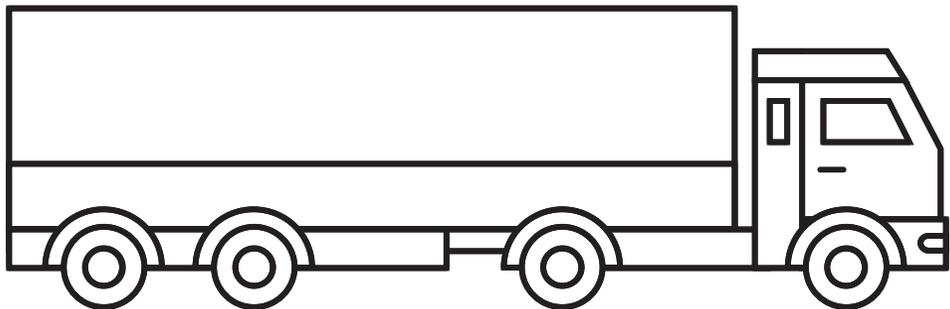
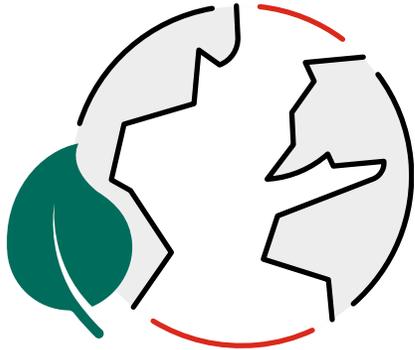
↓- Emissions

BROAD PORTFOLIO OF POWER SOLUTIONS: NATURAL GAS



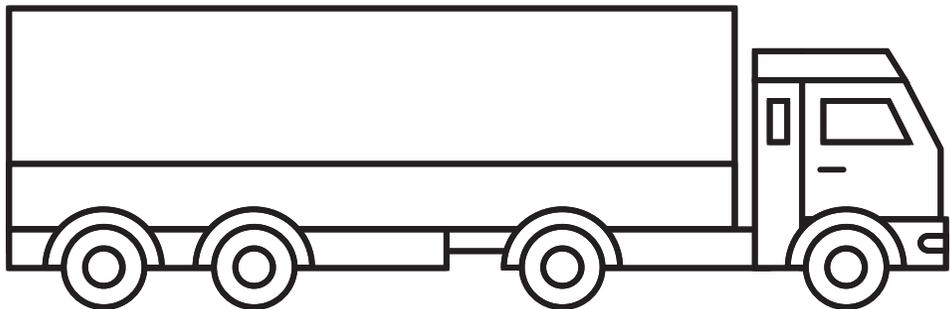
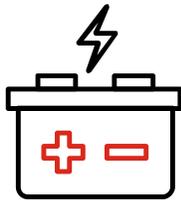
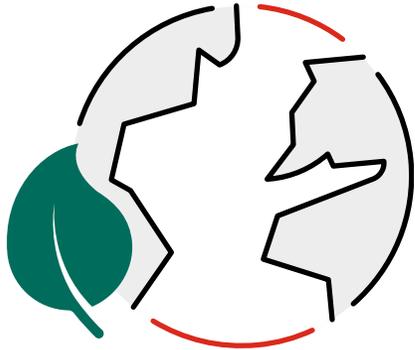
- ✓ Lower fuel costs and biofuel capable
- ✓ Near-zero emissions and net-zero with renewable natural gas
- ✓ Ideally suited for a low NO_x and low CO₂ future
- ✓ Maintenance free simple aftertreatment system
- ✓ Quiet engine operation
- ✓ Delivers on energy independence initiatives
- ✓ Stable fuel pricing
- Natural Gas Infrastructure
- Competitive Vehicle Pricing
- Comparable System Weight

BROAD PORTFOLIO OF POWER SOLUTIONS: HYBRID



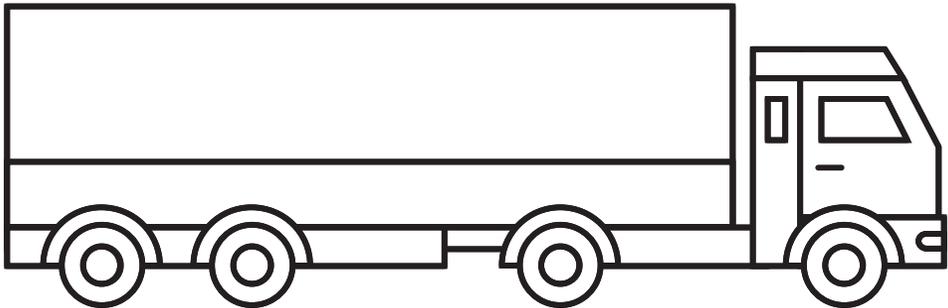
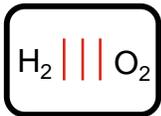
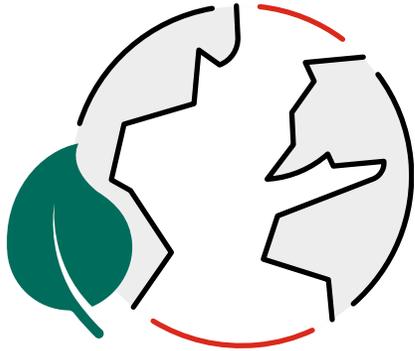
- ✓ Improved fuel efficiency
 - ✓ Instantaneous torque and improved drivability
 - ✓ No range anxiety
 - ✓ Limited zero tailpipe emissions mode
 - ✓ Ideally suited for a low NO_x and low CO₂ future
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- ❑ Electrical Infrastructure for Plug In Hybrids
 - ❑ Competitive Vehicle Pricing
 - ❑ Competitive Battery Weight

BROAD PORTFOLIO OF POWER SOLUTIONS: ELECTRIC



- ✓ Higher operational efficiencies than a conventional internal combustion engine
- ✓ Quieter, simpler powertrain with fewer mechanical parts than diesel and natural gas
- ✓ Zero tailpipe emissions
- ❑ Electrical Charging Infrastructure
- ❑ Charge time equal to diesel or natural gas fill time
- ❑ Competitive Battery Weight & Pricing
- ❑ No Impact on Cargo Carrying Capacity

BROAD PORTFOLIO OF POWER SOLUTIONS: FUEL CELL



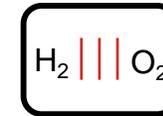
- ✓ Instantaneous torque
 - ✓ Excellent range and refueling time
 - ✓ Zero tailpipe emissions
 - ✓ Advancements in solid oxide and PEM fuel cells are making technology more feasible
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- ❑ Hydrogen Infrastructure
 - ❑ Competitive hydrogen fuel pricing
 - ❑ Competitive fuel cell pricing

Delivering the Power of Choice for Heavy-Duty Customers



Diesel
powertrain

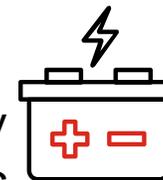
Fuel cell



Natural gas
powertrain



Battery
electric



Hybrid
electric



