

Transitioning your fleet to alternative fuels is a major decision, and there are several factors to consider. Unfortunately, not all of the information in the market related to heavy-duty natural gas vehicles (NGVs) is 100 percent accurate. The information below aims to dispel some of these myths while providing valuable insights about NGVs.

**MYTH**
**REALITY**


NGVs don't have enough power, aren't reliable.

When specifying a vehicle, it's important to select engine power that matches the given load and duty cycle. Earlier 8.9 liter natural gas engines were limited to 320 horsepower. They were not always used in their ideal applications and often pulled loads that were heavier than intended. As a result, there were some early reliability challenges. Fortunately, reliability has improved and the Cummins Westport near-zero 11.9 liter engine offers up to 400 horsepower and 1,450 lb-ft torque to pull full 80,000 pound GVWR loads.<sup>1</sup>



CNG is not safe.

In a study conducted by the American Gas Association (AGA) NGVs were found to be as safe or safer than vehicles powered by liquid fuels. NGVs require Compressed Natural Gas (CNG) fuel tanks, or "cylinders." They need to be inspected every three years or 36,000 miles. The AGA study goes on to state that the NGV fleet vehicle injury rate was 37 percent lower than the gasoline fleet vehicle rate and there were no fuel related fatalities compared with 1.28 deaths per 100 million miles for gasoline fleet vehicles.<sup>2</sup>



NGVs don't have enough range.

Improvements in CNG cylinder storage design have led to fuel systems that provide range that matches the range of a typical diesel-powered truck. For example, 175 diesel gallon equivalents (DGE) can be mounted behind the cab, and an additional 60 DGE can be mounted on the frame rails, for a total of 235 DGE.<sup>3</sup> One major national fleet conservatively calculates an 80% fill rate and 5.5 MPG.<sup>4</sup> This would mean a working range of more than 1,000 miles with this 235 DGE package.



NGVs are too expensive.

NGVs generally require a larger initial investment than their gasoline or diesel-powered counterparts. This is primarily due to the cost of the CNG fuel system and cylinders. However, this added cost can often be offset by grants and incentives, such as the California Proposition 1B Program.<sup>5</sup> The biggest difference in maintenance between diesel and CNG engines is the spark plug replacements required with CNG versus the high cost of Diesel Particulate Filter or "DPF" regeneration and maintenance as well as Diesel Exhaust Fluid on all 2010-compliant diesel engines.

<sup>1</sup> cumminswestport.com/models/isx12-g

<sup>2</sup> American Gas Association, "Natural Gas Vehicle Safety Survey - An Update," March 1992.

<sup>3</sup> agilityfuelsolutions.com/procab-cng-fuel-systems.html

<sup>4</sup> fleetowner.com/running-green/switching-cng-8-things-know

<sup>5</sup> aqmd.gov/home/programs/business/business-detail?title=vehicle-engine-upgrades



Can't get CNG fuel.

California has one of the largest public-access CNG fueling infrastructures in the U.S.<sup>6</sup> There are around 30 public access stations suitable for heavy-duty trucks and more than 170 public-access CNG stations total in California. There are more than 1,700 stations across the U.S.<sup>7</sup> It has been proven on multiple occasions that coast-to-coast travel is feasible with CNG.<sup>8</sup> If public fueling isn't convenient to you, you can build your own station to serve your needs as well as other fleets around you and the general public.



CNG fuel is too expensive

CNG is a domestically-produced fuel that has historically not been affected by the swings in the global oil market.<sup>9</sup> The Department of Transportation Alternative Fuels Data Center reports that since 2011, the average retail price for CNG in the U.S. has been around \$2.35 per gallon.<sup>10</sup> During this same time period, retail diesel has, with few exceptions, consistently cost more. Diesel has been trending upward since then.<sup>11</sup> In addition, California SB-1 specifies for an additional 20 cents per gallon tax to be added to the cost of diesel as of November, 2017. It's also important to factor the cost of diesel emission fluid, or "DEF" into total diesel fuel costs. Volume CNG fuel contracts are another tool that can allow operators to lock in competitive pricing. Fleets that build their own CNG stations can expect a lower fuel cost than retail stations. Fleets that build overnight "time fill" CNG stations could save even more by avoiding the labor cost from downtime when drivers fuel their own vehicles.



CNG is a "dirty" fossil fuel.

There are two exciting new developments that are making NGVs cleaner than ever. First is the widespread adoption<sup>12</sup> of Renewable Natural Gas (RNG), which reduces greenhouse gas emissions by 80%.<sup>13</sup> Second is the new near-zero 11.9 liter engine from Cummins Westport, which reduces NOx emissions by 90%.<sup>14</sup> The Game Changer white paper details both of these advancements. It also compares the most viable technology paths for heavy-duty trucking, including hydrogen fuel cell, battery electric, and renewable diesel. Its conclusion was that the combination of near-zero emissions natural gas engines powered by RNG provided the best pathway to immediately and cost effectively reduce smog-forming NOx emissions while having the unique potential for negative greenhouse gas emissions: **NGVgamechanger.com**

## FIND OUT MORE

To learn more about natural gas vehicles, please visit us online at:

[socialgas.com/ngv](http://socialgas.com/ngv)

Email us at [ngvinfo@socialgas.com](mailto:ngvinfo@socialgas.com) or call **213-244-5681**.

<sup>6</sup> [afdc.energy.gov/fuels/stations\\_counts.html](http://afdc.energy.gov/fuels/stations_counts.html)

<sup>7</sup> [ngvamerica.org/stations/](http://ngvamerica.org/stations/)

<sup>8</sup> [ngvamerica.org/2017rally/](http://ngvamerica.org/2017rally/)

<sup>9</sup> Caixa Bank, "The decoupling of gas and oil prices," Jan. 8, 2015

<sup>10</sup> Clean Cities Alternative Fuel Price Report, October 2017

<sup>11</sup> EIA "Weekly Retail Gasoline and Diesel Prices."

<sup>12</sup> [arb.ca.gov/fuels/lcfs/dashboard/dashboard.htm](http://arb.ca.gov/fuels/lcfs/dashboard/dashboard.htm)

<sup>13</sup> [arb.ca.gov/fuels/lcfs/ca-greet/ca-greet.htm](http://arb.ca.gov/fuels/lcfs/ca-greet/ca-greet.htm)

<sup>14</sup> [cumminswestport.com/models/isl-g-near-zero](http://cumminswestport.com/models/isl-g-near-zero)