

Class 8 Heavy Duty Tractors – Switching to Natural Gas Frequently Asked Questions

1. Why should we switch to Natural Gas? What are the benefits and considerations?

Natural Gas offers many benefits, including:

- ✓ *Natural Gas has a cost that is significantly lower than diesel (\$1.50/gallon equivalent savings based on 2013 average pump prices). This provides for a simple payback in the 2 year range for most fleets.*
- ✓ *Natural gas is very abundant in the US, particularly due to the shale gas found over the last decade. Each year's forecast shows a growing supply, which translates into long term price stability. This is not the case with Petroleum distillates which are subject to geopolitically affected global pricing swings.*
- ✓ *It's a domestic fuel source that helps boost the American economy and provides jobs for Americans.*
- ✓ *The cost savings provides a competitive advantage. The average two-shift fleet will save \$12,000-\$18,000 per year per truck. This can go directly to the bottom line, or be used to lower freight rates and capture a larger market share.*
- ✓ *Lower emissions (by 25-30%). Many Fortune 1000 companies have sustainability initiatives and provide a preference for suppliers that integrate sustainable practices into their offerings. This can provide the opportunity to grow market share while maintaining margins.*

There are some considerations, which include:

- *The tractors do cost more than comparable diesel-powered tractors. As an example, Mansfield's fleet of natural gas tractors cost about \$30,000 more per unit; however, this was more than offset by fuel savings of over \$15,000/year.*
- *Lower fuel economy. Spark ignited engines get lower fuel economy than their diesel counterparts. Mansfield's economic model assumes a conservative 15% degradation in fuel economy (OEMs, such as Cummins, Mack and others advise using a range of 10-15%).*
- *Increased weight. The natural gas tractors can weigh a few hundred pounds more than their diesel counterparts. However, Mansfield's economic model takes the revenue impact into account and still shows the savings described above.*
- *Fuel Stations. A nationwide network of Natural Gas fueling stations is being built (more and more are being added every day). With the "hub and spoke" model present in the fuel terminals, most tractors come in and out of the terminal multiple times per shift, affording multiple fueling opportunities. Because Mansfield is building the station in the fuel terminal, we can aggregate demand among multiple carriers.*

2. Is Mansfield converting its entire fleet?

Mansfield is in the process of converting the majority of its Atlanta-based fleet. We will convert our other fleet assets (smaller fleets in several other US locations) as we find partners willing to convert with us, which would allow an appropriate investment in the Natural Gas station.

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ANCHOR TENANTS

3. What are the benefits of being an anchor tenant?

As an anchor tenant, we recognize that you are making a commitment to transition to natural gas and fuel with us, which allows us to build the natural gas fueling station. We recognize and reward this shared investment by sharing 50% the net profits of the station with our anchor tenants on a pro-rata basis. You not only profit from the gallons you use, but from fuel consumed by non-anchor tenants.

4. How many anchor tenant slots are available?

The availability of slots is based on fuel consumption. We'll begin the building process when we have enough anchor tenants to ensure the station will not lose money (typically around 45,000 gallons/month or around 30-35 tractors), and continue to accept anchor tenants until the station is commissioned, or when we have anchor tenants accounting for ~85,000 gallons/month; whichever comes first.

5. Do I have an option to extend my existing contract after the initial 5 year expiration date?

Yes. You have the ability to extend your contract

6. What is the non-Anchor tenant pricing structure going to look like?

A non-Anchor Tenant will receive the same market-based per gallon pricing structure as an Anchor Tenant. The difference will be that the non-Anchor Tenant will not receive any of the profit sharing that is offered to our first adopter partners.

EQUIPMENT CONFIGURATION AND AVAILABILITY

7. Which tractor OEMs are offering natural gas trucks?

Virtually all of the major OEMs have offerings that include the 12-liter natural gas engine. This includes Mack, Peterbilt, Freightliner, Kenworth, and Volvo

8. In a rail-mounted Natural Gas storage tank configuration, do you have the ability to use a single fuel port to fill each saddle tank or would there be two separate fueling ports?

The Mansfield spec for Natural Gas tractors includes a single fill port which means the entire tank system is cross-connected. Additional fill nozzles can be placed on vehicles in order to provide options of filling the whole system either from driver or passenger sides.

9. What are the chances of testing a Natural Gas 12-liter demo unit in the very near future?

Ryder will have a standard bulk fuel hauling demonstration unit available at Mansfield Energy Partners' Doraville, Georgia natural gas station (in the metro Atlanta area) in September 2014, with

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plans to add units at other locations further in the future. The unit will be equipped with a 90 gallon frame-mounted tank set that is built to the Mansfield Bulk Fuel Hauling spec.

CHANGE MANAGEMENT

10. I don't want to be the first in our industry to make the switch.

You would not be the first (or second or even third or fourth) to make this transition in the bulk fuel hauling sector. As of mid-2014, there are at least 5 bulk fuel haulers who have all made the transition, including Mansfield's fleet. In addition, dozens of Heavy Duty fleets have begun to transition to Natural Gas, so this path has been well blazed by many others, including over 8,000 refuse trucks, more than 12,000 transit vehicles, and over 5,000 Class 8 truck operators.

11. This is a new technology, and we're familiar and comfortable with diesel.

While natural gas engine technology is not new, we understand the apprehension that comes with change. However, the economics are too compelling to ignore this opportunity. Savings of \$10,000-\$20,000 per truck per year are achievable, which would make a meaningful difference in the bottom line.

FUEL STATION AVAILABILITY

12. Our company fleet of 60 trucks is based in 24 different equipment bases, which is fragmented and does not create concentration at any specific equipment base.

That is precisely why the Mansfield model makes sense. We will build the Natural Gas card lock and aggregate enough fuel demand among the carriers that operate in the terminal to assure the business case works. This way, even a carrier with a single truck can transition to natural gas and have a place to fuel.

13. What happens in the event that our Natural Gas fueling station goes down and the nearest Natural Gas station is a good distance away? What do I do?

We are building large scale and state of the art fueling stations with adequate equipment redundancy and multiple dispensers to ensure fleets receive a consistent and reliable fueling experience. In addition, the maintenance services provided include a 24 hour monitoring center, with around-the-clock coverage and dispatch capability with well over 100 locally-based maintenance technicians, nation-wide, and strategically located spare parts warehouses.

14. Lanes are becoming longer, more irregular and more over-the-road, creating challenges for where to get fuel and where to service.

A majority of bulk petroleum carriers operate on routes that provide for multiple trips through the fuel terminal area each day. It is recognized that some select routes will exceed the capacity of a standard Natural Gas tank packages (90 and 120 DGE). In those cases, larger tank packages for Natural Gas can be evaluated or LNG may be a better solution due to longer range; or just leave a

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portion of the fleet diesel-powered. There are multiple public Natural Gas stations and they are growing in number each year, so that may provide other away from the terminal fueling opportunities, allowing the expansion of fleet conversion to the longer routes. That should be evaluated on a case by case basis

15. What happens if I run out of fuel and do not have the ability to get back to the Natural Gas fueling station?

If the local maintenance provider has temporary “pony tanks” that can be connected to get the tractor to the Natural Gas station, that is a preferred method. Mansfield can assist in providing the specifications and sourcing of the pony tanks and transfer hoses if a fleet is interested in having one for their own use. Otherwise, the tractor will likely require towing to the nearest fueling location.

WEIGHT, FUEL ECONOMY & OTHER COST FACTORS

16. Increased vehicle weight creates fewer gallons per load and our customers are continually asking how we can lower vehicle weights to bring them more gallons per load.

While it is true that the Natural Gas vehicle weight can be slightly higher, we have worked diligently with each tractor OEM to optimize truck specifications for bulk fuel hauling to minimize the weight differential. Our economic model does account for the impact of the weight increase on revenue; however, in the vast majority of cases, this is more than offset by the fuel cost savings.

17. Natural Gas tractors weigh more (due to tanks), and I can't afford to lose freight revenue.

We've worked to develop optimized bulk fuel hauling truck specifications with each OEM that mitigate the weight issue, although some increase may remain for some fleets (although this was not the case with Mansfield's fleet), which is accounted for in the economic model. Even with such freight revenue loss included, the business case is still compellingly attractive for most fleets.

18. Don't Natural Gas trucks get worse mileage because their spark ignited?

While it is true that spark-ignited engines do get lower fuel economy than diesel engines, the reduction of fuel economy is incorporated into our economic model (which assumes a conservative 15% reduction in light of Cummins' stated 10-15% expected reduction range), and it is still a net economic winner for the majority of fleets.

19. The Cummins ISX-G series of engines requires a specific motor oil that is different than the traditional diesel motor oil. How is the cost structure of that oil different than the traditional oil?

For purchased Natural Gas tractors, we have assumed a 10% maintenance cost increase in the economic model to cover factors like oil price and spark plugs. If you choose a lease, maintenance is usually included in the lease price, so there is no cost uncertainty

20. How will my insurance premiums be affected by operating a Nat Gas vehicle as opposed to the diesel powered unit I currently operate?

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You would need to check with your individual insurance provider; however, as Mansfield transitioned our fleet, we did not see any increase in premiums.

21. Why are Natural Gas prices different in different markets and even within the same market?

There are several reasons why prices can be different in different market areas, including:

- Tax incentives in some states or municipalities that provide for lower infrastructure costs, which in turn allows lower fuel prices*
- Fuel taxes vary by state*
- Utility-owned stations that are subsidized by local rate payers*
- Smaller stations that have smaller compressors and lower fill rates can offer lower prices due to less expensive infrastructure. These facilities are often incapable of handling Class 8 trucks due to their size or relatively slow fill rates.*
- Some stations charge on a Gasoline Gallon Equivalent (GGE) basis, rather than on a Diesel Gallon Equivalent (DGE) basis, which creates an artificial price gap of 11-12% for the same amount of energy*

Even within the same market area, prices can also be different for many of the same reasons above.

MAINTENANCE

22. I perform all of my own maintenance on my fleet. Will I be able to work on Natural Gas vehicles in my shop?

It is unlikely that a shop designed for diesel truck maintenance would be already properly equipped for natural gas engine maintenance, but the shop or single bay could be retrofitted. There are specifications and requirements for shops that work on Natural Gas vehicles, including ventilation, removal of electrical gear near the overhead, explosion proof lights, etc. These modifications can be made to an existing shop; however, they may only be cost effective with a significantly sized Natural Gas fleet. There are other providers who may already have converted their shops or are willing to do so with a fleet maintenance commitment. These include truck dealers, Cummins distributorships, leasing companies, and shops owned by sizeable Natural Gas fleets. In addition, work may be performed outside of the shop on any Natural Gas vehicle, weather permitting.

23. There are very few maintenance vendors and I've heard that those that do this Natural Gas truck maintenance may have a higher labor rate due to their capital costs for their building along with training technicians.

We have seen no evidence that NGVs result in a higher labor rate, and through our strategic relationship with Ryder, they are willing to provide maintenance packages (with or without lease agreement) to NGV fleets. If they can aggregate enough demand they'll build or modify a facility.

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SAFETY

24. Isn't it unsafe having all that explosive gas under pressure and entering a fuel terminal?

Natural Gas tanks undergo more rigorous testing than diesel tanks and have a myriad of safety features incorporated. A Clean Vehicle Education Foundation White paper demonstrated Natural Gas tanks, fuel systems, and engines to be no less safe than their diesel counterparts in the Fuel Terminal environment.

25. There are loading terminals that have talked about prohibiting Natural Gas tractors.

We have been intimately involved with this issue since it first arose. The concerns over spark ignited engines date from over four decades ago when gasoline powered tractors were still in use. We worked diligently with OEMs, Nat Gas equipment vendors, safety experts, industry groups, engineers, carriers and fleet owners to respond to this issue (see Clean Vehicle Education foundation paper at: http://www.cleanvehicle.org/committee/pdfs/ILTA-GVs_liquid_fuel_terminals_8_2_2013Final.pdf or <http://www.mansfieldenergypartners.com/safety/>) Most of the terminals have now approved Natural Gas trucks. Several petroleum carriers have already converted and are not having any issues fueling in the terminals.

26. We have customers that go inside buildings to unload and they have communicated that they do not want Natural Gas tractors inside of their warehouses.

Natural Gas trucks emit far less pollutants than diesel engines and are thus safer from a human exposure standpoint. From an overall safety standpoint, it has been demonstrated that NGVs result in no diminished margin of safety at terminal loading racks as compared to diesel and those arguments ought to translate well to other non-hazardous environments. We'd be happy to help you make the case with your ship-to customers.