Revised April, 2026 Jon Wierda, President, Wowza Fuel LLC

Fuel additives do make a difference

The April, 2026 revision

This whitepaper was originally issued in the fall, 2024. Since then we have seen oil prices drop into the upper $50s. Times were good, companies were still looking for ways to minimize their fuel costs but the urgency was not there.

Well, look what a war will do! Tensions are high among the oil producing nations, the safety of the reserves and production facilities is in peril and the Strait of Hormuz continues to be restricted unless the shippers are willing to pay the toll.

As of today WTI is above $111 per barrel and Brent Crude is above $109 per barrel. Retail prices in the US are above $4 for regular with diesel prices above $5.50. These prices demand that company executives, owner operators and drivers seek ways to manage their fuel costs while still being able to deliver products. So, there is no better time than the present to reissue this whitepaper.

Executive Summary

The use and effectiveness of fuel additives is a much-debated topic in industries with heavy diesel fuel usage. This debate has been ongoing for years as the additive industry continually refines products. Also, companies have an increased focus on fuel optimization and emissions. This paper

discusses the questions about and benefits of using additives. We also offer insights into the thought process and approach in making additive related decisions.

The Consideration of Additives

According to Forbes Business Insights (1), the fuel additive industry in North America is a $3.07 billion industry and is projected to grow to over $5 billion by 2032. There are several reasons for this market size and projected growth. First, uncertainty over oil prices and the resulting impact on retail prices has fleet managers and owner-operators focusing more on optimizing fuel economy. Second, environmental and social pressures result in public and “in the C suite” discussions on greenhouse gas and emissions. Finally, owners and fleet managers seek to increase the engine life, thus deferring the need to add new equipment or lower monthly lease costs.

The main questions (potential cons)

There are several reasons for pushing back on using additives. (2) Many salespeople will tell you tales of potential customers referring to “snake oil salesmen” and products that have not delivered on promises. Others will push back on other attributes. These include, as partially identified in a recent article poised by Mansfield Energy Fuel News,

1. Is there an additional cost?
2. How do we address driver apathy?

3. Can over/incorrect use cause engine damage?
4. Does using an additive void the manufacturer's warranty?
5. Do additives work with older engines?
6. Does the concept of diminishing returns come into play?

Let's address each of these questions.

Additional costs. Clearly, there is an additional cost when using an additive. The cost varies by additive type, and purchasing an additive that delivers multiple benefits will cost more than a stand-alone additive. For example, a bottle of fuel/MPG enhancer will cost less per treated gallon than an “all-in-one” additive that removes carbon, increases lubricity, and increases cetane numbers.

One should not simply look at the cost of the additive. Consideration should be given to offset attained by using less fuel with increases in MPG, less DEF, and reduced maintenance. These cost savings can be significant when properly using an additive. Additive manufacturers state MPG improvements of 7 to 20 percent, so a calculation can be easily performed.

Driver apathy. Some fleet owners have stated that drivers could be better at adding additives on the road. Common complaints are that bottles pour poorly, the measurement could be more precise, and it takes additional time to get it done correctly.

Manufacturers and distributors continue to seek ways to improve the methods of adding the additive and are also incentivizing drivers to use the additive consistently and within manufacturer guidelines. The most productive way to add the additive is with an on-premise tank where the drivers return to fill their tank. Another way is using onboard dosing systems, allowing for an accurate addition of the additive that matches the gallons of diesel added. These systems require an upfront capital cost that can be recovered quickly. Finally, the driver can add additives from a container they carry on their truck. The advancements in bottle/container

design allow for better pouring with accurate measures to comply with the suggested ratio.

The method will depend on the organization and how each is set up. Economics will also influence the decision. It is recommended that each organization consider the costs of the methods in calculating the net savings of using additives.

Incorrect usage. It is critical to use the additive in accordance with the manufacturer's guidelines. The ratios are always stated clearly and can range from as much as one to ten or as low as one part per thousand. The ratios are set based on the additive's chemical makeup and years of testing with different fuels and mixes.

If the ratios are not followed, damage can occur. Adding a half ounce more or less per pour carries little risk, but the risk of damage increases when significant variances exist. Ratio cards, which can be carried or placed in the vehicle, can help a driver add to the correct ratio.

Impact on the original warranty. It is common for equipment manufacturers to state or infer that using a third-party additive voids the original warranty. They either need to be more informed, uninformed or simply not being honest. Some manufacturers try to steer a buyer into only using their proprietary additive, misleading customers into believing their additive is the only one that keeps a warranty intact(3). Using a reputable additive and following the manufacturer's guidelines will not void an original warranty. In fact, under federal law, Original Equipment Manufacturers (OEMs) cannot void your warranty simply for using a product. Rather, they must demonstrate that the damage they don’t want to cover was caused by using that product. Some manufacturers have taken a neutral position on additives by not recommending one. Yet, as communicated to Bell Performance(4), they have stated that a warranty will be voided if it can be proven that the aftermarket additive was the cause of the engine failure, a laborious task at best.

- The Magnuson-Moss Warranty Act affords this consumer protection, passed in 1975 to restrict this restraint of trade. The act makes loop it illegal for any manufacturer to void a warranty by restricting standard consumer practices such as applying a fuel additive. (3)

Older engines. Some fleets use a mix of newer and older equipment, especially in agriculture and construction applications. Most additives today are designed to treat older as well as newer engines. Depending on the age, usage, and care/maintenance of the equipment, one may see a slower-than-normal improvement in performance. This is due to a more significant build-up of deposits, which must be broken up and cleared before fuel flows freely through the engine.

Diminishing returns. Some organizations may already have an aggressive maintenance program. This can limit the effectiveness of the additive. Changing filters and flushing the engine regularly may keep it clean to the point where an additive will provide only marginal improvement. Even so, it is still likely that some performance will be improved. The use of additives will reduce the need to change filters as regularly and also reduce other routine maintenance costs over a period of time.

The clear benefits (The pros)(2)

There are clear benefits to using additives.

1. Improving engine performance/fuel efficiency
2. Reducing Emissions
3. Extending engine life
4. Reducing maintenance costs

Improving engine performance/fuel efficiency. The higher quality additives effectively keep engines clean and provide active cleaning agents to keep newer engines from having issues. By reducing carbon deposits in components like the filter, valves, and chambers, an engine will run more efficiently, giving you better mileage and more power. This will allow less diesel exhaust fluid, less regen time, and more productivity for your tractors and drivers. All additive manufacturers state that their products will increase MPG and cetane numbers, given the benefits of the likely proper additive. The only question is to what extent.

Reducing emissions. Lowering emissions is both a business practice and a social, community practice that elicits different reactions. For some, it is important as customers have “clean initiatives” and require compliance from their suppliers. For others, it is important for the common good of their community. For some, it is simply not a priority.

Most additives will reduce emissions to some extent while providing the other benefits of increasing MPG and engine efficiency. This provides a win/win situation.

Extending engine life. Simply put, a cleaner engine that runs more efficiently will last longer. Fleet owners who own their tractors can defer purchases for a number of years, thus using capital for other needs. For those who lease, the residual value when returning the leased tractor is higher and should be a factor in calculating monthly costs. Lessors approve using additives in their leased vehicles as the value at the end of the lease term is higher, allowing them to receive higher prices on previously used vehicles.

How to get the best return

There are many additives in the market, and determining the best one for your situation can be confusing. If you spend five minutes in the diesel additive section of an auto supply store, you will see many different additives. Each offers differing benefits, promises, and costs. Some address one need, such as MPG enhancement, while others state they treat many needs. This alone makes it challenging to decide. Complicating it further is that some manufacturers offer different treatments that must be added at different ratios. This can cause complications while adding the additive, requiring calculations to determine the right amounts creating a risk that your engine may have better solutions than the ultimate mix.

Having a well-thought-out game plan is critical as you decide which additive is best for you. We suggest the following.

1. **Prioritize your needs**. Is increased mileage per gallon the main driver or emission reduction? Given your routes and driver habits, will increased power make a difference?
2. **Determine the best way to add the additive to the tractors**. Do you have a central dispatch center for fill-ups? Will an onboard dosing system be best? Can you get drivers to buy in?
3. **Estimate the additive need and size of the container needed.** Bulk containers allow for a cheaper per-gallon cost.
4. **Identify all the costs associated with the additive.** Do you need multiple treatments or an all-in-one solution? Will you require additional equipment to store or add the additive?
5. **Prepare a net savings calculation.** This should include consideration of your current MPG, estimates on improvement, the current cost of fuel, the cost of the additive, additional capital costs and the reductions in DEF, maintenance and driver downtime.
6. **Verify the benefits on a few of your engines**. Determine a baseline before adding the additive. Then, use the additive in 4 tank loads to see if the results meet your expectations.
7. **Develop a relationship with the distributor and manufacturer.** This is critical as your needs may change. An ongoing relationship will facilitate future discussions of your needs.

8. **Determine an ordering cadence** to ensure you have the amount of additive needed to meet your needs without storing excessive inventory.

Cyber Fuels and Wowza Fuel collaborate to help diesel users improve fuel optimization. Our Net Savings Calculator considers all the data needed to fully understand the costs and net savings you will receive.

The Cyber Fuels' Dynamo Ultra™ All-In-One Cetane Booster delivers up to a 27 percent average increase in MPG along with other benefits that will keep your fleet running at optimal performance for a long period.

Please contact us for more information and to set up a 30-minute discussion about how we can help you make the right decision. We will prepare a Net Savings Calculation in advance to make for a productive discussion. For a nominal cost we will work jointly with you to verify your savings-specific to your company, your fleet, your drivers and your route. It will be just the beginning to a better bottom line.

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Notes and sources

About the author.

Jon Wierda, President of Wowza Fuel LLC, has over 45 years of experience in the energy industry. He has consulted with some of the largest energy companies in the world. He co-founded Wowza Fuel, a distributor of the family of Cyber Fuels' additives, to help companies and

individuals optimize their fuel economy while positively impacting the environment.

This document is written based on the authors' experiences in manufacturing and distributing fuel additives, along with information gained from researching various sources. These sources are:

*(1)**Forbes Business Insights, last updated September, 2024***

https://www.fortunebusinessinsights.com/fuel-additives-market-102913

*(2)**Mansfield Fuel News "Prompt: What are the pros and cons of using detergent additives in fuel?"***

https://mansfield.energy/2024/09/30/we-asked-chatgpt-pros-and-cons-of-using-detergent-additives/#msdynttrid=SS9Znyz4y6KBAHeEcaj5npl8piCDD9z3DMl7wedGk08

(3)Magnuson Moss Act, Opinion: Engine Warranties and Diesel AdditivesTransport Topics, July 27, 2015, Gary Pipenger

https://www.ttnews.com/articles/opinion-engine-warranties-and-diesel-additives

(4)Bell Performance, Diesel Engine Manufacturer Position Statements on Aftermarket Fuel Additives

https://www.bellperformance.com/hubfs/External%20Documents/1-Resources%20According%20to%20Vertical/Vertical%20-%20FTS%20-%20Distribution%20-%20Fuel%20Storage/MOFU-Consideration/Diesel_Engine_Manufacturer_Position_Statements_on_Aftermarket_Fuel_Additives.pdf