



Taxing Natural Gas as a Motor Fuel

Overcoming the New Challenges of Tax Compliance

Traditional gasoline and diesel fuel suppliers, distributors and retailers are already challenged to keep up with the constantly changing federal, state and local rules, rates, and forms required to calculate and file motor fuel excise taxes. Now that many of these business are starting to offer natural gas-based motor fuels, tax managers are realizing that selling these products entails yet another set of requirements for tax compliance.

In addition, non-traditional suppliers and retailers like utilities, fleets, and even government agencies are starting to build natural gas fueling stations with public access as part of their portfolios. Tax managers at these companies are often not aware of the new excise tax liabilities they incur when they sell natural gas for motor fuel usage.



This paper will explore the challenges faced by tax managers in any business participating in the supply chain for natural gas-based motor fuels.

Why Natural Gas for Transportation?

Whether in the form of compressed (CNG), liquefied (LNG), propane (LPG), or biogas (RNG), natural gas provides several benefits that make it a desirable transportation fuel. On average, natural gas costs 41% less than gasoline at retail for the same energy content. In addition, this price is more stable than gasoline, whose price changes on a daily basis in response to global market fluctuations. Since natural gas is a cleaner burning fuel, its environmental impact is less. Greenhouse gas emissions of natural gas vehicles are 13% lower than new gas or diesel vehicles and 25% lower than the older diesel vehicles typical in larger fleets. Finally, the transition to natural gas supports U.S. energy independence, since the plentiful domestic supplies of natural gas can act as a substitute for imported oil.

Natural Gas Vehicles are Gaining Momentum

The fundamental advantages of natural gas have generated a great deal of interest and momentum for natural gas vehicles. Fleet operators, such as freight carriers, refuse trucks, and bus companies, have been some of the biggest early adopters, as fuel is such a large part of their costs. Despite the challenges involved in adopting a new fuel technology and supporting infrastructure, initial ROI results from these early adopters has been positive.

There are still real headwinds facing wider adoption of natural gas vehicles, including: initial vehicle and engine costs, vehicle range and refueling time, fueling station availability, engine maintenance infrastructure, technician training, and driver acceptance. Still, natural gas usage for motor fuels is expected to continue to increase as the benefits become clearer and new infrastructure becomes more widely available and affordable. Large, innovative fleet operators lead the adoption curve and will set the pace for future competitors. For example, FedEx has estimated that up to 30% of its long distance trucks will be using natural gas within 10 years.

4 Benefits of Natural Gas



Less expensive



Price more stable



Less environmental impact



Supports U.S. energy independence

Tax Volatility is Guaranteed

Most states are now struggling to fund highway maintenance projects due to lower revenues from fuel excise taxes. Since fuel excise taxes are based on the number of gallons sold, both high gas prices, which incentivize drivers to drive less, and improved vehicle fuel economy will result in lower fuel tax receipts. On top of this, federal excise tax rates have not changed in over 20 years and are not inflation adjusted, further eroding the value of these tax revenues as a funding source for state road maintenance. The adoption of natural gas as a motor fuel also exacerbates this problem, since some states, including Florida and Michigan, do not currently tax it as a motor fuel.

Although most states now charge motor fuel taxes on LNG and CNG, there are a wide range of approaches to calculation and filing. Many states simply add natural gas to existing fuel excise tax forms. Some states, like Minnesota, North Carolina, New Mexico, Oklahoma, Pennsylvania, Virginia, and Wisconsin, have special alternative fuel tax returns that must be filed for natural gas. Still other states, such as Alabama, Louisiana, Missouri, and Washington, require users to pay excise tax by purchasing a decal which must be displayed on their natural gas vehicle.

State regulators must grapple with multiple objectives as they form their natural gas tax policy. Some argue that natural gas taxes should be equal to gasoline and diesel for an equal energy content, ensuring fairness when compared to alternatives. Others want to keep these taxes artificially low to encourage adoption, incentivize the economic activity of infrastructure build-outs, and gain the environmental benefits that come with increased usage.

This ongoing debate on the proper approach to taxation as a primary source of funds for road maintenance ensures that motor fuel tax regulations, and especially those for natural gas, will continue to be volatile in the foreseeable future.

3 Tax Compliance Challenges for Natural Gas

Tax managers, whether in traditional or non-traditional fuel businesses, face several challenges when considering whether to sell natural gas as a motor fuel. Addressing these challenges successfully is the only way to ensure tax accuracy and avoid over-payment or the fines and penalties that accompany non-compliance.

1. Understanding natural gas tax requirements

Some organizations, such as commercial fleets or even local governments, who have not traditionally been fuel retailers, are starting to sell CNG as a motor fuel to the public. Often they use public sales to help fund expensive fueling infrastructure that was built for their own fleets. Since their own fuel usage may be tax exempt, and they have never had to pay fuel excise tax, they often don't realize that tax is due on their public sales of CNG.

THE SURVEY SAYS ▼

32% of respondents were unaware that they may have a state excise tax liability if they sell or use natural gas as a motor fuel.

*Based on a 2014 Avalara survey of fuel industry tax professionals

Clearly, many tax managers are not finding the time to keep up with evolving tax laws. If their companies are selling or plan to sell natural gas for motor fuel usage without collecting these taxes, they will risk a significant audit exposure.

2. Measurement complexities

Some natural gas, by its nature, is measured differently than traditional liquid fuels. Measuring CNG requires determining the temperature and pressure of the gas within a known volume. The combination of these measurements is used to calculate the energy content of the gas. The temperature, pressure and volume metrics are often converted to a single energy metric such as BTUs or Dekatherms so that it can be compared with other energy sources. The unit-of-measure (UOM) for CNG also may be based on volume, such as cubic-feet (cf) which assumes a standard temperature (60°F) and pressure (14.73 psi).

LNG, since it is in a liquid form, can be measured directly by volume in gallons. The problem with measuring LNG in gallons is that a gallon of diesel contains 68% more energy than a gallon of LNG. Since the federal excise tax rate charged for diesel and LNG is the same, users of LNG are effectively paying 68% more tax! This is obviously a problem for LNG users and those who favor tax policies to incentivize use of a cleaner burning fuel.

In order to allow easier comparisons for both CNG and LNG to fuel alternatives, the fuel industry is promoting use of the gasoline gallon equivalent (GGE) and diesel gallon equivalent (DGE) as measurement standards. These metrics equalize the energy content between natural gas, gas, and diesel to make it easier on consumers and tax authorities alike. So 1 GGE of CNG has the same energy content as 1 gallon of gasoline. Thus, consumers can easily compare prices at the pump, and tax rates based on the GGE can easily be compared to gasoline tax rates.

Unfortunately, the industry has not yet coalesced around the usage of the GGE and DGE metrics. In fact, multiple metrics are often used at different stages of the supply chain. A fuel retailer may purchase CNG in dekatherms, need to calculate excise tax based on cubic feet, and sell it at the pump in GGE gallons. **The multiple conversions that are required add complexity, error risk, and ultimately cost to the system.**

A range of metrics are now used by states to specify their excise tax rates for natural gas. Many states now use a standard GGE, but some, such as Idaho, tax based on Therms, and others, such as Iowa, tax based on 100 cf. Many states further complicate taxes by using a “gallon equivalent” metric, but specify non-standard conversion rates: Arkansas uses 125 cf = 1 gal; Connecticut uses 82.62 cf = 1 gal; and Kansas uses 120 cf = 1 gal. Note that the proposed standard conversion factor is: 126.67 cf = 1 gal. **This lack of uniformity across state tax rules adds cost and error risk to any fuel business operating in multiple states.**

A number of industry players, such as the Federation of Tax Administrators (FTA) and NGV America, are working to establish and promote uniformity standards to address these problems. These standards are based on the GGE for CNG and the DGE for LNG, using standardized conversion rates. But federal and state tax regulations will not change overnight. In a recent contentious meeting of the National Conference on Weights and Measures, industry advocates were unable to get agreement on a DGE standard for selling LNG. **So for now, the industry will continue to sell LNG by the DGE, but someone purchasing a DGE of LNG may get a slightly different volume of fuel from state to state.**

3. Keeping up with changing rules, rates, and forms

After tax managers come to terms with the rules, rates, forms, and UOM conversion requirements, the new fun begins! All of that changes. Frequently, in fact. Over the past 2 years, the rate of fuel tax rule and rate changes has increased by a whopping 106%. With natural gas now added to the mix, you can be sure that regulatory rules, rates, forms, and measurement standards will continue to change for the foreseeable future.

This situation puts a particular burden on tax managers to stay on top of these changes, since there is no systematic way to easily track them. For example, some state revenue departments try to be helpful by posting change information on their websites, but in other states, you’ll need to monitor state legislative actions or news reports to try to keep up with the changes.

THE SURVEY SAYS

67% of respondents currently selling or using natural gas as a motor fuel considered their biggest tax challenge to be staying current with the evolving natural gas tax regulations and rates for each state in which they operate.

*Based on a 2014 Avalara survey of fuel industry tax professionals

Recommendations for Tax Managers

Get educated – ignorance can cost you

If you are now buying or selling natural gas for use as a motor fuel, you need to get educated. Ignorance isn't bliss when the auditor shows up!

You can find lots of information on natural gas on the internet, but the best expert sources will have both fuel excise tax AND alternative fuel experience. Some specialized tax consultants, professional organizations (like the FTA), and excise tax software providers such as Avalara can help you get a handle on the tax rules for natural gas.

Automate excise tax calculation and filing

A software solution to natural gas taxation can help you address these challenges. Vendors who offer software services for excise tax calculation and filing have experts on staff who understand natural gas taxation and actively follow each state for changes to rules, rates, and forms that may be required for your business to maintain compliance.

Instead of using error-prone, spreadsheet-based manual processes to aggregate and manage tax data, automation can reduce manual errors and help you to handle UOM conversions in a consistent and accurate way. Leveraging a vendor's expertise can also increase business agility, as it enables you to easily expand into new states where you may have no experience with local tax regulations.

Simplify tax automation

Whenever possible, look to simplify and centralize tax calculation and filing within a single system. For those already automating motor fuels tax processes for gas and diesel, consider adding natural gas excise taxes to your current system. If you're still using your back-office system's built-in tax calculator for invoicing and manual processes to support your filing requirements, consider a complete tax automation service that handles it all: sales and use calculation and filing, excise calculation and filing, and exemption certificate management.

A centralized tax automation solution can ensure consistent tax calculation and a single view of taxation across multiple back-office systems. In addition to reducing errors and audit risk, this can significantly increase the productivity of tax filing and audit support processes.

Summary

When selling natural gas for transportation, tax managers will need to address many new tax calculation and filing requirements. If operating in multiple jurisdictions, ensuring tax compliance can become a significant challenge.

Don't add new natural gas tax complexities to an already messy, error-prone motor fuels tax calculation and filing process. Make your natural gas initiative a driving force to simplify and centralize your tax automation solution.

What you can do?

CONTACT AVALARA! Take the next step toward automating your excise tax process.

CALL: **877-803-9818**

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Avalara offers hundreds of pre-built connectors into leading accounting, ERP, ecommerce and other business applications.

The company processes millions of tax transactions for customers and free users every day, files hundreds of thousands of transactional tax returns per year, and manages millions of exemption certificates and other compliance related documents. A privately held company, Avalara's venture capital investors include Sageview Capital, Battery Ventures, Warburg Pincus, Arthur Ventures, and other institutional and individual investors. Avalara employs more than 750 people at its headquarters on Bainbridge Island, WA and in offices across the U.S. and in London, England and Pune, India. More information at: **www.avalara.com**



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