



The Rise of Biodiesel:

New Alternative Fuel, New Taxation Challenges

Diesel has long been the workhorse of the fuel industry. From cars and trucks to trains and off-road farm and construction machinery, America consumes over 35 billion gallons each year. Recently diesel welcomed a new cousin to the family – biodiesel.

Both diesel and biodiesel can run in production diesel engines. But, while traditional diesel is a product of refining crude oil, the term biodiesel typically refers to a blend of traditional diesel and renewable organic resources. The “bio” portion of biodiesel is a blend of plant mass such as grain and feedstock and byproducts of soybean oil, recycled cooking oil, and animal fats.

Biodiesel currently accounts for a relatively small portion of total diesel consumption—just 1.75 billion gallons in 2014¹ – and its future growth is largely dependent upon tax policy.

Why do we need biodiesel?



Biodiesel fuel burns more cleanly than diesel, releasing approximately half the volume of the harmful emissions relative to traditional diesel fuel. The U.S. Environmental Protection Agency (EPA) has classified it as an Advanced Biofuel (see side bar for definition) under the Renewable Fuel Standard (RFS) program. As of 2010 biodiesel is the only commercial-scale fuel produced domestically that met testing requirements laid out in the 1990 amendments to the Clean Air Act. As a result, biodiesel became the first popular alternative to traditional diesel used to meet the EPA RFS fuel requirements.

Unfortunately, the economics of producing biodiesel don't make it cost-competitive with traditional petroleum-based diesel. To address this, both federal and state legislators have offered tax incentives for biodiesel users to encourage fuel producers—and consumers—to use sustainable fuel sources such as biodiesel.

Biodiesel tax regulations



The fuel industry is subject to one of the most complex tax structures in the U.S. and there's little chance of that changing in the foreseeable future. Federal excise taxes are relatively straightforward. But on top of federal taxes, states, counties and local jurisdictions levy their own set of fuel excise taxes. These taxes are dependent on many variables including:

- Fuel type
- State(s) in which the buyer and seller do business
- Where in the supply chain the transaction takes place
- Fuel buyer and seller
- Licenses of all parties involved
- Final destination of the fuel

Those are just a few of the more prominent tax variables in a fuel transaction. Additionally, tax rules, rates, forms and nexus change *constantly*. Even if you were in compliance last year, there's no guarantee that doing the same thing this year won't violate new regulations.

Biofuels add yet another layer of complexity onto this Byzantine tax structure. The ever-changing winds of politics and public sensitivities around environmental sustainability create a moving target for anyone responsible for knowing how much excise tax needs to be paid to which jurisdictions.

Definition of Advanced Biofuel:



A renewable fuel other than ethanol derived from corn starch, that is derived from renewable biomass, and achieves a 50 percent GHG emissions reduction requirement. The definition — and the schedule — of advanced biofuels include cellulosic biofuels and biomass-based diesel. The 50 percent GHG emissions reduction requirement may be adjusted to a lower percentage (but not less than 40 percent) by the Administrator if it is determined the requirement is not feasible for advanced biofuels. (Cellulosic biofuels that do not meet the 60 percent threshold, but do meet the 50 percent threshold, may qualify as an advanced biofuel.) – Renewable Fuels Association (<http://www.ethanolrfa.org/pages/renewable-fuel-standard>)

Taxes on the Federal Level



Although far from simple, the federal tax laws governing fuel transactions are probably the least problematic; the same federal laws apply in all 50 states. When it comes to biodiesel, the easiest thing to remember is that the federal government is *usually* all for it.

Pure biodiesel (B100) is not subject to any federal tax at all. However, higher EPA emissions standards rendered vehicles made after 2007 incompatible with B100. Instead, biodiesel is typically blended in proportions of up to 20% (B20) with ultra-low sulfur #2 diesel. B20 can run in virtually all production diesel engines.

In an effort to reduce dependence on foreign oil and increase the production and use of more environmentally friendly renewable fuels, the federal government has adopted a carrot and stick approach.

The stick is the Renewable Fuel Standard (RFS2) legislation, passed in 2007, that mandates that every refiner sells a set amount of approved biofuels each year. To meet those requirements, producers are sometimes forced to sell at a loss, or to purchase credits from other producers.

Biodiesel costs refiners more to produce than #2 diesel. In response, the federal government added a carrot, albeit an inconsistently applied one. The Biodiesel Tax Credit was originally established in 2005 and was set to expire in 2012. The legislation called for a generous \$1 per gallon tax credit for every gallon of biodiesel a refiner blended into their end product. For a B20 blend, this credit can reduce the price at the pump by 20 cents per gallon. That tax advantage successfully kick-started the biodiesel market by allowing blenders to sell biodiesel at a lower price than straight #2 diesel while still making a profit.

When this original tax credit expired in 2012, new legislation extended it through 2013. After that, things got murky. In 2014, the tax credit was renewed retroactively. Which means that transactions that took place in 2014 were initially subject to all applicable federal taxes with no relief—but the federal government allowed qualified parties to claim a credit reimbursement at the end of the tax year. Because there was no guarantee that this credit would be paid out, biodiesel production dropped, which then took a toll on biodiesel sales and led to a slight reduction in both the supply and demand of biodiesel in 2014.

Defining the Renewable Fuel Standard:



The RFS program was created under the Energy Policy Act (EPAAct) of 2005, and established the first renewable fuel volume mandate in the United States. As required under EPAAct, the original RFS program (RFS1) required 7.5 billion gallons of renewable- fuel to be blended into gasoline by 2012. In 2007, the Energy Independence and Security Act (EISA) expanded the RFS (RFS2). One important mandate of the EISA was to increase in the volume of renewable fuel required in motor fuel blends from 9 billion gallons in 2008 to 36 billion gallons by 2022.
– EPA (<http://www.epa.gov/oms/fuels/renewablefuels/>)

It appears likely that the same situation will occur in 2015. The ambiguity of the federal government's upcoming policy essentially negates the impact of the tax credit as an incentive. Because biodiesel producers are unsure whether they will get tax relief for the fuel they are producing, they are more likely to make just enough to meet the RFS2 requirements. If the credit is extended, it will serve as an after-the-fact reward, but it will be too late to have any significant effect on the biodiesel market as a whole. Therefore, as a measure to drive industry and market adoption in 2015, the Biodiesel Tax Credit is ineffective.

It's important to note that all of these federal tax incentives reward producers and blenders of biodiesel who are under no obligation to pass those savings down to retailers. At the retail level, #2 diesel and biodiesel often occupy the same tanks, with signage that indicates the resulting fuel "may contain up to 20% pure biodiesel." The perceived public relations benefit of offering more "environmentally friendly" fuels does lead many retailers to advertise its availability—and sometimes even charge a premium for it.

The State Level



As noted earlier, complexities around fuel tax rates increase when you reach the state level. In the United States, each state has its own tax codes. Biodiesel taxes are treated differently than traditional fuel in a number of ways. Twenty-one states currently mandate the use of biodiesel (typically 5-10% blend percentages). The main differences are outlined below.

Rates, Fees, Breaks and Credits

Every state has its own set of laws governing sales and use taxes, excise taxes, and environmental and tank fees, as do many municipalities. While jurisdictions often overlap, tax laws rarely do.

For on-road vehicles that run on diesel fuel, #2 diesel is the standard, therefore that is what is used to build the tax code for diesel fuel transactions. The introduction of biodiesel, has led to new sales and excise tax classifications in many jurisdictions.

Forty-one states offer some form of tax incentive (often production tax credits) for producing or using biodiesel, although these incentives often apply exclusively to pure B100 fuel. For those that do address biodiesel – B20, for instance – the size of the tax break and the conditions that apply vary dramatically.

For instance, Texas offers a reduction in excise tax proportional to the percentage of biodiesel in the mix. So, for a 20% biodiesel mix, the excise tax is reduced from 20¢/gallon to 16¢/gallon. Iowa, on the other hand, updated their policy on July 1, 2015. The state now taxes biodiesel content of 10% or lower at 32.5¢/gallon and mixtures of B11 or higher at 29.5¢/gallon. Note that all tax rates mentioned in this paper are subject to change at any point in time.

Finally, while some hazardous substance taxes and fees are pro-rated according to the percentage of biodiesel in a blend, other states only waive those fees for 100% biodiesel.

Supply Chain Location

The biodiesel industry has a lengthy supply chain that typically includes:

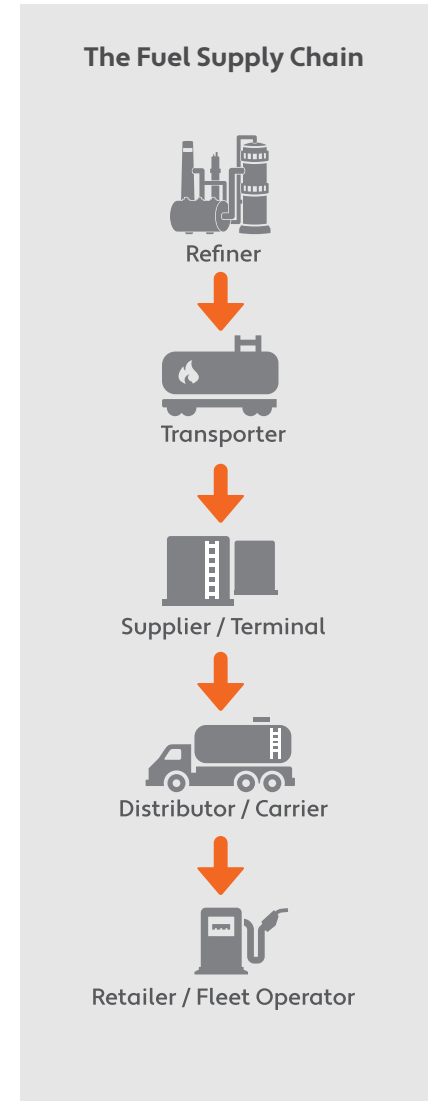
1. Suppliers or producers of feedstock
2. Refiners
3. Terminal rack
4. Above-rack suppliers
5. Below-rack wholesalers
6. Distributors
7. Retailers
8. Consumers

Where in this complex supply chain taxes are paid depends upon individual state laws.

Let's look at some examples:

- **South Dakota** is a “rack state,” meaning that excise tax is imposed at the time the fuel is removed from the rack.
- **California** imposes excise taxes for B20 on the distributor at the time the fuel is removed from storage.
- **Georgia** distributors pay the excise tax.
- **Texas** charges the tax on the first sale of B20 that takes place within the state regardless of where in the supply chain that sale takes place.
- **Tennessee** does not impose an excise tax, but rather a use tax on the ultimate purchaser of the B20.

Additionally, depending upon the jurisdiction, state and municipal sales taxes are applied to each transaction that takes place at the pump itself.



Multi-state Transactions

Matters get more complicated when fuel is shipped from one state to another. Different states levy taxes on carriers at different points in the transaction, often depending upon the licenses that the carrier holds.

Consider this example: A carrier purchases a split load of traditional diesel and gasoline to ship from a terminal in Tennessee to a retailer in Mobile, Alabama. At the end of the day, 14 different tax returns are required to account for this single transaction. If you replace the traditional diesel with B20 biodiesel in this transaction, the number of returns required increases to 16.

The Bottom Line

Confusing or not, everyone along the fuel supply chain is legally obligated to figure out to which jurisdictions they need to pay taxes, and when (yes, when taxes are applied varies greatly from situation to situation, as well). Not paying the right taxes to the right authorities at the right time only compounds the audit pain and can result in penalties, fines, and back taxes, not to mention the time and costs associated with getting ready for the audit and filing amendments.

Just as important as paying what you owe is not paying more than you owe. Not taking advantage of tax breaks or credits in an industry where gallons of fuel are traded in the millions can be the difference between operation at a profit or a loss.

Making Sense Out of the Confusion

For multi-jurisdictional businesses, the tax structure governing biodiesel transactions is far too complex to be effectively managed manually. Aside from the time required, the potential for error creates a high level of financial risk. In-house automated systems are difficult to keep up to date and typically provide bare bones functionality.

What if there was an end-to-end tax solution you could rely on to keep you in compliance with every federal and state tax law governing the fuel industry? One that calculates taxes quickly and accurately and generates and files returns for every jurisdiction? One that handles unique and unusual tax challenges related to biodiesel transactions with ease?

Avalara offers the most comprehensive package of indirect fuel tax solutions on the market. With years of experience serving organizations throughout the fuel industry, Avalara's Excise products (formerly known as Zytax) have a proven track record for meeting the special challenges that excise taxes on fuel present.

Their tax solutions integrate seamlessly with virtually every ERP solution on the market to ensure that all of your filings are accurate and timely. As a result, the time and resources you spend inputting data, doing calculations, and filing hundreds – or even thousands – of returns each year is dramatically reduced.

Avalara's tax experts keep fuel tax rates, rules, and forms up to date with rapidly changing federal, state, and local tax codes as they relate to fuel transactions of all kinds, including those involving biodiesel. The cloud-based software allows for changes in laws and regulations to be updated in real time as changes in rules or rates go into effect. This ensures that your returns and payments are in compliance with the very latest laws and regulations, and reduces audit and penalty exposure.

To learn more about how Avalara excise tax solutions can simplify your biodiesel tax challenges, visit fuel.avalara.com.

¹ U.S. Biodiesel Slumps in 2014 Amid Policy Uncertainty: Market drops from record 2013 output, Ben Evans, Biodiesel.org, 1/15/15 <http://www.biodiesel.org/news/news-display/2015/01/15/u.s.-biodiesel-slumps-in-2014-amid-policy-uncertainty>

² http://www.fuel-testers.com/ethanol_fuel_history.html

³ Accelerating Industry Innovation - 2012 Ethanol Industry Outlook, Renewable Fuels Association

⁴ Renewable Fuels Association

About Avalara

Avalara helps businesses of all sizes achieve compliance with sales tax, VAT, GST, excise tax, and other transactional tax requirements by delivering comprehensive, automated, cloud-based solutions that are fast, accurate, and easy to use. Avalara's end-to-end suite of solutions are designed to effectively manage complicated and burdensome tax compliance obligations imposed by state, local, and other taxing authorities in the United States and internationally.

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