Tax credit impact on US biofuels – *Summary*

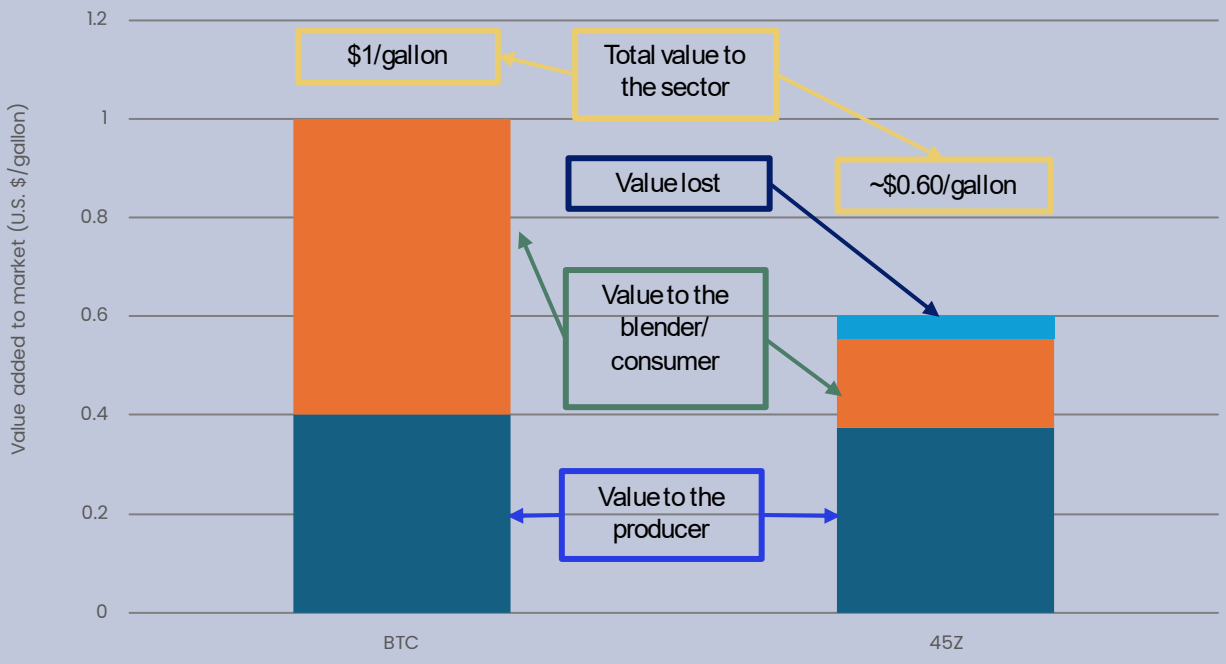
This report

Biofuel tax credits have been a feature of the U.S. market for many years. In 2025 the 40A biodiesel blenders' tax credit (BTC) was replaced with the 45Z renewable fuel producer tax credit. In this report we analyse the impact on the industry of both these credit systems, considering how the value is spread throughout the supply chain.

Conclusions

The impact of these tax credits is not straightforward with mandates and market fundamentals playing a significant role in demand for biofuels and how the credit impacts the market. Diagram S1 presents the estimated split of value of the BTC and 45Z tax credit along the biodiesel supply chain under balanced (or "normal") market conditions. Under tight or over supply, the value will flow up, or down the supply chain respectively.

Diagram S1: Tax credit value split across biodiesel supply chain under a balanced market*



Under a blender's tax credit, more value is added to the supply chain, and the mechanism means it is relatively evenly spread throughout the supply chain. The impact on consumption is limited.

- **BTC - In "normal" years, producers were able to keep 30-50% of the credit value and 50-70% of the credit value flows to blenders and consumers.**

The producers' tax credit adds less value to the supply chain. The value will be unevenly spread along the chain, with more value kept by the biodiesel producer, and less passed along the chain. The impact on consumption is limited but this credit boosts demand for domestic production and feedstocks.

- **45Z - In "normal" years, producers should be able to keep 60-80% of the credit value. However, the majority of biofuel producers will trade these credits to other businesses, losing 5-10% of the value from the biofuel supply chain.**
- **For U.S. RD produced from qualifying feedstocks, producers have retained 80-100% of the tax credit value.**

- **As an income tax credit, producers only receive the value periodically, after volumes have been produced. This prevents the value being passed down to consumers through lower prices.**
- **The remaining 20-40% of the credit value flows to blenders and consumers.**

45Z credits will have limited impact on ethanol or corn demand unless the blend wall can be increased. At the existing E10 blend wall, competition in the sector will see the credit value passed on to the consumer. If the blend wall is increased to E15, in the short term some of the credit value will go to producers as demand exceeds supply, but over the longer term – as capacity ramps up to meet demand – the value will flow to the consumer.

Where the market is oversupplied or has significant over capacity all 45Z credit value will flow to the consumer while in tight markets where demand exceeds supply the value will primarily sit with the producer. Any tax credit value which does not go to the producer flows down the supply chain to the blender and consumer in the form of lower prices.

* The split between blender and consumer is hard to verify and changes with market conditions, here we show an equal split under balanced market conditions

Blenders' tax credit

Tax credit key points:

- The biodiesel blenders' tax credit was eligible for all biomass-based diesel (FAME, renewable diesel and SAF) blended with diesel in the U.S.
- The value of the credit was $1 for every gallon blended.
- This applied to all BBD, irrespective of feedstock type or origin or the origin of the BBD.
- The credit is an excise credit, available immediately, paid to the blender.
- This credit was first implemented in 2005, lapsing several times before being reinstated and applied retroactively over lapsed periods. The credit was not initially in place for 2010, 2012, 2014, 2015, 2017, 2018 or 2019.

45Z producers' tax credit

Tax credit key points:

- Available to renewable fuel produced in the U.S. which meets the minimum GHG reduction compared to the baseline. This gives a maximum emissions factor of 50kg of CO2 per mmBTU.
- Fuel must be produced in the U.S. from eligible feedstock (from 2026 this is feedstock which originates from North America).
- The value of the credit varies based on GHG savings above the 50kg of CO2 per mmBTU minimum, up to a maximum of $1/gallon.
- The value of the credit is linked to inflation so rises over time.
- The credit is an income tax credit which must be redeemed by producers against their tax bill or traded to other companies who wish to use it against their tax bill. These trades are reportedly limited to once a quarter.
- This is available to ethanol and other biofuels, as well as biomass-based diesel, as long as the criteria are met.

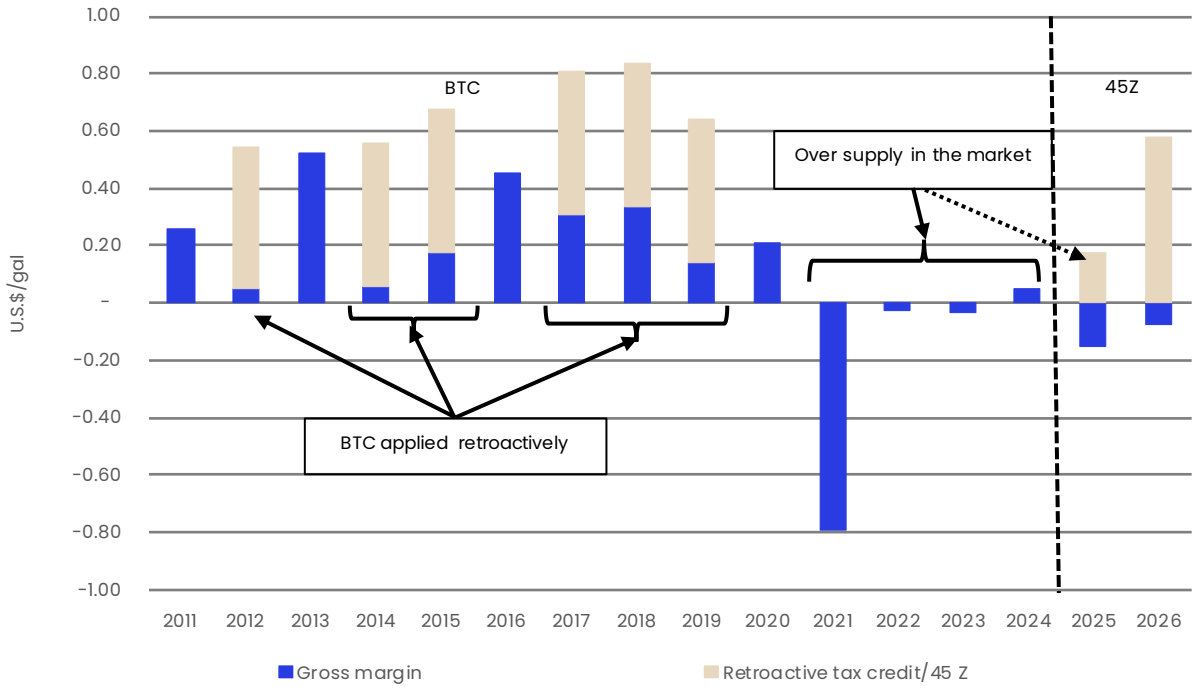
Value to the supply chain

Under both tax credit systems, market fundamentals play a key role in where the credit value flows to in the supply chain. Diagram S2 presents the average margin for a FAME biodiesel producer in the U.S. from 2011 to 2026. In years where the BTC was applied retroactively a $0.50/gallon payment is shown, however, in later years this likely overstates the payment as blenders took more of the risk as expectations of a reinstatement of the credit became more certain. The 45Z tax credit for soy-based FAME biodiesel is shown for 2025 and 2026 (assumed $0.33/gallon in 2025 and $0.60/gallon in 2026 under new calculations excluding ILUC). *These margins are for an average Midwest producer using RBD soybean oil, based on spot prices.*

Key points for producers:

- In years where the RFS mandate for BBD is set close to supply volumes and the market is balanced, producers are able to make reasonable margins.
- Margins were typically higher in years where the BTC was in place, but payments from retroactive credits more than made up for the drop in margins during years where the BTC was not initially in place.
- In years with ample supply compared to the mandate, producer margins were low, with the majority of value passed on to blenders and consumers.
- **BTC - In "normal" years, producers were able to keep 30-50% of the credit value with the rest going to consumers/blenders.**
- In 2025 and 2026, apparent gross margins have been negative but payments from the 45Z credit have ~~seen~~ resulted in positive margins for producers.
- As the 45Z is an income tax credit, producers only receive the value periodically, after volumes have been produced. This prevents the value being passed down the supply chain to consumers.
- **The majority of biofuel producers will trade these credits to other businesses, losing 5-10% of the value from the biofuel supply chain.**
- Confidence in a higher RFS mandate for 2026 and 2027 has seen margins for producers rise, capturing a larger proportion of the credit value.

Diagram S2: U.S. FAME biodiesel producer margins



- Looking ahead, as the market becomes more used to the producer tax credit, some value will be passed down the supply chain, but the income tax mechanism and variable value will allow producers to hold on to a higher proportion of the credit value.
- **45Z - In "normal" years, producers should be able to keep 60-80% of the credit value.**

Key points for consumers:

- In years with sufficient supply, almost all value of the BTC will flow to the consumer.
- Any tax credit value which does not go to the producer flows down the supply chain to the blender and consumer in the form of lower prices.
- BTC - In “normal” years, 50-70% of the credit value flows to blenders and consumers.
- 45Z - In “normal” years, 20-40% of the credit value flows to blenders and consumers.

Key impacts on production and feedstock prices:

- **Tax credits do not have a direct impact on the price of soybean oil or corn** as these prices are set by global supply and demand dynamics in the vegetable oil or grains complex as the U.S. is a surplus producer.
- Changes to the tax credit or mandate can lead to short term price changes if demand from domestic biodiesel producers increases. However, once the new level of demand has been reached, prices will settle again to an equilibrium.
- Demand for BBD in the U.S. is set primarily by the RFS so tax credits do not have a major impact on demand although they can cause short term market shifts or improve competitiveness of biodiesel against petroleum-based diesel.
- Under 45Z, the credit incentivises domestic production and domestic feedstock use which will see an increase in the use of U.S. soybean oil over imported feedstocks. This increased demand should see soybean oil prices rise, in the short to medium term but it should not have a large impact on the long-term price of soybean oil.
- Under normal conditions neither tax credit flows back directly to the feedstock.

Key impact on the ethanol market:

- If U.S. ethanol consumption remains restricted by the E10 blend wall, the 45Z tax credit will have a negligible impact on the industry. Some producers will benefit over others but the total production and demand for corn will be the same and competition in this sector will see almost all the credit flow down to the consumer.
- If the blend wall is increased, allowing U.S. consumption to rise, higher demand plus the income from the credit will incentivise investment in capacity, increasing domestic production and demand for corn.
- While the sector is growing, the 45Z credit value will be split between producers and consumers, and corn prices will see a small boost. However, in the longer term, as the market reaches a new equilibrium, prices will fall back, and more value will flow down to the consumer.

BTC summary

The BTC saw the $1/gallon value spread through the supply chain. Under “normal” conditions producers and consumers/blenders saw as much or more of the benefit than producers.

Under ab-normal conditions of either tight- or over-supply the credit value moves either up or down the supply chain. However, the market cannot exist in these conditions for long periods and must return to an equilibrium state, rebalancing the power in the market.

As an excise credit, the value has been able to flow freely into the supply chain to the benefit of consumers/blenders.

A key difference between the BTC and 45Z credit is that the BTC has historically been claimed by blenders using biofuels (and feedstocks) produced outside of the U.S. This could be circumvented by limiting its use to the blending of local biofuels produced with locally produced feedstocks. This would ensure that benefits remain entirely within the U.S. biofuels supply chain.

45Z summary

The producer tax credit sees a lower value credit enter the supply chain compared to the BTC. Under "normal" conditions producers are expected to see the most benefit. Thanks to the mechanism of variable credit values and thanks to delayed payments as an income tax credit. The credit gives a competitive advantage to U.S. producers and feedstocks but once the market has reached a new equilibrium under the new, larger market, prices and margins will return to normal levels.

As with under the BTC, under ab-normal conditions of either tight- or over-supply, the credit value will move either up or down the supply chain. However, again, the market cannot exist in these conditions for long periods and must return to an equilibrium state, rebalancing the power in the market.

As an income tax credit, the value is less able to flow freely along the supply chain, benefitting producers at the expense of consumers/blenders.

Summary and final comments

Table S1 presents an overview of the impact of the blenders' tax credit, producers' tax credit and no tax credit on the biodiesel and ethanol industries on a forward-looking basis.

- Diagram S1 and Table S1 make clear that the BTC delivers the greatest level of support to the biofuel industry throughout the supply chain.
- If the aim of policy is to support biofuels production and consumption, then the BTC is a stronger support mechanism
- While the BTC has some weaknesses, these could be overcome through minor changes in its implementation.

Table S1: Tax credit impact comparison

	Biodiesel	Ethanol
45Z	Credit value of around $0.60/gallon enters the supply chain	Credit value of around $0.20-0.50/gallon enters the supply chain
	Producers gain around 60-80% of the value	Producers will gain 60-80% of the value in the short term, falling to 0-20% over time
	5-10% of the Producer value will be lost in trading the credit as most producers cannot claim it directly	5-10% of the value will be lost in trading the credit as most producers cannot claim it directly
	Producers with lower GHG factor will be able keep a larger proportion of the value	Producers with lower GHG factor will be able keep a larger proportion of the value
	Blenders/consumers gain around 20-40% of the value	No impact on corn prices or demand under current blend wall
	Value to blenders/consumers at mid-point estimates and balanced market conditions: ~$0.18/gallon	
	Demand is driven by RFS. Demand is met with domestic oil supply, increasing demand for U.S. soybean oil	A move to increased E15 use would see higher corn demand, increasing prices in the medium term
	Supportive of increased U.S. soybean oil demand in the short term, as domestic feedstocks are favoured. (No long-term elevation of soy oil prices is expected, as global oils market dynamics shift to accommodate higher U.S. bean oil demand.)	Higher demand will see producers achieve higher margins for longer.
BTC	Full $1/gallon enters the supply chain	
	Producers gain around 30-50% of the value	
	Blenders/consumers gain around 50-70% of the value	
	Value to blenders/consumers at mid-point estimates and balanced market conditions: ~$0.60/gallon	
	Demand is driven by RFS	
	Supportive of U.S. soybean oil 'demand floor'.	
No credit	No value added to supply chain	No value added to supply chain
	Full costs passed on to consumers	Full costs passed on to consumers
	Demand is driven by RFS but other biofuels may compete at margin	Demand is driven by blend wall
	No direct impact on soybean oil under normal crop supply conditions (but benefits may accrue if the soybean crop is poor)	No impact on corn