CARBON ACUMEN

LCFS Look Ahead Quarterly Report

April 2025

About the Author

Will Faulkner is the Founder of Carbon Acumen, a company that provides market intelligence and information into North America's various low carbon fuel markets and respective policies such as California Low Carbon Fuel Standard (LCFS) and the Renewable Fuel Standard (RFS).

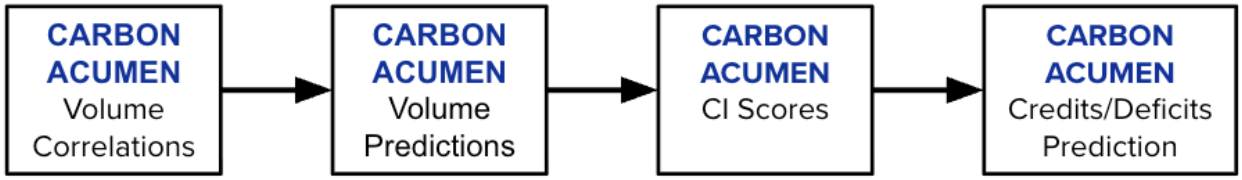
Will has spent over a decade expanding the West Coast market for low carbon fuels. He was the primary contributor of creating the LCFS Auto Acceleration Mechanism (AAM) or known in the industry as 'The Ratchet'. Will was also one of the main contributors helping open up one of the largest Renewable Diesel production facilities in the world and providing customer access to high blend low carbon fuels such as Renewable Diesel and E85 at over 800 stations on the West Coast.

Will holds a B.S. in Chemical Engineering and a M.S. in Manufacturing Systems Engineering from the University of Kentucky.

Executive Summary

Prediction Methodology

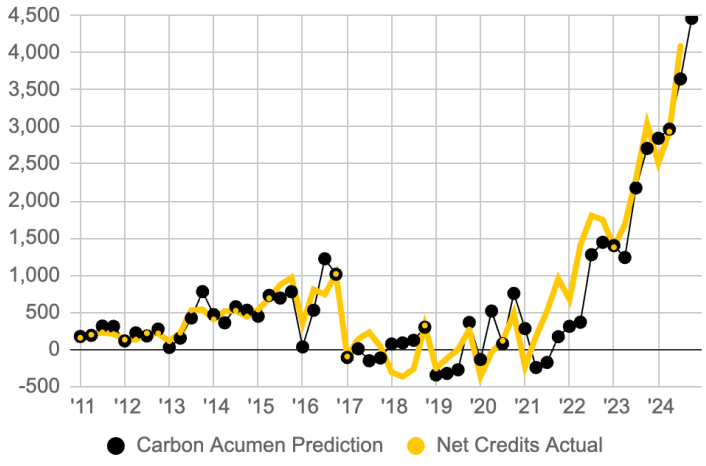
When it comes to models and predictions there are two main approaches: (1) top-down where you start at the macro level then filter/dive down, dipping into the details, and (2) bottom-up where you start with the individual level details and build-up brick-by-brick. The methodology taken here is a 'bottom-up' approach starting with individual volumes building up to Total Credits and Deficits as shown below. Volumes are first predicted using correlations from publicly available data as a foundation before being combined with a proprietary Carbon Acumen CI score model in order to predict Total Credits & Deficits.



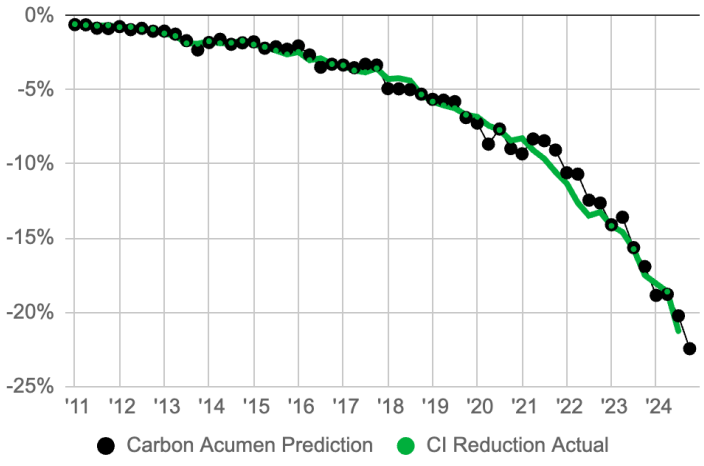
Net Credit Generation & CI Reduction Prediction

Using this 'bottom-up' approach, the prediction model created by Carbon Acumen has been able to predict Quarterly Deficit and Credit generation with a >99% correlation to actuals for both Deficits and Credits. Total Deficit generation is predicted to be 5.6 million MT in Q4 while Total Credit generation is predicted to be a record 10.06 million MT. Although the Total Credits and Deficits predictions individually have a >99%, predicted net credit generation has a 94% correlation to actuals with the tendency to underestimate net credit generation or 'build to the credit bank' as was the case in Q3 2024. On the other hand, the predicted CI reduction has a 99.5% correlation compared to actuals. It is predicted Net Credit generation is 4.46 million MT in Q4 2024 with a CI reduction of 22.46%.

Net Credit Generation vs Prediction (1,000 MT)



Carbon Intensity Reduction vs Prediction



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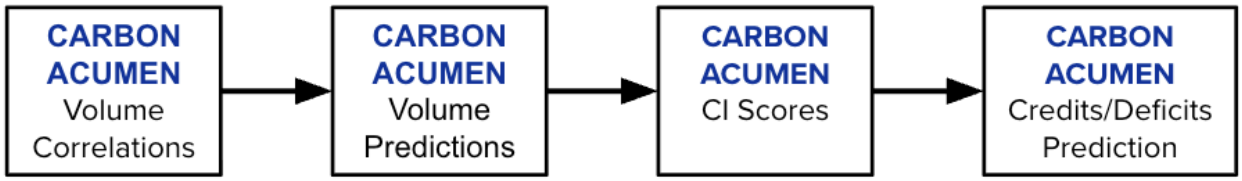

Volume Correlations

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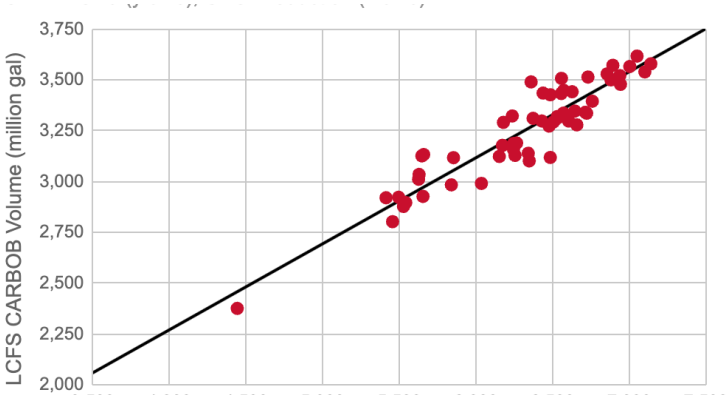

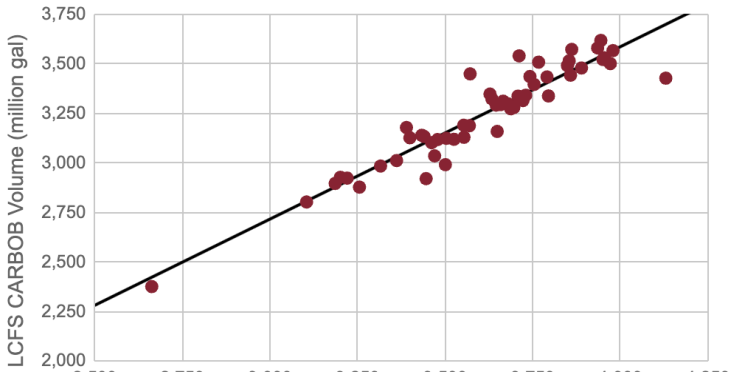

Ethanol

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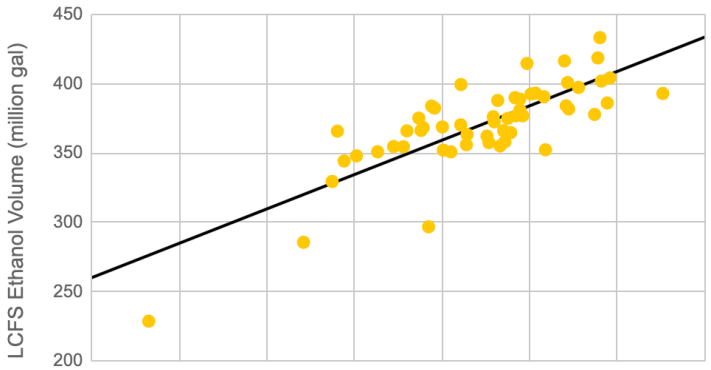

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CARB Diesel

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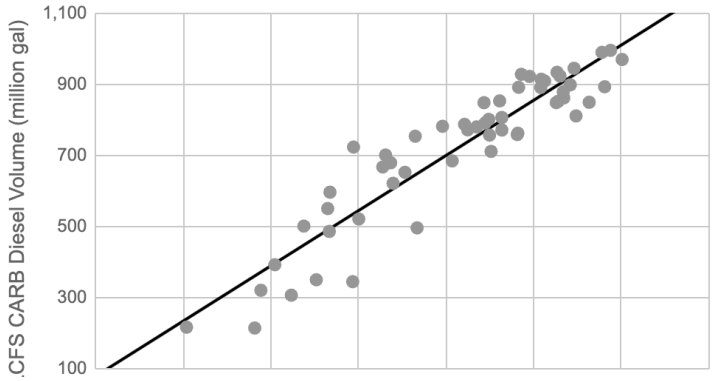

Renewable Diesel

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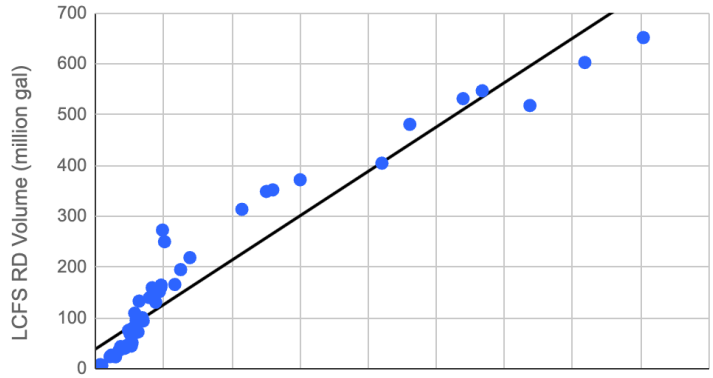

Biodiesel

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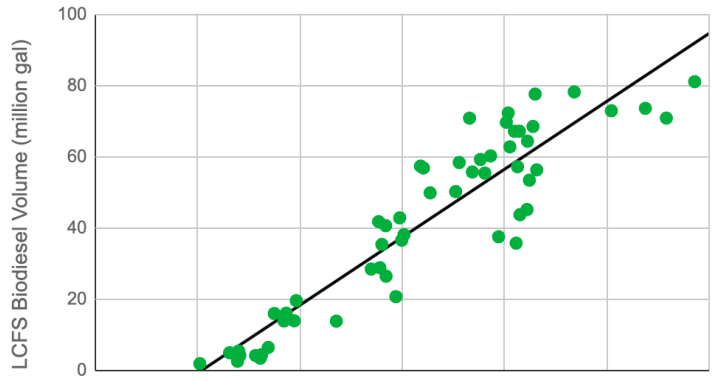

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-CI RNG

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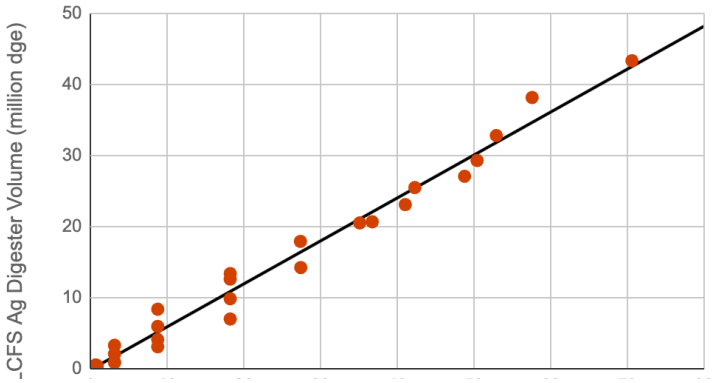

Light+Medium Duty EV

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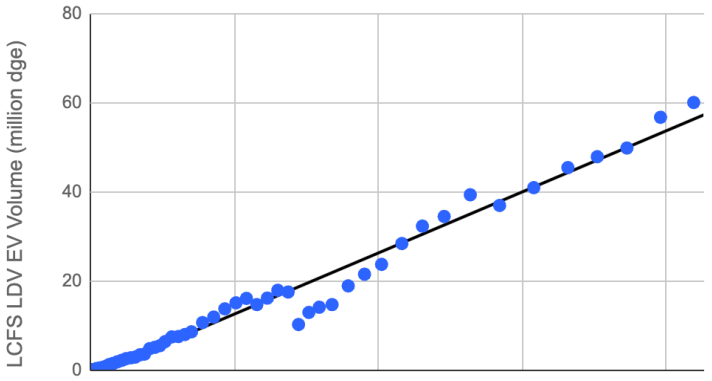

Volume, Credit/Deficit Generation, Carbon Acumen Predictions

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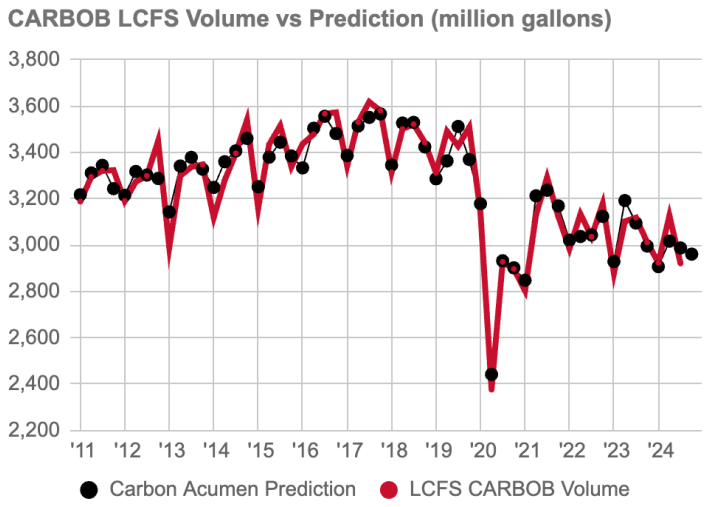

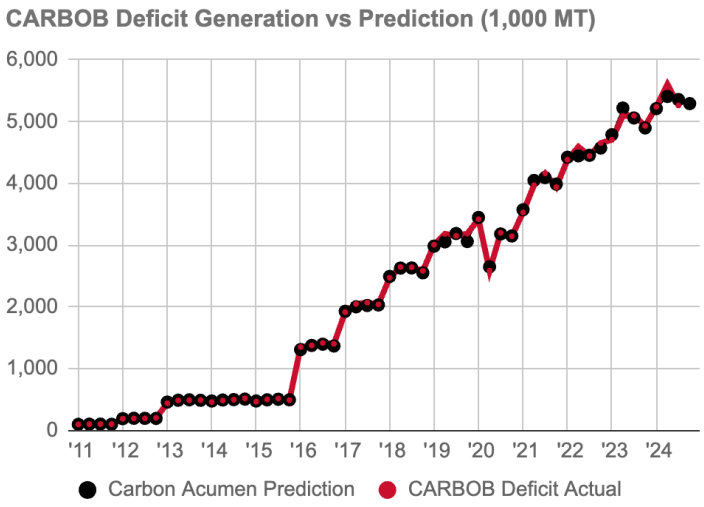

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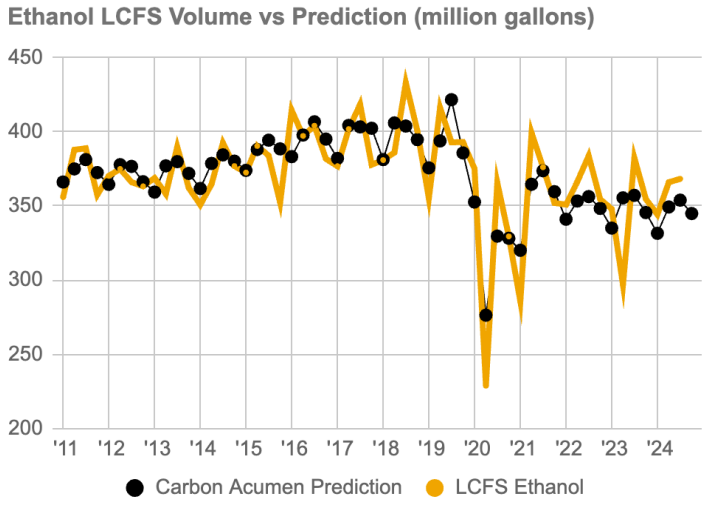

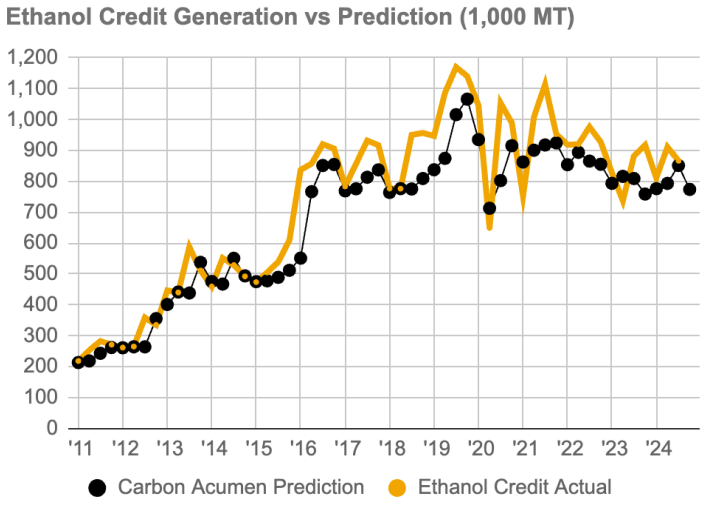

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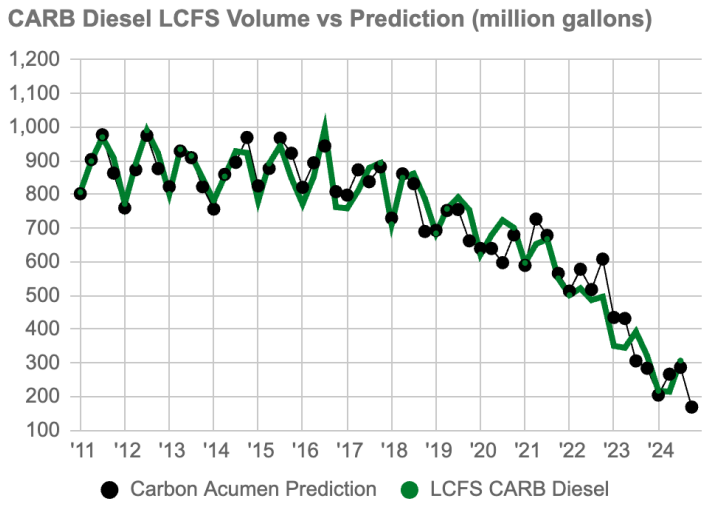

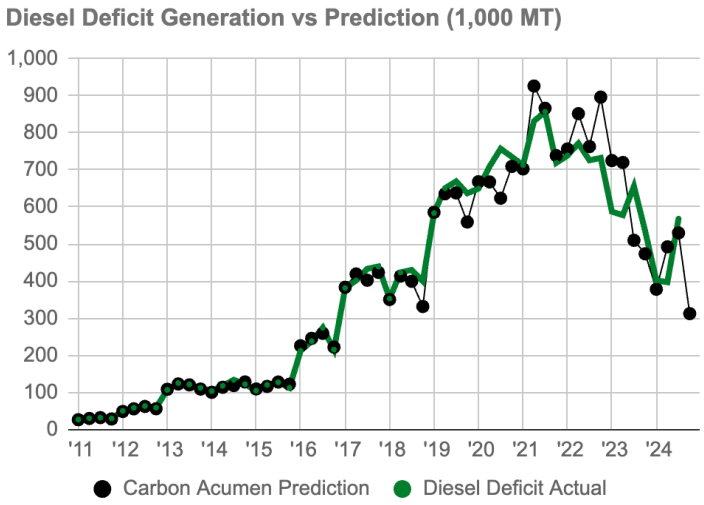

Renewable Diesel

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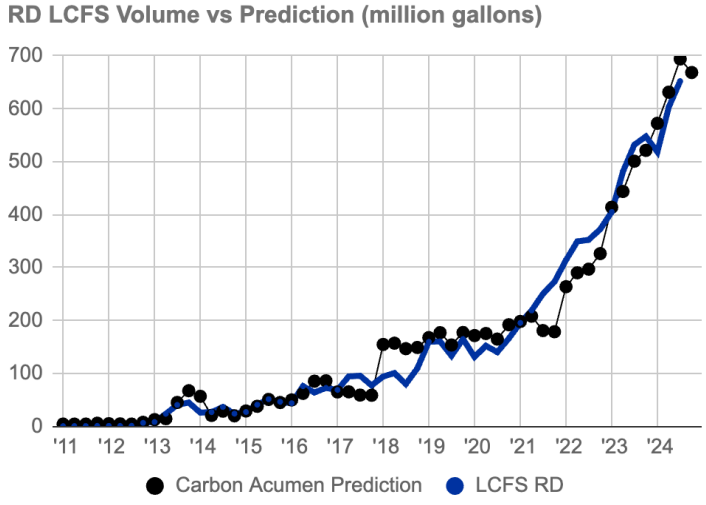

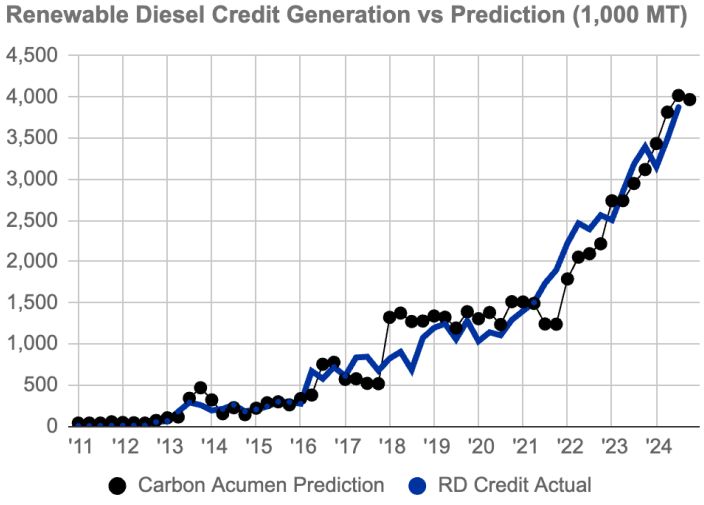

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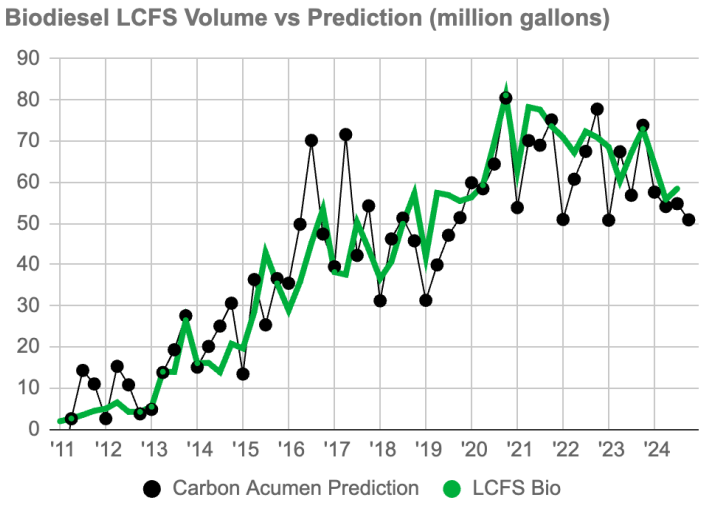

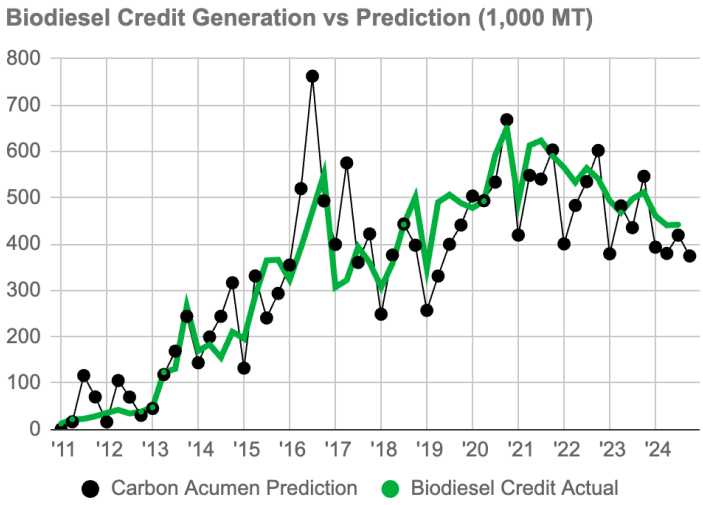

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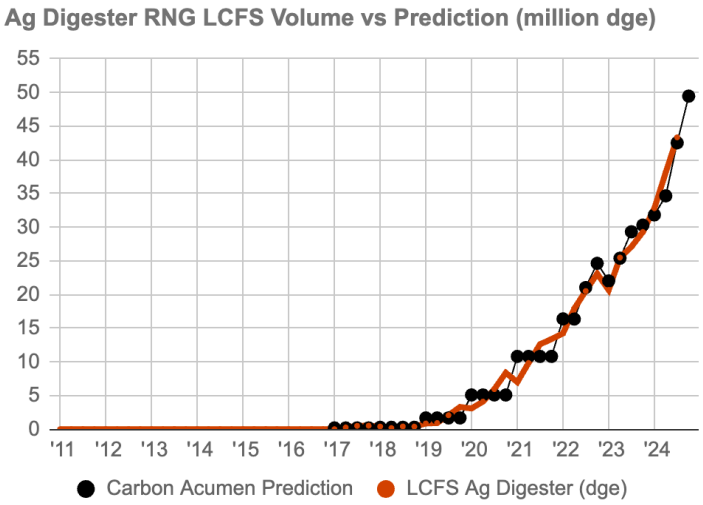

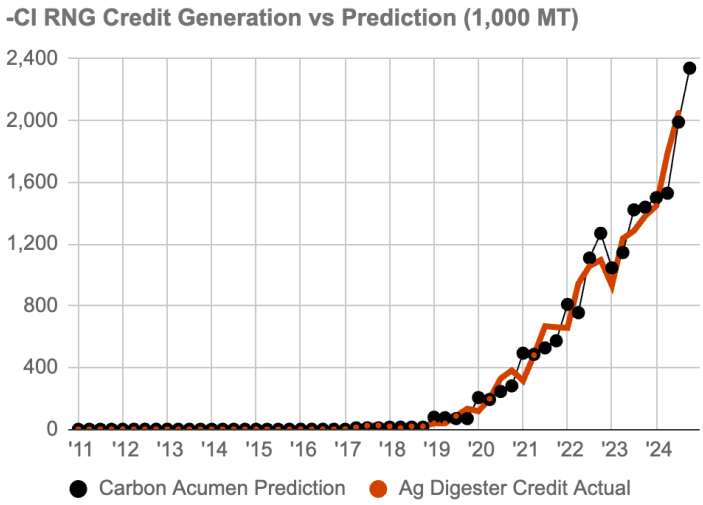

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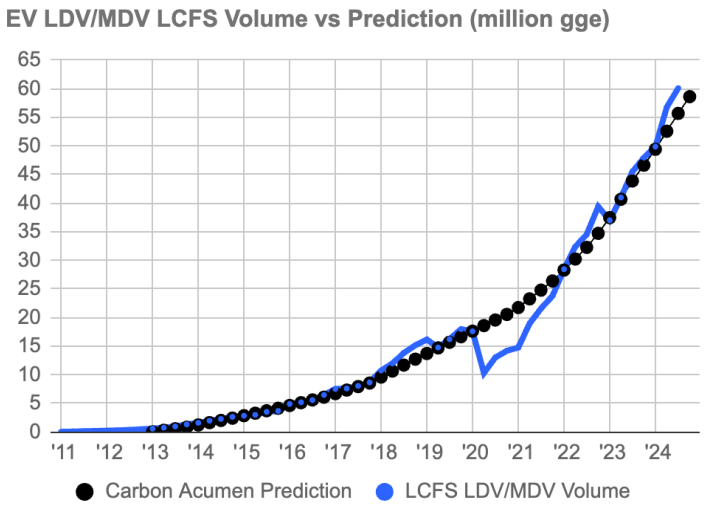

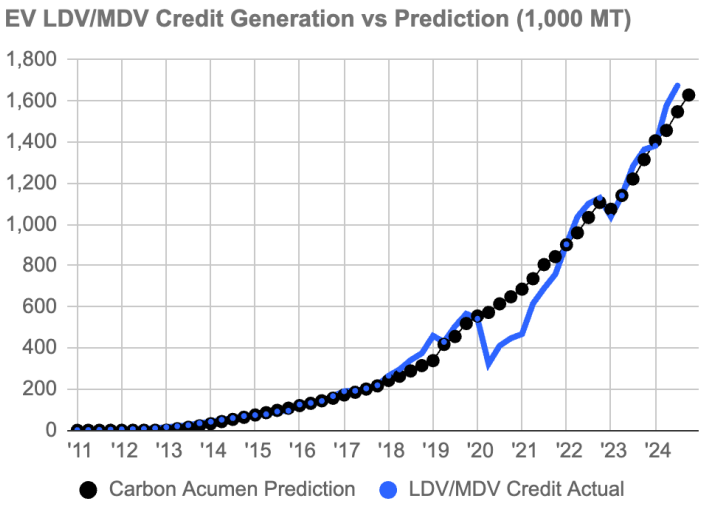

Other EV, Other NG

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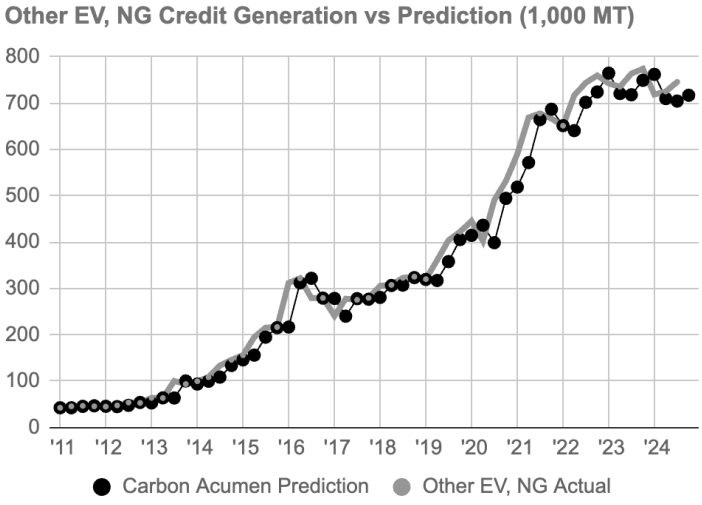

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Total Deficits, Credits, Net Credits, CI Reduction Predictions

Deficits & Credits

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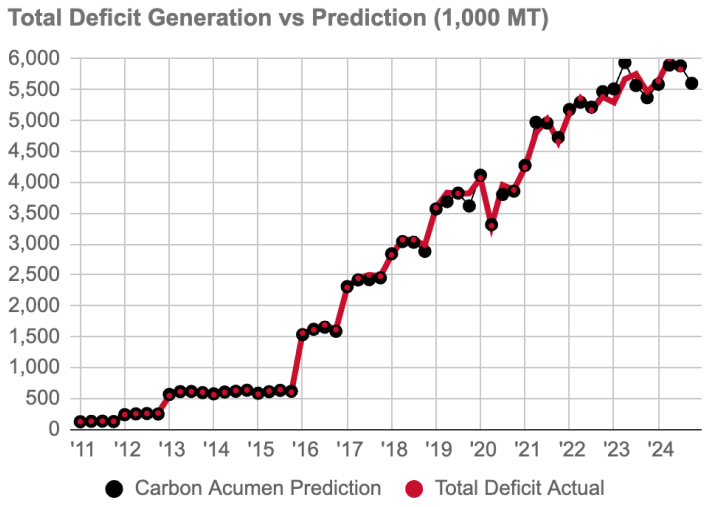

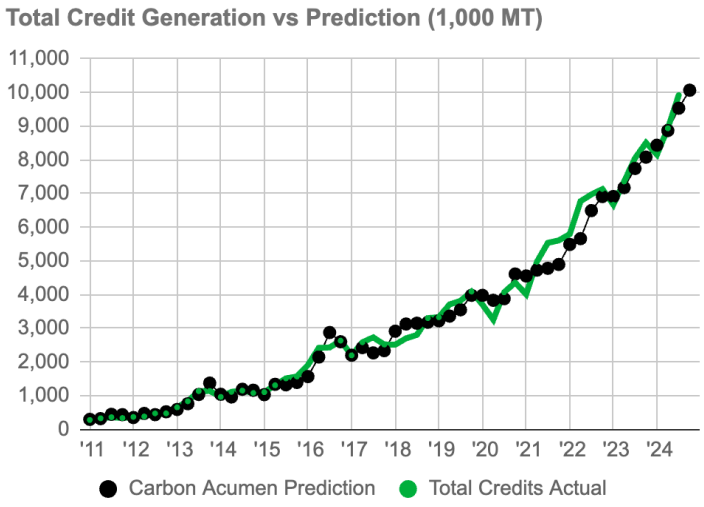

Net Credits & CI Reduction

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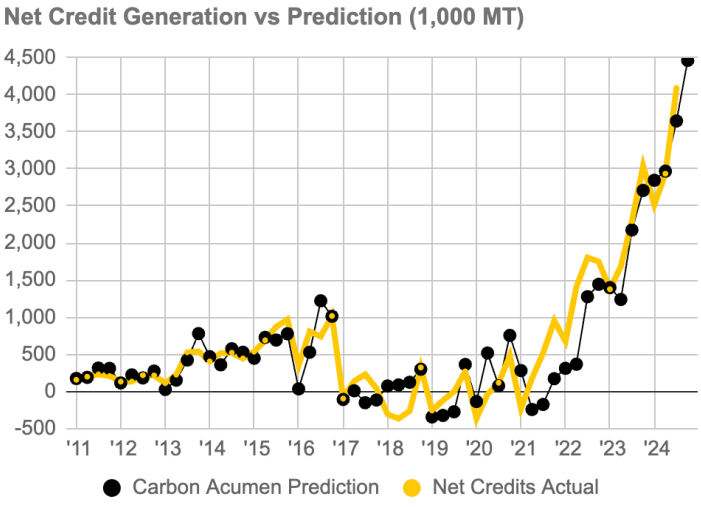

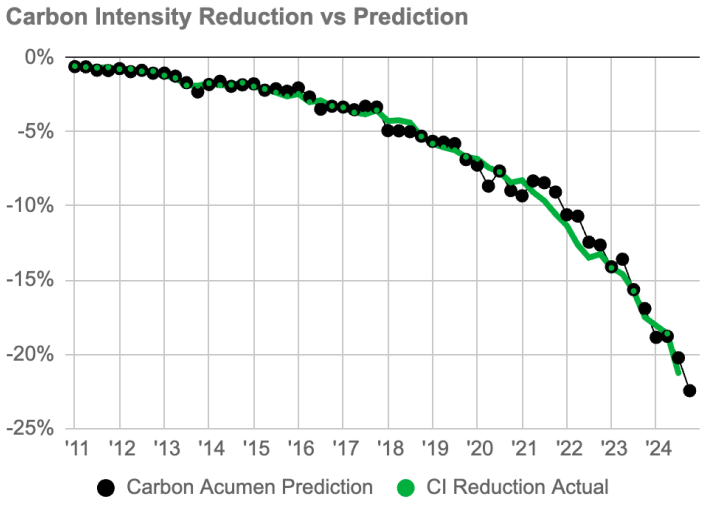

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