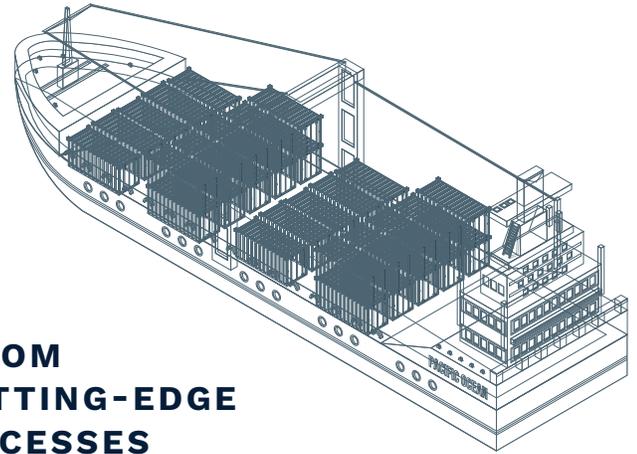


# CAPSPIRE BLOG

How capSpire Creates Custom Technology to Support Cutting-Edge Green Energy Business Processes





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## **HOW CAPSPIRE CREATES CUSTOM TECHNOLOGY TO SUPPORT CUTTING-EDGE GREEN ENERGY BUSINESS PROCESSES**

**A RENEWABLE DIESEL PRODUCER AND MARKETER IS TRANSFORMING ANIMAL WASTE LEFT OVER FROM FOOD PROCESSING INTO BIODIESEL—BUT NEEDED A FULLY AUTOMATED AND INTEGRATED TECHNOLOGY SOLUTION TO SUPPORT THEIR BUSINESS.**

**MAJOR TECHNOLOGY CHALLENGES INCLUDED DIFFICULTIES IN CALCULATING CARBON CREDITS AT THE FEDERAL AND STATE LEVEL, TRACKING THESE CREDITS THROUGHOUT THE TRANSACTION LIFE CYCLE, AND REPORTING THIS DATA TO THE EPA EFFICIENTLY. THESE TASKS CONSUMED TOO MUCH VALUABLE TIME OF STAFF.**

**CAPSPIRE CREATED A COMPLETELY CUSTOM TECHNOLOGY SOLUTION TO AUTOMATE MANY OF THESE TRACKING AND REPORTING TASKS, WHICH HAS SET THE COMPANY UP FOR LONG-TERM SUCCESS AND SCALABLE GROWTH.**

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## **WHO KNEW THAT ANIMAL WASTE LEFT OVER FROM FOOD PROCESSING COULD HAVE A PURPOSE AS A KEY INGREDIENT IN FUEL FOR HEAVY-DUTY SEMI-TRUCKS?**

That's exactly what one renewable diesel producer and marketer is doing: Elevating agricultural waste into a useful fuel product with a much more favorable carbon emission profile than traditional petroleum fuel products. It's part of a larger effort to lower the company's carbon footprint and reduce operational impact in the communities in which the company is located.

And, thanks to carbon credits given by the U.S. Environmental Protection Agency (EPA) and from some states such as California and Oregon, the investment in biodiesel production is much more economical.

The other, more unique financial advantage for this company is vertical integration of the production process. Whereas other companies engaging in the production of green energy have to purchase feedstocks from external sources at an additional cost, this diesel producer and marketer already owns the majority of these feedstocks from managing their meat processing facilities. For them, the animal fat is a byproduct of regular operations, with no other value than serving as cheap input. Entering this new business was more a matter of acquiring the infrastructure to support biodiesel production.

Once the company creates the biodiesel, they sell it to third parties in the Pacific Coast collaborative—currently the only region to offer LCFS credits at the state level.

This is an exciting “frontier market” for any company interested in shifting into the renewable energy space. As this diesel producer and marketer scales up its biodiesel production and as carbon credit programs expand to more U.S. states, there's tremendous opportunity ahead from both a commercial and sustainability perspective.

There also has been a major challenge: No technology existed to support this endeavor. Certainly, this dilemma isn't limited to the renewable energy market. It happens often throughout the general commodities space—companies have a novel idea for a new business, but how to implement and support the business processes is almost an afterthought.

**The company's main challenges were:**

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## **TRACKING CARBON CREDITS AND MANAGING TRANSACTIONS.**

At the federal level, tracking carbon credits is fairly straightforward. A company generates a predetermined amount of Renewable Identification Number (RIN) credits for one gallon of biodiesel produced.

At the state level, tracking carbon credits gets more complex. For example, in California, Low Carbon Fuel Standard (LCFS) carbon credits are determined not only based on the volume of biodiesel produced, but also on the manufacturing method, the various feedstocks, and the distance that the fuel must be transported. All of these factors are used to calculate a carbon intensity (CI) score.

Furthermore, in most cases, when a company sells biodiesel to a third party, credits are included in the sale. However, these credits can also be detached from fuel volume and sold separately. This particular company lacked a means of easily managing the whole transaction life cycle of a credit—when it's received, inventoried, and sold, along with the buyer and location.

For any participant in the renewable energy market, carbon credits must be reported to the EPA and state regulatory agencies. Previously, company personnel had to log onto the EPA website and manually enter this information as part of a separate process.

Without an automated solution to handle tracking and reporting tasks, there was increased risk for human error.

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## **MINIMIZING MANUAL EFFORT.**

In the absence of any supportive technology, company personnel spent excessive time tracking credits in spreadsheets and manually reporting credit compliance to the EPA. Tracking physical product and credit compliance doubled the workload.

**Company decision-makers knew they were rapidly outgrowing spreadsheets and needed help. That's why they partnered with capSpire to design and build the right technology to support the new biodiesel business. It only took capSpire a few months to brainstorm and design the solution.**

**Integrating seamlessly into a newly implemented ETRM system, this custom solution automates previously manual green credit tracking tasks, including:**

Calculation and generation of carbon credits

Automated deal entry

EMTS reporting and integration

California credit reporting

Credit inventory management

Supply/demand forecasting

**Additionally, the system interfaces directly with the EPA's RINS reporting software so that credit compliance data is automatically reported, without personnel having to do anything.**

**To date, capSpire's client has realized many critical benefits to having a reliable technology platform on which to rely for day-to-day operations of its renewable energy business. This system has:**

**Reduced manual effort through process automation and identified other process efficiencies**

**Saved personnel time**

**Served as one consolidated source of truth**

**Increased the accuracy of carbon credit data along with reporting**

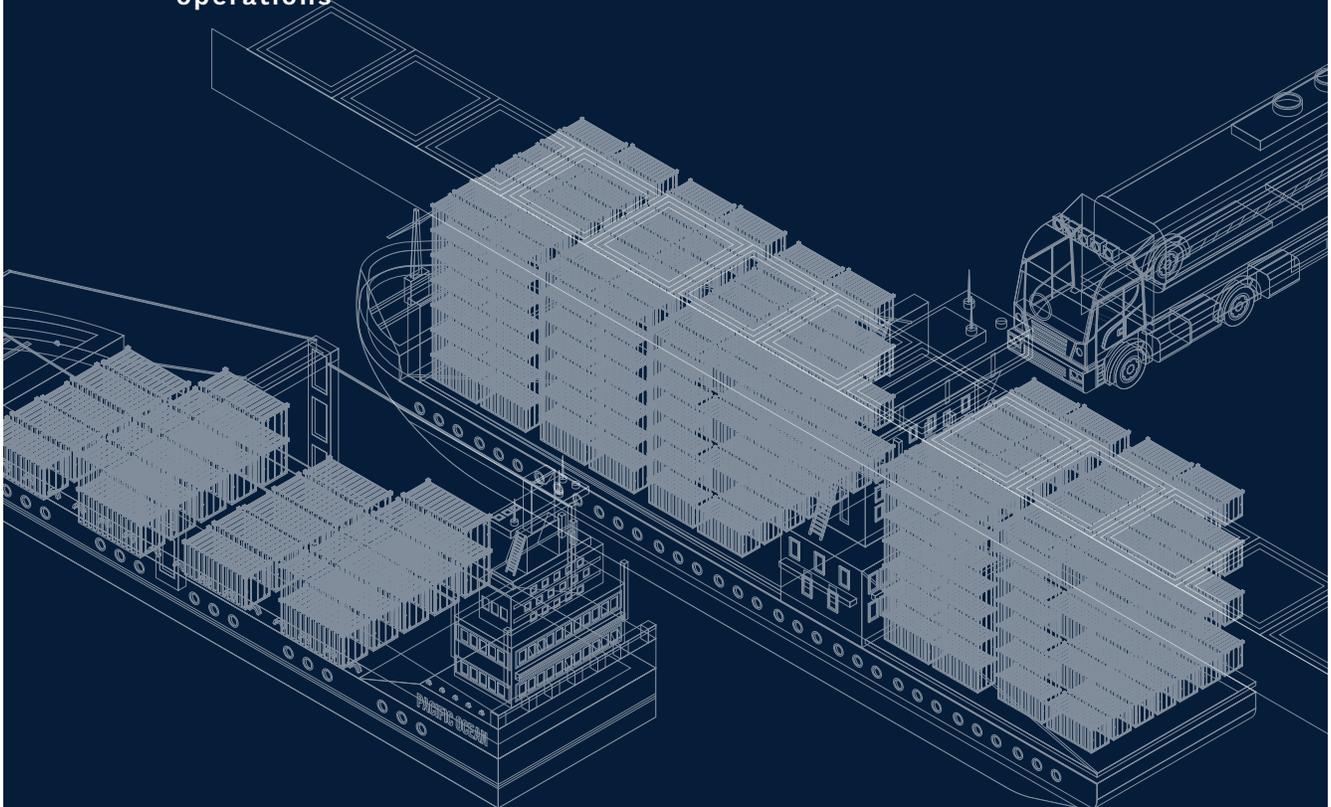
**Enabled real-time reporting**

**Established systematic compliance controls**

**Enhanced operational visibility—for example, the company has a better understanding of supply and demand, and can more precisely forecast the need for biodiesel and green credits**

**Improved risk management**

**Set the company up for success as it prepares to expand operations**





Given the day-to-day challenges we faced in managing business processes surrounding our biodiesel production, it was so critical for us to find a ‘thinking partner’ who fully understood our business and all its nuances, as well as the technology side. capSpire clearly was that partner with both the energy business and technology expertise.

Nothing about the technology solution that capSpire created was out of the box. It simply didn’t exist before capSpire innovated it. This 100% custom solution has impacted every single functional area of our biodiesel production, and has saved us time, has improved our data accuracy and compliance, and can scale up with us. capSpire more than delivered for our company. We consider capSpire to be a long-term technology partner to support other future business needs as they arise.



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## RENEWABLE DIESEL PRODUCER AND MARKETER CLIENT

Is your business considering a shift into the renewable energy space or another new market? Do you have unique business processes that lack any existing technology to support them?

**CAPSPIRE CAN HELP.**

**CONTACT US AT [INFO@CAPSPIRE.COM](mailto:INFO@CAPSPIRE.COM).**