

Building a Canadian Biodiesel Industry

An interview with TorchLight Executive Vice-President Adam Levine, Co-founder and Former VP-Market Development of Biodiesel Distributor Canadian Bioenergy Corp.

December 2, 2010 – Vancouver, Canada

How did you get involved with biodiesel?

I first learned about biodiesel in early 2002 from a friend from Argentina. It was around the same time that I first learned about the issue of climate change and the concept of ecological footprinting. Greenhouse gas, climate change and biodiesel are household terms now - but back then, those terms were virtually unknown by the general population. Biodiesel in North America was in its infancy, with roughly twenty million litres of capacity in the U.S. and less than 10,000 litres in Canada, produced in batches at a few university labs.

It was perplexing to me that a fuel that offered the environmental benefits of biodiesel in terms of greenhouse gas and criteria air contaminant reductions, including carcinogens, wasn't in wider use. I saw a challenge and opportunity in making biodiesel a mainstream fuel and I began to research it intensely.

I enrolled at University of British Columbia's Institute for Resources, Environment and Sustainability in 2003 to earn a Master's degree with the notional thesis topic, of 'Resources from Waste: Biodiesel Production in the Lower Mainland of BC'. I felt the best path to developing credibility for my activities was to gather knowledge and immerse myself in 'applied research'. I engaged in dialogue with policy advisors and government bureaucrats to promote the nascent industry, volunteered at the fledgling UBC biodiesel project, and began building my industry network.

Then you started the company after graduate school?

I founded GV Resource Group while in grad school in early 2004. It was the first licensed importer of biodiesel in British Columbia. This company eventually merged with another fledgling company when we founded Canadian Bioenergy Corp. in the summer of 2005.

What was the industry like then?

When we started there was no industry in Canada, no public awareness of biodiesel aside from, literally, a handful of enthusiasts. There were no biodiesel terminals or truck and rail shipments, and thus, no readily available supply. There was no fleet usage, no industry engagement with petroleum companies, and no mandates or production incentive programs. In fact, biodiesel wasn't even recognized officially as an alternative fuel provincially or federally.

Canadian politicians were very hesitant to provide domestic production subsidies that were necessary to compete with US producers. Regulators could not mandate petroleum companies to blend an "unknown and unproven" alternative fuel that customers wouldn't accept. Petroleum companies wouldn't embrace an alternative fuel that could damage their

billion dollar brands if it didn't meet their strict quality standards. And fleets wouldn't use a new product if they didn't feel confident in its performance or availability. We had a direct and dramatic impact on changing all of the above realities and this is why it is widely recognized that we played a central and fundamental role in building the Canadian industry from the ground up.

So where did you start?

With advocacy and on-the-ground fleet adoption.

In the early days of biodiesel, the Canadian Renewable Fuels Association largely represented the interests of the ethanol industry. We knew the biodiesel industry needed a bigger voice and, in 2005, I co-authored a white paper that was largely based on my research and insights during graduate school. It was a domestic case for biodiesel and highlighted the precedent for supporting a Canadian biodiesel industry and also outlined the tremendous potential benefits for Canada. This document was widely read and got the attention of Federal and Provincial Ministers and bureaucrats in Energy, Agriculture, Environment, and Health. Importantly, it was also well received by the \$3B Canadian Canola industry, who then brought their political influence to the table.

There were also frequent presentations to government and industry audiences, often through associations from a wide variety of sectors. In addition, we collaborated with key individuals from public advocacy groups such as Biofleet, which was established to help jump-start the new industry. We had to educate people on what biodiesel was, and why it was important.

How did you eventually get “buy-in” from industry?

Tireless work and dedication. Reminds one of the joke, “Excuse me sir, can you tell me how to get to Carnegie Hall... Practice kid.” But in all seriousness, “buy-in” came from first building trust with fleets to pilot biodiesel, and then proving to them that biodiesel performed.

Appealing to people's “green sensibility” and potential desire to make the world a better place often resonated with government and industry. But ultimately, executives are responsible for their organization's bottom line. They rely on managers to manage budgets, many millions of dollars worth of equipment, and operators that depend on their equipment's performance and up-time - whether that be a ferry, a gargantuan mining truck, a transit bus, a snow plow, a cement truck, a fire engine, a container port shipping/receiving electronics, food, clothes, furniture etc. a train, a tug boat, forestry or agricultural harvesting equipment, or an 18 wheeler hauling ‘you name it’ to your local store. It might seem cliché, but diesel truly is the lifeblood of modern society, and society won't tolerate an unnecessary blood clot.

Every fleet manager needed to confirm for himself:

- Does biodiesel work?
- Will it destroy or harm my equipment?
- How much will it cost and what will being “green” mean to the bottom line?

The fact that millions of road miles in the U.S. and Europe were clocked running on biodiesel didn't matter to them.

And so, building an established base of large, visible, and respected biodiesel fleet users to prove biodiesel was a viable fuel and get large scale "buy-in" became a central goal. It wasn't an easy road for me - try selling a product that almost nobody knows about until you called them, doesn't want or think they need, and if they had heard of it may have heard negative rumors about its performance or feared it, and by the way, was more expensive than the product they have been using for 50 years. The early adopters really deserve a tremendous amount of credit for deciding to make the switch in advance of regulations and essentially being our partner in developing the industry.

We successfully opened the Vancouver terminal in Fall 2005 and began supplying biodiesel for municipal usage across the lower mainland. Shortly after, we established a beachhead in Calgary and our second terminal. We eventually established a terminal in Kelowna and began shipping rail cars and super B trucks to Vancouver, Kelowna, Prince George, Calgary, Winnipeg, Toronto, and Halifax. Canada is a large country; there was a lot of ground to cover.

Our method was to blend biodiesel 'in truck' with petroleum to make the desired blend, and the blend was mixed via the baffling movements of the truck. Its called splash blending. We experimented with a variety of splash blending methods until learning what worked best - especially important in cold weather applications when the piping hot biodiesel (stored at 15C) was blended with diesel that had an ambient temperature of 0. I can tell you the cold steel wasn't very friendly to the warm biodiesel, but we found a way that worked.

We knew ultimately biodiesel had to be 'in-line' blended at the refinery or at the rack, but first we had to build the market, fleet by fleet. Petroleum companies eventually became engaged since some of their largest customers began to use our biodiesel.

That must have been interesting. What was engagement with the petroleum companies like?

Well, first it was clear that we wouldn't get anywhere with them by buzzing on about an ideal world fueled by biofuels or challenging their intent with conspiracy theories about how big bad oil companies wanted to squash alternative fuels.

We needed them to accept biodiesel as a viable fuel, and we needed them to respect our efforts. Their major concern was quality and reliability, then price. We did everything we could to engage at their level on quality issues related to the physical characteristics of biodiesel and we supported our efforts with votes of approval from their customers on our level of service, industry knowledge, and importantly, the fuel's performance.

We promoted the importance of sourcing the highest quality product. We did a tremendous amount of industry analysis across a variety of relevant sectors, including our own, and also stayed at the leading edge of quality discussions informed by our direct interface with fleets. We eventually began to require our own standard, within the established standard, to help mitigate future problems. Eventually these standards became procurement standards for

others including petroleum companies, and Canadian standards evolved with our direct input.

Considering we started with two 55 gallon drums in 2004, it was really amazing to watch petroleum companies coming into our terminals and load biodiesel into their trucks to blend with diesel for delivery to their (and our) customers. At this point, there was considerable engagement, although we knew they were still reluctant participants. Eventually the provinces of British Columbia, Manitoba, and Ontario and the Federal government established regulations on Renewable Fuel Requirements that included biodiesel, with steep penalties for non-compliance. This is what was needed to increase domestic usage in Canada from 20 million litres to 500 million litres.

That must have been rewarding to finally see biodiesel use mandated.

It was tremendously rewarding.

What else did you find rewarding about your experience building a biodiesel industry in Canada?

The industry is so dynamic – we were at the crossroads of agriculture, petroleum, manufacturing, transportation, heavy industry, economic development, climate change and carbon policy. In any given week I could be dealing with canola growers, provincial regulators, academics and researchers, fuel traders and fuel jobbers, motor fuel tax collectors, biodiesel suppliers, logistic reps, executives to engineers to procurement managers to fleet managers for companies in nearly every resource industry, engine manufacturers, lab technicians and technical experts....the diversity of engagement goes on and on.

It was also tremendously rewarding to be on the ground learning the nuances of market development and alternative fuel adoption from the perspective of being in the trenches with end users. Having a burly truck operator thank me for stopping his eyes and nose from burning from the exhaust fumes after his fleet switched to B20 was also hugely rewarding.

Ultimately, I know that I helped catalyze a new and important industry in Canada. I successfully helped transition Canada's first and largest industrial and government fleets, including transit authorities in two of Canada's largest cities, dozens of municipalities, airports, federal container port operators, commercial carriers, cement companies and industrial marine end users to a renewable fuel, creating tens of thousands of tonnes of emission reductions. Our work changed the status quo and paved the way for a new industry to flourish in Canada.