

Intelligence MEMOS



From: Werner Antweiler

To: Green Transition Observers

Date: January 6, 2025

Re: **MEET THE NEW BIOFUELS: VERSATILE, GREEN AND GETTING CHEAPER**

We may be entering the age of the electric car, but biofuels will still be an important tool in the fight against climate change for years to come.

Most Canadian cars will run on conventional fuel for the foreseeable future, allowing Canada to take advantage of this latest generation of biofuels. By strengthening mandates, supporting innovation, developing new sustainable energy crops and negotiating fair access to US markets, Canada can become a leader in the sector.

The earliest iteration of biofuels were blend-in fuels: ethanol and biodiesel, mostly made from corn in Canada. However, engine compatibility issues imposed blending limits, usually 10 percent for most auto fuel grades. But the next generation are drop-in fuels that are chemically the same as ordinary fuels, as I outline in my recent C.D. Howe Institute [paper](#). These include renewable diesel for trucks, sustainable aviation fuel for planes, and biomethane for homes and industry. They also rely on feedstocks – currently canola oil and tallow – but can eventually shift toward using dedicated energy crops, such as perennial grass and fast-growing trees that can be grown on marginal agricultural land, easing concerns about competition with food production.

And commercialization is scaling up. In February, Braya Renewable Fuels started making renewable diesel at a converted Newfoundland refinery with an initial capacity of 1 billion litres per year. Imperial Oil is building a similar-sized plant as an extension to its Strathcona refinery near Edmonton, and in BC, Tidewater Renewables has built a smaller plant in Prince George. This growth is driven by federal and provincial biofuel mandates. BC's Low Carbon Fuel Standard aims to reduce its fuel carbon intensity by 30 percent by 2030. The federal Clean Fuel Regulations also has the goal of a modest 15-percent reduction by 2030.

The heart of the biofuel mandate is rigorous accounting of greenhouse gas emissions over the entire life cycle of production. Taking into account the differences in carbon intensity among feedstocks and production pathways, a market for trading compliance credits ensures that financial incentives are proportional to emission reductions. Therefore, the cleanest fuels get the most support. First-generation biofuels were criticized because of limited life-cycle emission savings, competition with food production, and, in some cases, expensive subsidies. The life-cycle approach avoids these distortions.

Concern that importing biofuels could contribute to deforestation or water shortages means the federal mandate disallows foreign biofuels that do not meet agricultural sustainability criteria. Ottawa has also put new money into its Clean Fuels Fund, which aims to de-risk investments in new facilities and conversions of existing facilities. It's a start, and the focus needs to be on promoting innovation to reduce production costs.

The US government promotes biofuels through production tax credits. This risks becoming a trap: When the program becomes too successful, subsidies become fiscally unsustainable. In Canada, fuel producers compete to sell the lowest-cost biofuels that comply with the biofuels mandate. Without direct subsidies, there is no risk of falling into the fiscal trap.

If a new federal government were to abandon carbon pricing on motor fuels, this might not spell the end for meaningful climate action on decarbonizing transportation. The biofuels mandate has the enormous advantage of lowering emissions from the entire existing vehicle fleet quickly, and costs will drop as biofuels production ramps up.

If Ottawa were to embrace a more ambitious emission intensity reduction target, it could make up for some of the negative consequences of removing carbon pricing from motor fuels. Combined with continuing support for EV adoption, climate action for Canada's transportation sector could still thrive – and create many new jobs in the biofuels industry, especially in the Prairie provinces.

Access to US markets will also help Canada's biofuels industry grow. Currently, Canadian producers cannot benefit from US incentives, while Americans do from our programs. Reciprocal market access should be on Ottawa's to-do list in forthcoming trade negotiations. Longer-term, innovation will drive the energy transition. With biofuels and batteries becoming continuously cheaper, price parity with conventional fuels and vehicles is firmly in sight.

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A version of this Memo first [appeared](#) in The Globe and Mail.