

Biofuels - Alberta Protocol

Overview:

Carbon Offsets from Biofuels in Alberta

This bulletin provides background and summarizes details of the Quantification Protocol for Biofuel plants. An overview of Alberta's Regulatory Framework and offset requirements are given in the overview document in this series.

The protocol considers the production of feedstocks, production of biofuels, heat, power and electricity along with their end use. In order to quantify emission reductions, a comparison of the baseline condition (what are the greenhouse gas (GHG) sources and sinks before the biofuel plant is built) versus the project condition (what are the GHG sources and sinks after the biofuel plant is built) are critical components of the protocol and are essential to the quantification of GHG emission reductions. For this reason, the GHG sources and sinks associated with the growing of feedstocks for the plant, are cancelled out in baseline and project calculations as they don't need to be quantified, since similar acreages of wheat, barley and canola are likely to be grown in the prairies for the short term, regardless of a few plants being built in Alberta. This assumption will be monitored on an annual basis for macroeconomic shifts in cropping patterns therefore may change in the future.

Under the Alberta Offset System rules, projects can claim credit back to 2002 onwards, if the requirements of the system and protocols are met. There is no deadline to access credits for these past tonnes as long as verification can be done. If a project developer wanted to wait and see how things evolve in the market, they could get involved later and still gain credit back to 2002 if all requirements are met.

Emission Reductions from Biofuels – What Counts?

The emission reductions in this protocol arise mainly from the reduction in GHG emissions from displacing a proportion of fossil fuels with biofuel products in gasoline and diesel fuel blends, or offsetting natural gas with syngas. The protocol also allows for reduced GHG emissions from any heat/power production related to the process (eg using byproducts in a digester, or recovering heat from the process), or reduced transportation of feedstocks to the plant (changing to closer sources); or even diversion of waste from landfills. Biofuels in the protocol can include charcoal, bio-diesel, ethanol, and other similar gas, liquid and solid fuels from renewable sources.

For biofuel plants, the requirements are:

- Quantification of reductions is based on actual measurement and monitoring, as outlined in the protocol;
- Feedstocks must be sourced from within Canada in order to qualify for offsets – to ensure sustainability of the source;
- Baseline and project conditions as outlined in the protocol are met.



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NOTE: The protocol assumes that the offsets reside with the Biofuel Plant since this is where the data and volume of biofuel produced is owned and can be verified. This assumption must be confirmed by examining the terms for the sale of the biofuels from the plant. Where or how the fuel is eventually consumed does not impact the calculations, as it is assumed that 100% of the biofuel is consumed.

Definitions:

Biofuel

Any fuel that is derived from biomass. It is a renewable energy source, unlike other natural resources such as petroleum, coal, and nuclear fuels.

Biomass

Previously living organisms or their metabolic by-products (ie. manure from cows). This includes plant material, vegetation, agricultural and agri-food materials that can be used as a fuel or energy source. This may include silage, energy crops, wood materials (construction waste, slash, bark, etc.), oils and fats, etc.

References:

Alberta Quantification Protocol for Biofuel Facilities: www.carbonoffsetsolutions.ca



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