

ETHANOL, ENERGY AND THE ENVIRONMENT

How does ethanol use counteract climate change?

The majority of scientific evidence indicates climate change is occurring, caused mainly by burning fossil fuels that release greenhouse gases (GHG) such as carbon dioxide (CO₂). Ethanol, unlike regular gasoline, does not add any new CO₂ to the Earth's atmosphere when burned. It represents a renewable cycle of GHG emissions. Ethanol releases CO₂ when it is used, but the plants or biomass used to make ethanol also absorb CO₂ as they grow.

How much gasoline will be displaced as a result of the ethanol mandate?

Mandating the use of ethanol in Manitoba's gasoline supply will displace the consumption of over 130 million litres of regular gasoline at a 10% ethanol blend.

How does using ethanol-blended gasoline reduce exhaust emissions?

Ethanol is one of the best tools we have to fight air pollution from vehicles. Ethanol contains 35% oxygen. Adding oxygen to fuel allows it to burn more completely, which reduces tailpipe emissions such as carbon monoxide (CO). Ethanol blends of 10% will reduce CO from the tailpipe by up to 25%.

Ethanol use reduces particulate emissions, a cause of respiratory ailments, from anywhere between 25% and 32% depending on the vehicle. Ethanol also takes the place of some toxic gasoline chemicals such as benzene, a carcinogen. Ethanol is non-toxic, water-soluble and quickly biodegradable.

Does it take more energy to make ethanol than it creates when burned?

The scientific literature indicates otherwise. The difference between the energy used to make ethanol and the amount of energy released when it is burned as motor fuel is called the energy balance. Improvements in farming technology have increased ethanol's energy balance over the years, and more rigorous testing has consistently shown ethanol's energy balance is positive. A widely cited study by the United States Department of Agriculture determined that 1.34 units of energy are produced for every unit expended in the production of ethanol. Other studies show ethanol with an even higher energy balance. In Manitoba, it is expected that the energy balance of ethanol production will be even greater due to the use of renewable hydroelectricity.

