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Biogas or Biomethane Fuel Use in Truck and Bus Engines

An alternative energy source for trucks and buses that can reduce greenhouse gas emissions by more than 100% is to capture biogases produced from the anaerobic digestion of organic waste materials or renewable biomass, purify these gases to produce biomethane, and use the biomethane to displace petroleum or other fossil fuels.

Biogas, a mixture of methane (55-75 vol.%), carbon dioxide (25-45% vol.%) and other trace gases, is produced from the anaerobic digestion of organic materials, which occurs naturally in landfills and from the processing of animal waste, sewage, crop waste, and cellulosic and non-cellulosic crops. Biogas which escapes into the atmosphere significantly contributes to the effects of global warming. Biogas is not suitable for Cummins Westport engines.

Biomethane is biogas upgraded to pipeline and vehicle quality by separating most of the carbon dioxide from the methane to increase the energy content of the fuel to meet the required specifications and remove the impurities. Biomethane can be processed into compressed natural gas (CNG) or the more energy-dense liquefied natural gas (LNG) for natural gas vehicles.

Using biomethane as a renewable fuel has significant greenhouse benefits:

- During combustion, biomethane is converted to carbon dioxide (a 21 times greenhouse gas savings)
- Biomethane is a renewable resource that displaces fossil fuel 100%.
- The biomethane that is burned as fuel in place of fossil fuels produces less greenhouse gas than the fuel it replaced.

Cummins Westport approves the use of up to 100% biomethane that meets published natural gas fuel specifications per Cummins Application Engineering Bulletins (AEB 79.01, AEB 79.02, and AEB 79.05)

Cummins Westport manufactures and sells the world's widest range of low-emissions alternative fuel engines for commercial transportation applications and has over 16,000 alternative fuel engines in service around the world.

For further information contact a Cummins Westport representative, or visit www.cumminswestport.com

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