

GOING GREEN
WITH GESS

WHAT IS GOING GREEN?

Going "Green" means to become sustainable, either by retrofitting the equipment and vehicles to become more energy efficient, or by using renewable sources of energy to reduce your carbon footprint. (***"Going green" means to pursue knowledge and practices that can lead to more environmentally friendly and ecologically responsible decisions and lifestyles, which can help protect the environment and sustain its natural resources for current and future generations.***)

WHO IS GESS?



GESS International is a highly experienced and globally established renewable energy service company. With over **350** completed projects worldwide, GESS International NC, INC. has over **21** years of expertise in providing energy-efficient solutions using co-generation and renewable energy resources such as solar and biogas. From consulting to managing operations of our completed projects, GESS International NC, INC. offers design and implementation solutions with direct economic impact for its customers and their communities.



WHAT IS BIOGAS?

Biogas is a renewable energy that comes from renewable feed stocks that are typically considered a waste product and can offset the use of natural gas, a fossil fuel.

Renewable Natural Gas is natural gas derived from raw materials such as animal waste, agricultural residues, food waste, and any carbon based feed stocks, and is created from bacteria breaking down these materials to produce methane in the absence of oxygen.

HOW CAN GESS AND INDY INTERACT?



GESS and Indycar can create a mutualistic relationship. GESS would gain credibility and publicity from having a business partnership with Indycar and promoting sustainability in a racing sport. Indycar would have a consistent renewable fuel source to power their transport vehicles that run off of natural gas. Indycar would become a sustainable sport/entertainment by switching over from a fossil fuel to a renewable fuel source, reducing their carbon footprint, becoming a leader in sustainable sports.



INDYCAR TRANSPORT AND CNG CONVERSION

Indy Car NTT series has Thirteen teams with Twenty-Six drivers conducting Seventeen races per season. With each driver having one diesel car transport and Indy Car Corporate having nine diesel transport vehicles. Each transporter drives approximately 65,000 miles per year including offseason testing. The Indy Car Corporate transporter drives approximately 35,000 miles per year, combining for 2,005,000 miles, using approximately 250,625 gallons of diesel fuel annually. One gallon of diesel fuel generates 21.83lbs of carbon Dioxide (CO₂).

A recent study done on behalf of the California Energy Commission concludes that CNG vehicles produce up to 22% less CO₂ than comparable diesel vehicles. Converting to CNG, Indy Car Corporate and teams could lower their fuel and maintenance cost by 33% and reduce their carbon footprint between 22% and 29%. There are two ways to convert diesel to CNG, dedicated CNG engine or Diesel Dual Fuel systems.

In converting diesel engine fleet to Compressed Natural Gas (CNG). There are two ways you can approach it, you can convert to dedicated CNG engines, the diesel engine is being completely overhauled to run only on CNG, no more diesel, or Diesel dual fuel (DDF) system where it starts on diesel, then runs on CNG with diesel back up if the CNG tanks run empty or malfunctions. The kit is installed onto existing engine with no complete overhaul required.