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The Recycling Times

HADCO Group's Recycling Division Monthly E-Newsletter

Image Credit: Local.ch

Is The Future Of Fuel Plant Powered?

Are biofuels the future of clean energy? According to some scientists and studies, it's a step in the right direction. In this month's e-article we are going to lay out the case for biofuels, and how your household, restaurant or prep kitchen can help in this new oil economy through recycling Waste Vegetable Oil (WVO) with HADCO's Recycling Division.

What is a Biofuel?

Simply put, biofuels are a type of renewable energy derived from plant or animal materials. Biofuels are becoming more popular as they put less strain on the limited supply of fossil fuels and are a much cheaper and cleaner alternative.

There are two main kinds of biofuels:

Bioethanol – often made from corn, sugarcane, switch grass, etc.

Biodiesel – often made from vegetable oils such as soybean oil, sunflower oil, palm oil, etc.

"WE ARE ON TRACK TO MEET AND BREAK THE 285,000 GALLONS OF WASTE VEGETABLE OIL WE COLLECTED LAST YEAR. JOIN US IN MAKING 2022 A RECORD YEAR FOR WASTE VEGETABLE OIL COLLECTION!"

Kevin Whiteman - Managing Director, Recycling Division, HADCO Group

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Whilst there are many other kinds of biofuels being explored, we think this next one deserves a special mention:

Algae-based Biodiesel – major corporations have already invested in researching seaweed and kelp-based biodiesel production. ExxonMobil has committed notable resources to its commerciality, touting claims they will produce up to 10,000 barrels of algae-based biofuel per day by 2025.

Corn, sugarcane and switchgrass
can all be used in the production of bioethanol

How are countries using biofuels?

Now that we have defined biofuels, let us talk a bit about who is using them, and if they really help curb greenhouse gas emissions.

Perhaps the biggest success story of biofuel adoption comes from Brazil, where in 1975 a government mandate ordered all petrol to be blended with locally made ethanol from sugarcane to combat the OAPEC oil crisis of 1973.

Whilst this was done out of necessity, the practice remained and led to further government mandates calling for the increased production of bioethanol, stimulating the agricultural sector and incentivising farmers to produce more sugarcane. Today at least 73% of cars in Brazil run on what is known as 'flex fuel'. The country is now the world's second-biggest producer of bioethanol according to the US Department of Energy.

Since then many countries around the world have taken notice of this success story and have adopted varying degrees of bioethanol-to-gasoline blends sold at gas stations - some mandating more ethanol quantities than others.

Soybean oil, sunflower oil and palm oil
can all be used in the production of biodiesel

ExxonMobil commits to making algae-based
biodiesel commercially viable
Image Credit: ExxonMobile

Toyota's hybrid 'flex fuel vehicle' in Brazil
Image Credit: Toyota

The table below showcases a varying mix of countries and their minimum ethanol-to-gasoline blends available. The number next to the E is the percentage of ethanol in the blend. (E.g. In Argentina it is mandated for all gasoline to be blended with at least 5% bioethanol.)

Country	Ethanol blend	Legal use	Country	Ethanol blend	Legal use	Country	Ethanol blend	Legal use	State	Ethanol blend	State	Ethanol blend
Countries with mandatory blends or available for optional use						European Union			United States (states where mandatory only)[n 1]			
Argentina[24]	E5	Mandated[n 2]	Malawi[17]	E10	Mandated[n 3]	Austria[25]	E10	Optional	Florida	E10	Minnesota	E10
Australia[26]	E10	Optional	Mexico[20]	E6	Mandated[n 4]	Denmark[25]	E5	Optional	Hawaii	E10	Missouri	E10
Brazil[28]	E18-E27.5	Mandated	New Zealand[29]	E10	Optional	Finland[30]	E5/E10	Mandated	Iowa	E10	Montana	E10
Canada[31]	E5	Mandated[n 5]	Pakistan[32]	E10	Optional	France[33][34]	E5/E10	Optional	Kansas	E10	Oregon	E10[n 6]
China[36]	E10	Nine provinces	Paraguay[37]	E18/24	Mandated	Germany[38]	E5/E10	Optional[n 7]	Louisiana	E10	Washington	E10
Colombia[39]	E10	Mandated[n 8]	Peru[41]	E8	Mandated[n 9]	Ireland[43]	E4	Mandated	California [44]	E10		
Costa Rica[45][46]	E7	Mandated[n 10]	Philippines[49]	E10	Mandated	Netherlands	E5/E10/hE15	Optional				
India[50]	E10	Mandated	Thailand[51]	E10/E20	Mandated	Romania[52]	E4	Mandated				
Jamaica[53]	E10	Mandated[n 11]	Vietnam	E5	Optional	Sweden[54]	E5/E10	Mandated				

Of course, there are higher bioethanol blends available - the table above only showcases the minimum required. An increasingly popular blend in both Brazil and the US is the E85, meaning that the blend contains 85% ethanol content. According to the US Department of Energy there are over 3,900 stations in 42 states that offer various blends throughout the United States.

E85 fuel pump
Image Credit: Clean Drive EU

Biofuels in Trinidad and Tobago

While we may not be as advanced as other nations in biofuel adoption, Trinidad and Tobago has been doing its part by supplying Asia, Europe, and the United States with the feedstock needed to produce biodiesel.

At Ecoimpact, we collect the nation's Waste Vegetable Oil (WVO) from local restaurants and households, which undergo a series of rigorous and precise filtration processes before being packaged and shipped to international biodiesel manufacturers - earning much-needed US dollars for the country.

Ecoimpact employee filtering collected Waste Vegetable Oil (WVO)

Get Involved!

We specialise in Waste Vegetable Oil (WVO) solutions for your household or restaurant!
Find our drop-off points at the following locations:

HADCO Limited - Head Office - JRJ Warehousing Compound, Bhagoutie Trace, San Juan.
New Age Recycling Facility - 17A Yorke Avenue, O'Meara Industrial Estate, Arima.
Ecoimpact Facility - Lot 17 DEFG, e TecK Diamond Vale Business Park, Diego Martin.
Caribbean Battery Recycling Facility - 2 El Socorro Ext, LP 52 Patraj Trace, San Juan.

Schedule your complimentary collection with Ecoimpact today by calling (868) 633-3609 or visit www.ecoimpacttt.com. We can also supply you with free plastic kegs to store your cooking oil.

Ecoimpact employee checks on a tank of filtered Waste Vegetable Oil (WVO)

"OUR TEAM AT ECOIMPACT WILL COME TO YOUR RESTAURANT OR PLACE OF BUSINESS FREE OF CHARGE AND COLLECT YOUR WASTE VEGETABLE OIL... WE'LL EVEN THROW IN A FEW FREE PLASTIC KEGS!"

Marguerite Simon-Williams -
Operations Manager,
Ecoimpact Co. Limited,
HADCO Group

For more information on our other recycling services visit us at www.hadcoltd.com/divisions/recycling/.

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