



How it works

The advanced biofuels process, from crop to car

Opening screen:

BP to Invest in Biofuels Technology

BP aims to invest more than \$500 million over the next 10 years in research on advanced biofuels technology, processing and feedstocks in order to bring new, advanced biofuels to market.

Farmers in corn, sugar cane fields. Only part of fields are planted
Conventional biofuels such as ethanol and biodiesel are typically made from corn, sugar cane and beet, wheat or oilseed crops such as soy and rape.

Expanded fields with scientists and other crops. New crops spring up in other portions of field:

Working with researchers, farmers and other partners, BP and DuPont aim to identify and develop crops with improved potential for biofuels, including non-edible crops and fast-growing grasses that are grown specifically for fuel and farmed in an environmentally sensitive manner.

Crops are harvested and moved toward processing plant:

Crops grown for biofuels are then harvested and processed into biofuels.

Processing plant morphs into something more dynamic, an enhanced biofuels processing plant:

BP and DuPont researchers are developing new process technologies to utilize new feedstocks and produce improved biofuels molecules.

Next-generation biofuels coming out of processing plant into blending tank:

(tank content is divided in two colors (petrol and biofuels) with markings on side to indicate “current blends” and “future blends”)

The next generation of advanced biofuels offers many advantages:

Can be blended at higher rates into conventional fuels which can be used in unmodified vehicles – helping to increase the diversity of energy supplies.

Biofuel from blending tank goes into pipeline to petrol station:

Advanced biofuels also often have higher energy content (more miles per gallon);

Car pulls into petrol station:

Advanced biofuels can also be more easily incorporated into the existing fuel supply, facilitating their introduction

Car pulls out of station and emissions (carbon atoms) move through cycle:

(carbon atoms move from atmosphere to plants to processing plant, blender, petrol station, car and exhaust, returning at end back into the atmosphere)

Biofuels reduce the overall volume of CO₂ entering the atmosphere by absorbing CO₂ as plants grow while emitting roughly the same as conventional fuels when they are burned.

Cycle continues and new text screen comes up:

While CO₂ is also generated in the cultivation and processing of biofuels, the net effect is still lower than with conventional fossil fuels. Advanced biofuels offer the advantage of potential for greater CO₂ reduction benefits.

Closing screen:

Today, biofuels account for less than 2% of global transportation fuels but this could increase to 30% in key markets in the future. Advanced biofuels provide a viable option for expanding energy supplies and accelerating the move to renewable transportation fuels with lower overall GHG emissions.