



U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

Bioenergy Basics

Bioenergy Technologies Office



What is Bioenergy?

Bioenergy is a form of renewable energy derived from biomass to generate heat, electricity, renewable products and liquid fuels for transportation.

Made From



Woody Biomass



Crop Wastes



Grasses



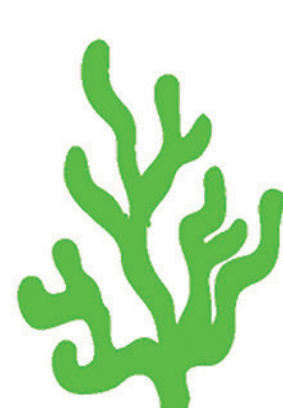
Sorted Municipal
Solid Waste



Waste CO₂



Wastewater
(Biosolids)

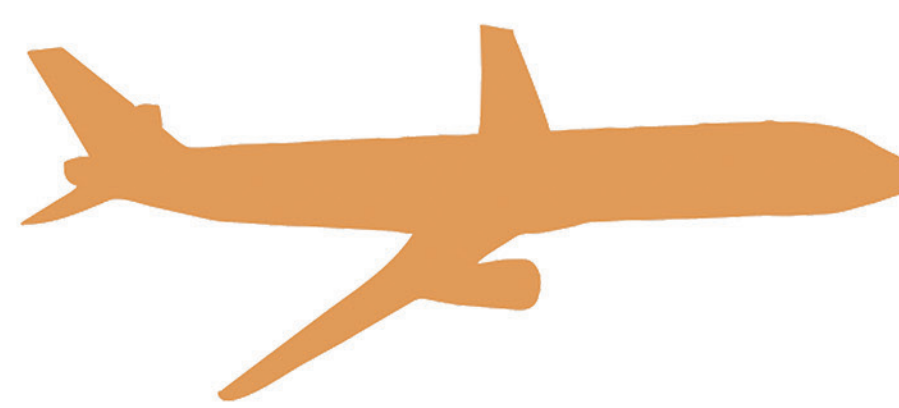
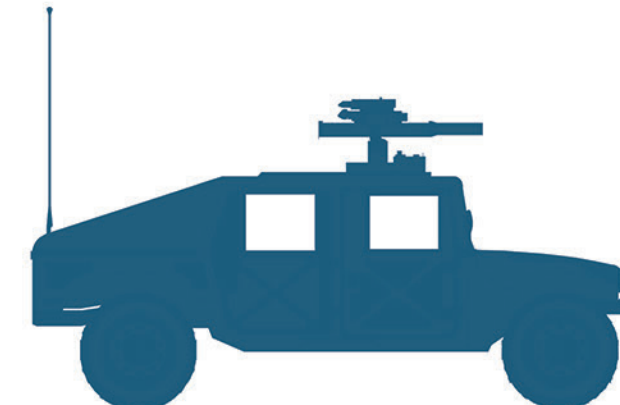
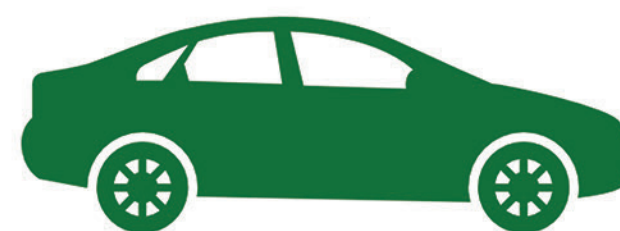


Algae

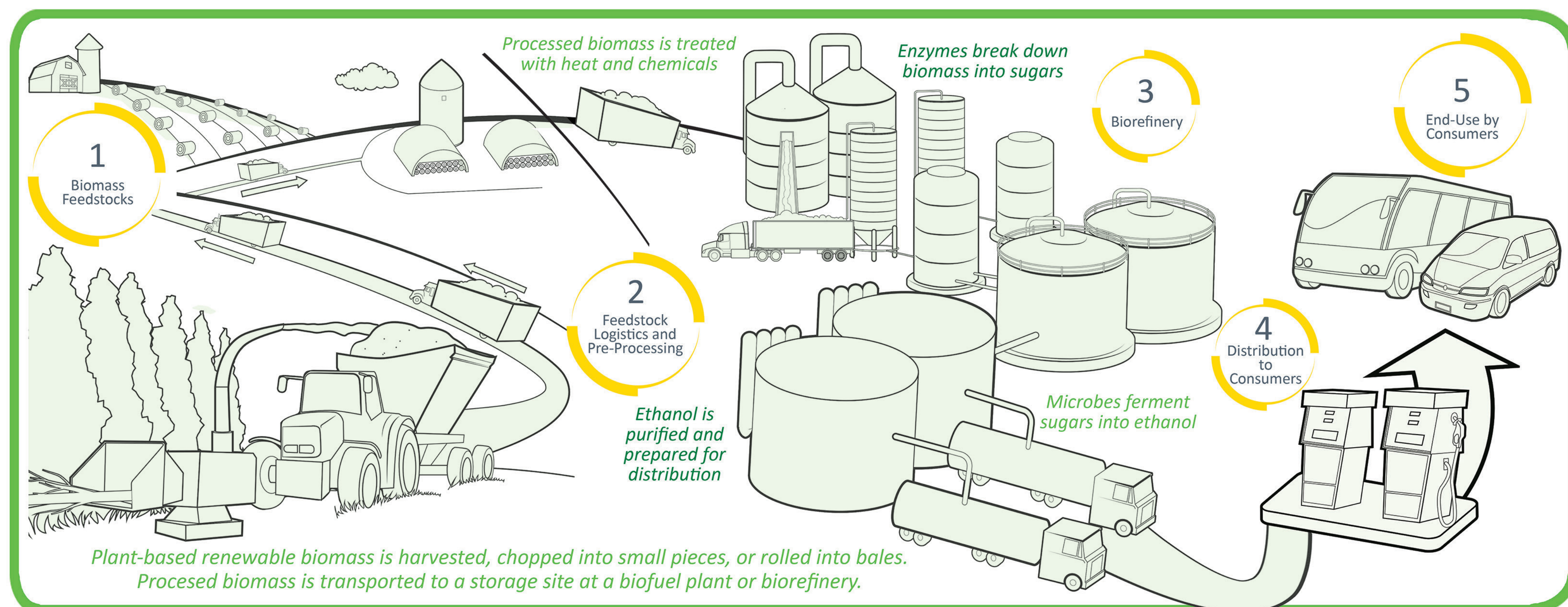


For Use In

Today's vehicles and infrastructure
(Fuels: renewable gasoline, diesel, and jet fuel,
and cellulosic ethanol)



Biofuel: From Field to Fuel Pump



Waste Usage=Abundant Food and Fuel

Many wastes can be sustainably made into fuels, averting competition with food crops



Farm Income



Use of crop wastes gives farmers an additional income stream from the same acreage.



Healthy Forests



Collection of forest residue can increase biodiversity and improve forest health.



Soil Quality



Removing excess post-harvest waste helps maintain soil health while reducing emissions.



Landfill Reduction



Using the organic, non-recyclable portion of assorted municipal solid waste transforms the waste into a resource.

Learn more about bioenergy at bioenergy.energy.gov.