RE · FORM · ENERGY

WE'RE RE-FORMING NATURE'S ENERGY IN IOWA, TO REFORM ENERGY ALL OVER THE WORLD.

DuPont has answered the call for renewable energy solutions with a fully-integrated process that converts biomass into cellulosic ethanol.

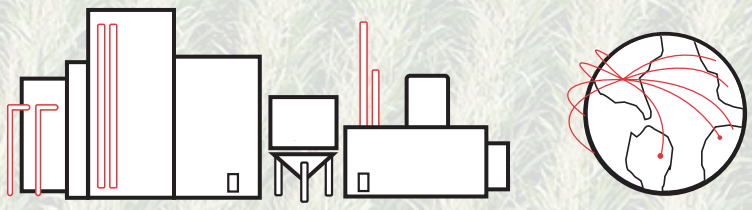
This farm-to-fuel system is applied at our biorefinery in Nevada, Iowa, and marks the dawn of a new era in energy production and advanced manufacturing, as well as new opportunities for agriculture around the world.

Turning crop residues into fuel

The DuPont biorefinery in Nevada, Iowa, uses corn stover—the leftover stalks and leaves of the corn plant—as our source of biomass. Working alongside area growers, Iowa State University and the U.S. Department of Agriculture, we've established a high-quality, cost-effective and sustainable supply of corn stover.

This supply chain has been recognized the world over in setting the standard for sustainable biomass collection, transportation and storage.

A blueprint for global development



The biorefinery is a blueprint for the cellulosic ethanol industry—a catalyst enabling the growth of the bioeconomy in regions all over the world. The integrated cellulosic technology package is adaptable to a variety of feedstocks, including sugarcane straw and bagasse, sorghum, wheat straw, switchgrass, and empty fruit bunch.

DuPont Cellulosic Ethanol By the Numbers

700,000
CORN STOVER BALES HARVESTEED PER YEAR

1 BALE
FED EACH MINUTE INTO THE BIOREFINERY

30 MILLION
GALLONS OF ETHANOL PRODUCED PER YEAR

A closer look at the DuPont Cellulosic Ethanol integrated process:

1. PREPROCESSING /PRETREATMENT
Corn stover is first ground into smaller pieces, then during pretreatment the plant material is further broken down so that enzymes can reach the complex carbohydrates in the biomass.

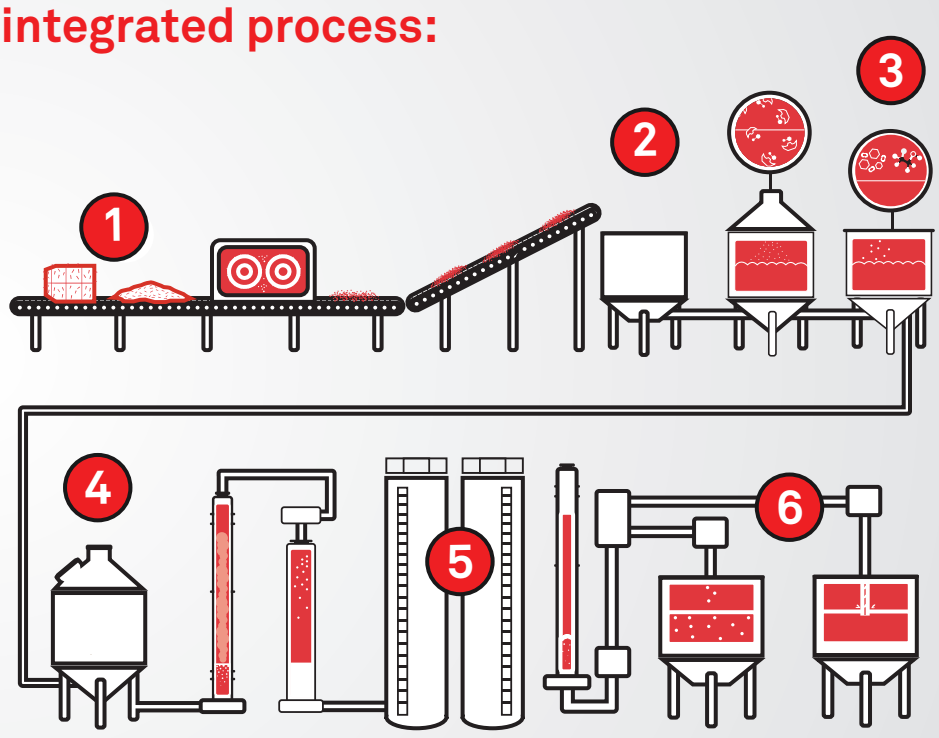
2. SACCHARIFICATION
Enzymes are crucial for releasing the lignocellulose in the biomass. These enzymes, developed by DuPont, are added to the mix to break down the complex carbohydrates into simple sugars for fermentation.

3. FERMENTATION
Proprietary microorganisms are then added to ferment the mixture into ethanol. These microorganisms enable the conversion of sugars into ethanol on an industrial scale.

4. DISTILLATION
The fermented material is distilled to release ethanol vapors, which are captured and condensed to form liquid ethanol.

5. STORAGE
The fuel-grade ethanol is now moved to storage tanks, until it is shipped out to be later blended into gasoline.

6. FILTRATION
The stillage remaining after distillation is filtered to form a dry, granular material.



REFORMING OUR ENERGY FUTURE

Today, we are transforming non-food biomass into renewable transportation fuel. Tomorrow, we will use these same feedstocks to create new bio-based materials and products, delivering on the promise of the bio-based economy. **Welcome to the energy revolution.**

Learn more at:
biofuels.dupont.com/ReFormEnergy