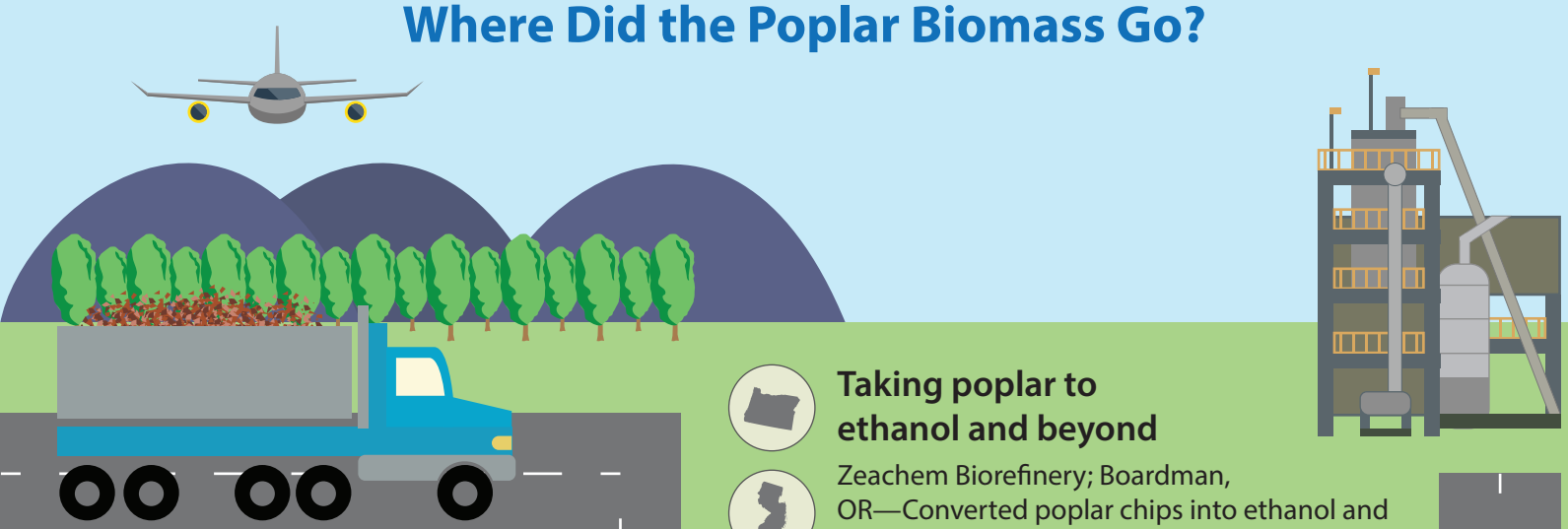
Advanced **Hardwood Biofuels** Northwest

March 2018 Briefing Paper

Where Did the Poplar Biomass Go?



Increasing the sugar yield

UW Research Lab; Seattle, WA—Tested removing undesirable components, like ash, from the poplar biomass.

Researchers increased ethanol yields of poplar biomass mixed with leaves and bark by as much as 50%, which could substantially increase revenue of an ethanol biorefinery!

Losing the leaves

Forest Concepts; Auburn, WA—Tested methods of separating leaves from poplar chips, which inhibit the fermentation into ethanol. Using their air separation technology, they managed to remove almost all of the leaf fragments.

Taking poplar to ethanol and beyond

Zeachem Biorefinery; Boardman, OR—Converted poplar chips into ethanol and contracted Exelus Inc. in Fairfield, NJ to make alkylate (a blending component for gasoline).

The University of Washington and ZeaChem demonstrated the experimental and commercial processes for making ethanol from poplar. ZeaChem's ethanol was shipped to Austin, TX and made into jet fuel!

Producing pellets and analyzing the biomass

Idaho National Laboratory; Idaho Falls, ID—Quantified energy consumption and production costs to make poplar wood pellets.

The lab analyzed the chemical and physical properties of the poplar biomass, which is necessary for certifying poplar for biofuels production.

So what?

All of the research using poplar biomass is invaluable in the creation of a biofuel and bioproduct industry. Developing test batches of ethanol and jet fuel, improving the conversion processes, delving into the nitty gritty of chemical and physical properties, and figuring out what to do with every part of the poplar tree makes for a better, more efficient system. So far, the results of the poplar studies are very encouraging!

For more information contact Rick Gustafson,
University of Washington
(206)543-2790 or pulp@uw.edu
hardwoodbiofuels.org

UNIVERSITY of WASHINGTON
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