



Alaska Airlines used environmentally friendly fuel on a select flight from Seattle to Washington D.C. This aircraft flew with a mixture of traditional petroleum jet fuel and a 20 percent blend of biojet fuel made from forest harvest residuals. This commercial flight is the first to use a fuel blend made from woody plant materials known as lignocellulose.

What is special about lignocellulose?

Lignocellulose is essentially the non-edible portion of the plant (think wood, stalks, leaves). Thus lignocellulose is an abundant raw material, and its use does not compete with food production. Good sources of lignocellulose are from commercial operations (timber harvest and crop residuals), or from grasses and woody plants that are purposely grown on marginal or unproductive land.

Making biofuel from lignocellulose is currently more complex and expensive than from oils, starch, or raw sugar, but technology is narrowing that gap.

What are forest harvest residuals?

Forest harvest residuals are the limbs, tops, stumps, and small diameter tree logs left over after timber harvest or forest thinning. While some of these residuals and the foliage are left on the forest floor to replenish soil nutrients and provide cover, the excess biomass is often piled up and left to rot or is burned.



These residuals are rich in carbohydrates, which serve as a source material to produce chemical products including biojet fuel. Using forest residuals does not compete with food production, reduces slash pile burning, assists replanting efforts, and helps rural economies. In addition, forest residuals are abundant and can be sustainably supplied from private lands.

The forest harvest residuals used to fuel this flight came from sustainably managed forests owned by Weyerhaeuser (OR), the Muckleshoot Indian Tribe (WA), and the Confederated Salish Kootenai Tribes (MT).