

Northwest Advanced Renewables Alliance (NARA): A Supply Chain to Aviation Biofuels and Environmentally Preferred Products

Background

- This U.S. Department of Agriculture-National Institute of Food and Agriculture funded project facilitates the production of biojet fuel and co-products from forest residuals and construction and demolition debris to reduce dependence on fossil fuels.
- Aviation biofuels are an attractive end product because liquid fuels are anticipated to be required for commercial use for many years, biofuels are more easily implemented in the aviation sector, and major aviation purchasers have made commitments to use biofuels.
- Abundant residues (forest slash) are available in sustainable amounts within the Pacific Northwest.

Key outcomes

- Sustainable industry in the Pacific Northwest producing aviation biofuel and valuable co-products.
- Regional supply chain coalitions to utilize and revitalize existing infrastructure.
- Rural economic development through biomass harvest and utilization.
- A strong interagency alliance, led by Washington State University, that includes private industry and educational institutions.
- Improved bioenergy literacy to educate the workforce of the future.
- NARA process is estimated to convert 1 bone-dry ton of wood into approximately 600 pounds of lignin co-products and 60 gallons of isobutanol or 45 gallons of biojet fuel.

Current activities

- Establishing regional supply chain study areas in the Northern Rocky Mountain Ecoregion and western Oregon and Washington (mid-Cascade Mountain range to Pacific).
- Identifying multiple conversion and depot sites in the Pacific Northwest.
- Developing high-value products from the lignin-rich byproduct material derived from the wood to biofuel-conversion process.



- Developing the next generation of energy leaders for industry, government, and the civic sector through bioenergy literacy and education.
- Establishing viable wood-to-biofuel conversion technologies and identifying characteristics of softwood species that contribute to efficient biofuel conversion.

Who benefits directly?

- Land managers (federal, state, tribal, private) and forest industry
- Rural timber communities looking for new economic development options
- Commercial and military aviation (compliance with mandates)
- Forest industry
- Economic development authorities

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