

ASCENT Project 001(A)

Alternative Jet Fuel Supply Chain Analysis

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Cost Share Partner(s): State of Washington – Industrial Symbiosis Approaches to the Ag-Energy Industry in Washington.



Objective:

Analyze optimized biofuels supply chains to find the most useful feedstock resources, site likely facility locations, and target feasible markets

Project Benefits:

Provides a detailed geospatial perspective for developing biofuels supply chains, including interactions between multiple facilities, that can add to the overall understanding of biofuels economics

Research Approach:

Regional supply chain analysis using mixed integer linear program optimization (MASTRS model)

Flexible framework allows one tool to model many supply chains

Includes a multi-factor facility candidate generation (GSP model)

Batch modelling makes large sets of scenarios possible

Multiple forms of output mapping that can highlight detailed performance and overall trends in multiple scenarios

Use existing supply chains to pseudo-validate tools

Major Accomplishments (to date):

Paper submitted to *Biofuels, Bioproducts & Biorefining* in February 2022. Analysis is of a woody biomass to SAF supply chain in an 11-state region of the US. Compares and contrasts performance of IBR and distributed supply chains. Compares and contrasts performance of greenfield and co-located conversion facilities.

(Internal Editing Process before resubmittal)

Future Work / Schedule:

Develop more tools that can be quickly deployed, allowing a wider variety of feedstock/technology/supply chain structure to be evaluated before resource-intensive optimization