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Biomass feedstock supply chain modeling and decision tools for sustainable aviation fuels

Policymakers and the aviation industry strive to curb CO₂ emissions from commercial flights by replacing conventional jet fuel with sustainable aviation fuel (SAF) in the near and medium terms. Identifying the location of sufficient biomass feedstock has been considered a primary task in scaling up regional SAF production. This study presents the progress in developing biomass feedstock supply chains via optimization models to identify the potential location of biomass feedstock and facilities to support a regional SAF supply chain ecosystem under different conversion pathways. We present several case studies in the Southeast region.