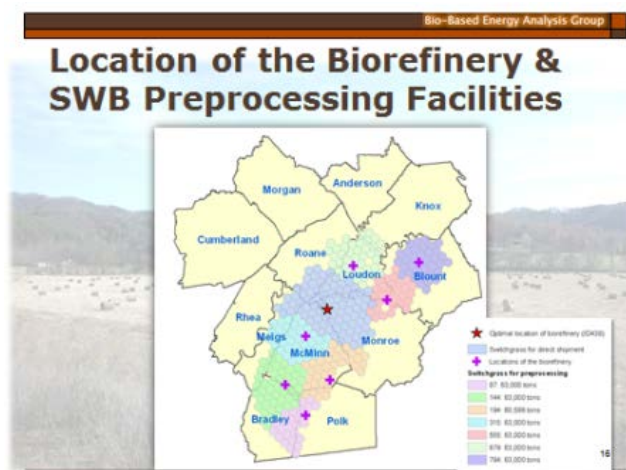
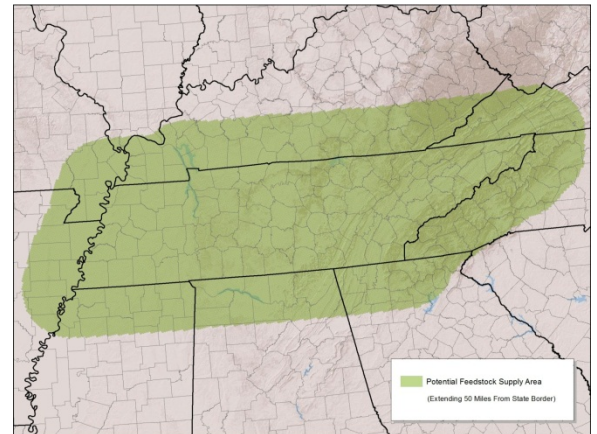


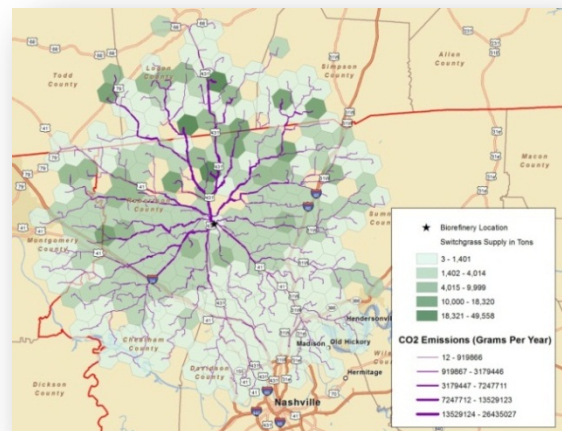
## “Feedstock Costs & Hauling Emissions and Their Impacts on the Location of a Switchgrass-based Biorefinery: A Case Study of Tennessee”

The study identified Robertson County in central Tennessee as the least feedstock cost biorefinery with the lowest hauling emissions. Using BeSTA and minimizing overall plant-gate cost of feedstock delivered to the plant along with industrial park locations, the model projected monthly feedstock harvest, monthly delivery, and storage for each spatial unit. Costs incorporated into the model included feedstock production, harvest, storage, and transportation,



opportunity costs resulting from land use conversion, and dry matter losses as a result of storage and transportation. Vehicle emissions are the result of increased emissions from round trip short-haul truck flows incorporating speed, grade, and road type as estimated from the MOVES model. The potential feedstock area was the state of Tennessee along with the border counties in other surrounding states.

Total feedstock cost was \$69/ton for a 50 million gallon facility using large rectangular bales stored under tarp and on wood pallets. Additional vehicle miles traveled was estimated at 1.23 million miles generating 3,303 tons of CO<sub>2</sub>, and 30 tons of NO<sub>x</sub> annually.



For additional information see:

[Feedstock Costs & Hauling Emissions and Their Impacts on the Location of a Switchgrass-based Biorefinery: A Case Study of Tennessee.](#)

**Citation:** Yu, T.E. (Presenter), J.S. Fu, B.C. English, and J.A. Larson “Feedstock Costs and Transportation Emissions and Their Impact on the Site Selection of a Switchgrass-Based Biorefinery: A Case Study of Tennessee.” Presentation (Session 2-C – Biomass Logistics) at the Sun Grant Initiative National Conference, 2-5 Oct 2012, New Orleans, LA.