

Cost-Benefit Analysis: Adoption of Biodiesel in Diesel Fuel Applications for the State of Maine

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10:00 a.m.

301 Morgan Hall

Refreshments will be served



This seminar presents a benefit-cost analysis undertaken as part of a larger study commissioned by Maine State Legislative Resolve “to encourage use of alternative energy sources.”

This analysis investigates the trade-offs switching from petro-diesel fuel to 20% biodiesel in the Maine Department of Transportation fleet, as well as switching from fossil-based heating oil to biodiesel in the State’s office buildings. This examination of technical and non-technical parameters includes market costs and prices in an economic analysis, global warming, emissions, and visual intrusion in a series of environmental issues. Employment, regional development, tastes and preferences of consumers toward renewable energy technologies are considered separately. The study provides alternative strategies which represent upper and lower bounds on renewable energy supplies for the State’s applications.

Preliminary data and analyses have yielded a cost-benefit ratio of 1.3 for using biodiesel in the transportation application, and 1.1 using biodiesel in the heating oil application.

About Dr. Downing ...

Dr. Downing received a BS in Botany, Horticulture and Forestry from the University of Vermont, an MS in Agricultural Economics from the University of Tennessee, and a PhD in Agricultural Economics from Texas A&M University.

Dr. Downing is currently an ag economist at ORNL and an adjunct faculty member in UT’s Ag Econ Department. He is the DOE’s technical and research advisor on all DOE and USDA biomass feedstock projects in the US, including projects involving corn stover analysis and switchgrass production from Nebraska to Tennessee.

He has served several years as DOE’s Office of FreedomCAR and Vehicle Technologies representative for the Society of Automotive Engineers, and manages a Cooperative Research and Development Agreement with John Deere involving application of fuel cell and advanced electric motor drives for the National Transportation Research Center at ORNL.

In addition to research related to biomass and auto technologies, he has research activities in non-market valuation of natural resources, the application of benefits transfer, and new generation cooperative structures.