Study of the Potential Usage of Biomass Energy Resources in the Southern Tier of NY State

Advisors: Albert George (MAE and SYSEN) and Kenneth Schlather (Executive Director of Cornell Cooperative Extension, Tompkins County)

Investigate the potential use of Biofuels as a practical substitution for fossil fuels in the region. Develop an interactive Excel Spreadsheet and supporting documentation that allows the user to calculate the economic (job creation, individual household and aggregate savings, cost effectiveness, enhanced competitiveness for commercial and industrial facilities) and emissions gas reduction potential (by county) of biomass usage for thermal (building heating), Combined Heat and Power, and Biofuels using existing technologies for residential commercial and industrial applications in the Southern Tier region. The focus will be on the substitution of biomass for heating oil and LPG in buildings in those parts of the region not served by natural gas lines. (This project will not engage in any work related to production of new biomass.)

The basic idea would be that someone could play with the spreadsheet, putting in different prices for biomass or heating oil, putting in different incentive rates or amounts, changing the biomass product mix and so on and see what the impact would be on his or her county, on an individual resident or a business using x units of energy.