
In the recent years, as the controversy over corn ethanol grows, people began to pin their hope on the second generation of cellulosic biofuel. Energy planners and policy makers expect that the shifting demand of biomass from corn to switch grass, wood, and crop residues will bring about changes to rural land use. This thesis focused on potential land use changes necessitated by second generation biofuel development. It found, however, that significant amount of land be used to grow energy plants will not happen in the near future in New York State. A special part of this thesis is devoted to evaluating government economic incentive plans with game theory analysis. The conclusion leads to further discussion of government and planners’ bounded rationality and planners’ role in the process. This study calls for planners and policy-makers to rethink biofuel industry development strategies and sustainable development in New York State.