

Contents

1 Executive Summary 1

Background 1
Environmental Impacts 2
Rural Economic Impacts 3
Federal Budget Impacts 3
Trade Balance Impacts 3
Baseload Power 3
The Bioenergy Agenda 4

2 Introduction 7

The U.S. Energy Sector and Bioenergy 8
The Rural Economy and Bioenergy 15
Bioenergy Resources 17
Close 20

3 Potential Environmental Impacts 23

Introduction 24
Soil Quality 24
Water Quality 34
Air Quality 37
Habitat 39
Greenhouse Gases 50
Cropping Practices 54
Close 55

4 The Bioenergy Agenda 57

Research, Development, and Demonstration 57
Markets and Barriers 61
Close 64

APPENDIXES

A Related OTA Studies 65

B Units and Conversion Factors 66

INDEX 69