



# Renewable Energy Policy in the 2008 Farm Bill

**Tom Capehart**  
Specialist in Agricultural Economics

January 23, 2009

Congressional Research Service

7-5700

[www.crs.gov](http://www.crs.gov)

RL34130

## Summary

The Food, Conservation, and Energy Act of 2008 (P.L. 110-246, the 2008 farm bill) extends and expands many of the renewable energy programs originally authorized in the 2002 farm bill. The bill also continues the emphasis on the research and development of advanced and cellulosic bioenergy authorized in the 2007 Energy Independence and Security Act (P.L. 110-140).

Farm bill debate over U.S. biomass-based renewable energy production policy focused mainly on the continuation of subsidies for ethanol blenders, continuation of the import tariff for ethanol, and the impact of corn-based ethanol on agriculture. The enacted bill requires reports on the economic impacts of ethanol production, reflecting concerns that the increasing share of corn production being used for ethanol is contributing to high commodity prices and food price inflation.

Title VII, the research title of the 2008 farm bill, contains numerous renewable energy related provisions that promote research, development, and demonstration of biomass-based renewable energy and biofuels. The Sun Grant Initiative coordinates and funds research at land grant institutions on biobased energy technologies. The Agricultural Bioenergy Feedstock and Energy Efficiency Research and Extension Initiative provides support for on-farm biomass energy crop production research and demonstration.

Title IX, the energy title of the farm bill, authorizes mandatory funds of \$1.1 billion and discretionary funds (subject to appropriations) totaling \$1.0 billion for the FY2008-FY2012 period. Energy grants and loans provided through initiatives such as the Bioenergy Program for Advanced Biofuels promote the development of cellulosic biorefinery capacity. The Repowering Assistance Program supports increasing efficiencies in existing refineries. Programs such as the Rural Energy for America Program (REAP) assist rural communities and businesses in becoming more energy-efficient and self-sufficient, with an emphasis on small operations. The Biomass Crop Assistance and Development Program, the Biorefinery Assistance Program, and the Forest Biomass for Energy Program provide support to develop alternative feedstock resources and the infrastructure to support the production, harvest, storage, and processing of cellulosic biomass feedstocks. Cellulosic feedstocks—for example, switchgrass and woody biomass—are given high priority both in research and funding.

Title XV of the 2008 farm bill contains tax and trade provisions. It continues current biofuels tax incentives, reducing those for corn-based ethanol but expanding tax credits for cellulosic ethanol. The tariff on ethanol imports is extended.

## **Contents**

Background .....	1
Major Energy Provisions in the 2008 Farm Bill.....	2
Energy Policy Issues in the 2008 Farm Bill .....	3
Cellulosic Ethanol .....	3
Tax Credits and Tariffs .....	4
Economic Impacts of Ethanol Production.....	4
Funding for Energy Programs .....	5

## **Tables**

Table 1. 2008 Farm Bill (P.L. 110-246): Authorized Funding for Energy Provisions, FY2008-FY2012 .....	6
Table 2. 2002 Farm Bill Title IX Energy Funding (Presidential Request, Authorization, and Enactment), by Provision, FY2002 to FY2007 .....	8

## **Appendixes**

Appendix. Comparison of the Enacted 2008 Farm Bill (P.L. 110-246) with Previous Law and the House- and Senate-Passed 2008 Farm Bill (H.R. 2419).....	10
---	----

## **Contacts**

Author Contact Information .....	25
----------------------------------	----

## Background

Renewable energy policy in the 2008 farm bill builds on earlier programs first established in the 2002 farm bill. The Farm Security and Rural Investment Act of 2002 (P.L. 107-171, FSRIA) was the first omnibus farm bill to explicitly include an energy title (Title IX). The energy title authorized grants, loans, and loan guarantees to foster research on agriculture-based renewable energy, to share development risk, and to promote the adoption of renewable energy systems.<sup>1</sup> For example, the U.S. Department of Agriculture's (USDA's) Bioenergy Program (Sec. 9006 of P.L. 107-171)—whose funding expired in FY2006—provided direct incentives to expand actual production of bioenergy. See **Table 2** for a list of provisions in the 2002 farm bill's energy title and their funding levels.

Since enactment of the 2002 farm bill, interest in renewable energy has grown rapidly, due in large part to a strong rise in domestic and international petroleum prices and a dramatic acceleration in domestic biofuels production (primarily corn-based ethanol).<sup>2</sup> Many policymakers view agriculture-based biofuels as both a catalyst for rural economic development and a response to growing energy import dependence. Ethanol and biodiesel, the two most widely used biofuels, receive significant federal support in the form of tax incentives, loans and grants, and regulatory programs.<sup>3</sup>

The 2008 farm bill became law six months after the enactment of the Energy Independence and Security Act of 2007 (EISA, P.L. 110-140), and many of its provisions also build on the goals of EISA.<sup>4</sup> The emphasis on facilitating production of biofuels derived from cellulosic feedstocks reflects the goals of the renewable fuels standard (RFS) in EISA. It includes a significant expansion of the RFS to 36 billion gallons by 2022, with carve-outs for biodiesel (1 billion gallons by 2012) and cellulosic ethanol (16 billion gallons by 2022) and an implicit cap on corn-starch ethanol (15 billion gallons by 2015). This RFS expansion is likely to have a significant impact on the U.S. agriculture sector.<sup>5</sup>

The emphasis on cellulosic ethanol also reflects increasing concerns about the economic and environmental issues associated with corn-starch-based ethanol. Record high commodity prices in 2007 and mid-2008, combined with high energy costs, have resulted in sharp increases in livestock feed costs, export prices, and domestic food price inflation. For the first time, an agricultural commodity is directly competing with petroleum in the marketplace. Ethanol production, the profitability of which depends directly on both petroleum and corn prices, accounts for about a third of U.S. corn production. The increase in corn used for U.S. ethanol production exceeds the increase in corn produced during the past three years. Today, as petroleum

---

<sup>1</sup> For more information, see CRS Report RL32712, *Agriculture-Based Renewable Energy Production*, by Randy Schnepf. For details of previous law, see USDA, *2002 Farm Bill*, "Title IX—Energy," available at <http://www.ers.usda.gov/Features/Farmbill/titles/titleIXenergy.htm>.

<sup>2</sup> For more information on agriculture and bioenergy, see CRS Report RL32712, *Agriculture-Based Renewable Energy Production*; and CRS Report RL33290, *Fuel Ethanol: Background and Public Policy Issues*, by Brent D. Yacobucci.

<sup>3</sup> For a listing of federal incentives in support of biofuels production, see CRS Report RL33572, *Biofuels Incentives: A Summary of Federal Programs*, by Brent D. Yacobucci.

<sup>4</sup> For more information, see CRS Report RL34294, *Energy Independence and Security Act of 2007: A Summary of Major Provisions*, by Fred Sissine.

<sup>5</sup> For more information, see CRS Report RL34265, *Selected Issues Related to an Expansion of the Renewable Fuel Standard (RFS)*, by Brent D. Yacobucci and Tom Capehart.

prices rise so has demand for ethanol as a substitute, which in turn increases both the demand for and price of corn. The “food versus fuel” debate intensified during the farm bill debate as food price inflation accelerated both in the U.S. and globally—highlighting some of the potential problems associated with replacing even a small share of the nation’s gasoline consumption with corn-based ethanol. Competition for limited corn supplies between livestock producers, ethanol refiners, exporters, and other domestic users have resulted in calls for at least a partial waiver of the RFS in 2009.<sup>6</sup>

Many of the federal programs that currently support renewable energy production in general, and agriculture-based energy production in particular, are outside the purview of USDA and have legislative origins outside of the farm bill.<sup>7</sup> For example, the RFS mandates the inclusion of an increasing volume of biofuels in the national fuel supply. This originated with the Energy Policy Act of 2005 (P.L. 109-58) and was more recently expanded in EISA. Similarly, the federal tax credits available to biofuels blenders and wind energy producers were initially contained in the American Jobs Creation Act of 2004 (P.L. 108-357) but have now been incorporated in the farm bill.

## Major Energy Provisions in the 2008 Farm Bill

The Food, Conservation, and Energy Act of 2008 (P.L. 110-246, H.R. 6124), enacted in June 2008,<sup>8</sup> significantly expands existing programs to promote biofuels. Like the previous farm bill, it contains a distinct energy title (Title IX) that covers a wide range of energy and agricultural topics with extensive attention to biofuels, including corn-starch based ethanol, cellulosic ethanol, and biodiesel. Research provisions relating to renewable energy are found in Title VII and tax and trade provisions are found in Title XV.

The final 2008 farm bill keeps the structure of Title IX as it was in the Senate-passed version of the farm bill. Title IX serves as a substitute amendment to the 2002 farm bill Title IX and consists of 3 sections. The first section, 9001, contains 13 new provisions which effectively replace the provisions of the 2002 bill. (See the **Appendix** for a side-by-side comparison of previous law with the energy titles from the enacted farm bill and the House- and Senate-passed versions of the 2008 farm bill.)

---

<sup>6</sup> In April 2008, Texas Gov. Rick Perry wrote the Environmental Protection Agency seeking a waiver from the federal ethanol mandate, noting its contribution to higher food prices and dire impact on the cattle industry. Also, see CRS Report RS22870, *Waiver Authority Under the Renewable Fuel Standard (RFS)*, by Brent D. Yacobucci.

<sup>7</sup> For more information see CRS Report RL32712, *Agriculture-Based Renewable Energy Production*. For a complete listing of renewable energy legislative proposals introduced during the 110<sup>th</sup> Congress, see CRS Report RL33831, *Energy Efficiency and Renewable Energy Legislation in the 110<sup>th</sup> Congress*, by Fred Sissine, Mark Gurevitz, and Lynn J. Cunningham.

<sup>8</sup> The conference agreement on the 2008 farm bill was originally approved by the House and the Senate as H.R. 2419 and vetoed by the President in May 2008. Both chambers overrode the veto, making the bill law (P.L. 110-234). However, the trade title was inadvertently excluded from the enrolled bill. To remedy the situation, both chambers repassed the farm bill conference agreement (including the trade title) as H.R. 6124. The President vetoed the measure in June 2008 and both chambers again overrode the veto, which made H.R. 6124 law (P.L. 110-246), and repealed P.L. 110-234.

Key biofuels-related provisions in the enacted 2008 farm bill include:

- emphasis on cellulosic ethanol production through new blender's tax credits, promotion of cellulosic feedstocks production, feedstocks infrastructure and refinery development;
- grants and loan guarantees for biofuels (especially cellulosic) research, development, deployment, and production;
- studies of the market and environmental impacts of increased biofuel use;
- expansion of biofuel feedstock availability;
- expansion of the existing biobased marketing program to encourage federal procurement of biobased products;
- support for rural energy efficiency and self-sufficiency;
- reauthorization of biofuels research programs within the U.S. Department of Agriculture and Environmental Protection Agency;
- an education program to promote the use and understanding of biodiesel;
- reduction of the blenders' tax credit for corn-based ethanol;
- continuation and expansion of the federal bio-products certification program;
- environmental safeguards through greenhouse gas emission requirements on new biofuel production, and
- continuation of the import duty on ethanol.

## **Energy Policy Issues in the 2008 Farm Bill**

### **Cellulosic Ethanol**

The 2008 farm bill energy title provides \$1 billion in financial incentives and support to encourage the production of advanced (mainly cellulosic) biofuels.<sup>9</sup> Grants and loan guarantees leverage industry investments in new technologies and the production of cellulosic feedstocks. For instance, the Biomass Crop Assistance Program supports the production of dedicated crop and forest cellulosic feedstocks and provides incentives for harvest and post production storage and transport. Advanced biofuels refinery capacity construction is assisted under the Biorefinery Program for Advanced Biofuels through grants and loans for the development, construction, and retrofitting of commercial-scale refineries to produce advanced biofuels. These programs are supported by increased funding for advanced biofuels research under the Agricultural Bioenergy Feedstock and Energy Efficiency Research and Extension Initiative, and the Sun Grant Program which support and coordinate advanced biofuels research, extension, and development between government agencies, universities, and research institutions.

---

<sup>9</sup> Advanced biofuels include biofuels derived from cellulosic feedstocks; sugar and starch other than corn kernel-starch; waste material including crop residue, animal, plant, or food waste; diesel fuel produced from renewable biomass including vegetable oil and animal fat; butanol or other alcohols produced through the conversion of organic matter; and other fuels derived from cellulosic biomass.

Cellulosic ethanol is produced from cellulose, hemicellulose, or lignin which is derived from the structural material that provides much of the mass of plants. Cellulosic ethanol is produced from non-food crops and trees that can be grown on marginal land with low inputs, and appears to offer environmental benefits over corn-based ethanol.<sup>10</sup> Common sources are grasses, corn stover, and wood chips.

Currently, cellulosic ethanol is not produced on a commercial scale. As of July 2008, there was one commercial scale refinery under construction, two demonstration- scale plants and three pilot-scale plants completed. Industry sources expect commercial production of cellulosic ethanol to begin in 2010 or 2011. In January 2009, USDA announced funding for a cellulosic biofuels plant under the Biorefinery Program with projected output of 20 million gallons annually, beginning in 2010. The RFS mandates cellulosic ethanol production of 100 million gallons in 2010. For more information on cellulosic ethanol see CRS Report RL34738, *Cellulosic Biofuels: Analysis of Policy Issues for Congress*, by Tom Capewell.

## **Tax Credits and Tariffs**

Title XV of the farm bill contains provisions which extend and modify tax credits and tariffs on ethanol. In keeping with the promotion of cellulosic ethanol, a blenders' credit of \$1.01 per gallon applies to ethanol produced from qualifying cellulosic feedstocks. This tax credit is intended to spur investment in cellulosic ethanol production. The ethanol blender's tax credit of \$0.51 per gallon (which applies to all ethanol blended, including imports) was reduced to \$0.45 per gallon in January 2009. Section 15331 of the farm bill requires the reduction starting the first year following that year in which U.S. ethanol production and imports exceed 7.5 billion gallons. Production and imports in 2008 are expected to have exceeded 9 billion gallons.

The import tariff for ethanol benefits the U.S. ethanol industry by protecting U.S. ethanol from lower-cost imports. The tariff also keeps imported ethanol from benefitting from the blenders' tax credit when it is blended into gasoline in the United States. The tariff of \$0.54 per gallon that was set to expire at the end of 2008 is now extended to the end of 2010.

## **Economic Impacts of Ethanol Production**

The impact of increased ethanol production on agricultural and rural economies was a subject of debate during the farm bill process. As a result, the farm bill includes provisions requiring a series of reports assessing how ethanol production may be impacting the farm economy, the environment, and consumer food prices. Among these are the Comprehensive Study of Biofuels (to be conducted by the U.S. Department of Agriculture (USDA), the Environmental Protection Agency (EPA), the Department of Energy (DOE), and the National Academy of Sciences) and the Biofuels Infrastructure Study by USDA, DOE, Department of Transportation (DOT), and EPA. The Biomass Crop Assistance Program requires an assessment of the economic impacts of expanded cellulosic biomass production on local economies and infrastructures. Likewise, the Biomass Research and Development Program requires a report on the economic impacts of rural economies of biorefinery expansion and conversion by USDA.

---

<sup>10</sup> For more information see CRS Report RL33928, *Ethanol and Biofuels: Agriculture, Infrastructure, and Market Constraints Related to Expanded Production*, by Brent D. Yacobucci and Randy Schnepf.

## Funding for Energy Programs

**Table 1** illustrates mandatory and discretionary spending levels for renewable energy programs in the 2008 farm bill. Title IX authorizes \$1.1 billion in mandatory funding for FY2008 through FY2012, compared with \$800 million in the 2002 farm bill (FY2002-FY2007).<sup>11</sup> Of the mandatory funding, \$320 million was allocated to the Biorefinery Assistance Program, \$300 million to the Bioenergy Program for Advanced Biofuels and \$255 million to the Rural Energy for America Program (REAP). Authorizations for appropriations in the 2008 farm bill total \$1 billion, four times the \$245 million in the 2002 farm bill. Most of the increase is for the Biorefinery Assistance Program, which has an authorization \$600 million higher than in the 2002 farm bill. **Table 2** provides a list of provisions in the 2002 farm bill's energy title for FY2002 through FY2007 and their funding levels (as requested by the President, and as authorized and provided by Congress).

---

<sup>11</sup> Mandatory funds are authorized and provided by legislation. Discretionary funds must be appropriated annually.

Table I. 2008 Farm Bill (P.L. 110-246): Authorized Funding for Energy Provisions, FY2008-FY2012

Title IX Provisions	Section and Provision Name	Funding Status	FY2008	FY2009	FY2010	FY2011	FY2012	Sum:
								FY2008-FY2012
\$ millions								
<b>Title VII Research</b>								
Sec. 7205	Nutrient Management Research and Extension Initiative	Discretionary	SSAN	SSAN	SSAN	SSAN	SSAN	SSAN
Sec. 7207	Bioenergy Feedstock and Energy Efficiency Research and Extension Initiative	Discretionary	50	50	50	50	50	250
Sec. 7526	Sun Grant Program	Discretionary	75	75	75	75	75	375
<b>Title IX Energy</b>								
Sec. 9002	Biobased Markets Program	Mandatory	1	2	2	2	2	9
	Additional funding authorization	Discretionary	0	2	2	2	2	8
Sec. 9003	Biorefinery Assistance	Mandatory	0	75	245	0	0	320
	Additional funding authorization	Discretionary	0	150	150	150	150	600
Sec. 9004	Repowering Assistance	Mandatory	0	35	0	0	0	35
	Additional funding authorization	Discretionary	0	15	15	15	15	60
Sec. 9005	Bioenergy Program for Advanced Biofuels	Mandatory	0	55	55	85	105	300
	Additional funding authorization	Discretionary	0	25	25	25	25	100
Sec. 9006	Biodiesel Fuel Education Program	Mandatory	1	1	1	1	1	5
Sec. 9007	Rural Energy for America Program	Mandatory	0	55	60	70	70	255
	Additional funding authorization	Discretionary	0	25	25	25	25	100
Sec. 9008	Biomass Research and Development Act	Mandatory	0	20	28	30	40	118
	Additional funding authorization	Discretionary	0	35	35	35	35	140
Sec. 9009	Rural Energy Self-Sufficiency Initiative	Mandatory	0	0	0	0	0	0
	Additional funding authorization	Discretionary	0	5	5	5	5	20
Sec. 9010	Feedstock Flexibility Program for Bioenergy Producers	Mandatory	0	0	0	0	0	0

Title IX Provisions	Section and Provision Name	Funding Status	FY2008	FY2009	FY2010	FY2011	FY2012	Sum:
								FY2008- FY2012
\$ millions								
	Additional funding authorization	Discretionary	SSAN	SSAN	SSAN	SSAN	SSAN	SSAN
Sec. 9011	Biomass Crop Assistance Program	Discretionary	SSAN	SSAN	SSAN	SSAN	SSAN	SSAN
Sec. 9012	Forest Biomass for Energy	Discretionary	0	15	15	15	15	60
Sec. 9013	Community Wood Energy Program	Discretionary	0	5	5	5	5	20
Sec. 9003	Renewable Fertilizer Study	Discretionary	0	1	0	0	0	1
	<b>Total Discretionary Funding</b>	<b>Discretionary</b>	<b>\$125</b>	<b>\$403</b>	<b>\$402</b>	<b>\$402</b>	<b>\$402</b>	<b>\$1,734</b>
	<b>Total Mandatory Funding</b>	<b>Mandatory</b>	<b>\$2</b>	<b>\$243</b>	<b>\$391</b>	<b>\$188</b>	<b>\$218</b>	<b>\$1,042</b>

Source: P.L. 110-246 (Food and Energy Security Act of 2008).

Notes: "SSAN" = Such sums as necessary.

**Table 2. 2002 Farm Bill Title IX Energy Funding (Presidential Request, Authorization, and Enactment), by Provision, FY2002 to FY2007**

Current law provision	FY2002			FY2003			FY2004			FY2005			FY2006			FY2007 <sup>b</sup>			
	Pres. Req.	Auth.	Enact. <sup>a</sup>	Pres. Req.	Auth.	Enact. <sup>a</sup>	Pres. Req.	Auth.	Enact. <sup>a</sup>	Pres. Req.	Auth.	Enact. <sup>a</sup>	Pres. Req.	Auth.	Enact. <sup>a</sup>	Pres. Req.	Auth.	Enact. <sup>a</sup>	
	\$ millions			\$ millions			\$ millions			\$ millions			\$ millions			\$ millions			
Sec. 9002 Federal Biobased Product Procurement																			0
Sec. 9003 <sup>e</sup> Biorefinery Development Grants	0	SSAN	0	0	SSAN	0	0	SSAN	0	0	SSAN	0	0	SSAN	0	0	SSAN	0	0
Sec. 9004 Biodiesel Fuel Education Program																			0
Sec. 9005 <sup>e</sup> Energy Audit and Renewable Energy Program	0	SSAN	0	0	SSAN	0	0	SSAN	0	0	SSAN	0	0	SSAN	0	0	SSAN	0	0
Sec. 9006 Renewable Energy Systems <sup>c</sup>	23	23	23	18	23	23	3	23	23	11	23	23	10	23	23	10	23	23	0
Sec. 9007 <sup>e</sup> Hydrogen and Fuel Cell Technologies	0	SSAN	0	0	SSAN	0	0	SSAN	0	0	SSAN	0	0	SSAN	0	0	SSAN	0	0
Sec. 9008 <sup>e</sup> Biomass Research and Development <sup>d</sup>	5	54	5	14	63	14	14	63	14	14	63	14	12	214	12	12	214	214	0
Sec. 9009 Cooperative Research and Extension Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Current law provision	FY2002			FY2003			FY2004			FY2005			FY2006			FY2007 <sup>b</sup>		
	Pres. Req.	Auth.	Enact. <sup>a</sup>	Pres. Req.	Auth.	Enact. <sup>a</sup>	Pres. Req.	Auth.	Enact. <sup>a</sup>	Pres. Req.	Auth.	Enact. <sup>a</sup>	Pres. Req.	Auth.	Enact. <sup>a</sup>	Pres. Req.	Auth.	Enact. <sup>a</sup>
Sec. 9010 <sup>e</sup> Continuation of Bioenergy Program	0	0	0	150	150	116	150	150	150	100	150	100	60	150	60	0	0	0
Total Energy Programs	30	79	30	184	238	155	169	238	189	127	238	139	84	389	97	24	239	0

**Note:** “Pres. Req.” = Presidential request; “Auth.” = Farm bill authorized level; “Enact.” = Enacted; “SSAN” = Such sums as necessary. Sec. 9003 and Sec. 9005 were not implemented.

- a. Represents a combination of the amount authorized by the 2002 Farm Bill, less any reductions in annual appropriations acts, plus discretionary funding provided where applicable.
- b. Complete data on appropriations by program is not yet available.
- c. The Deficit Reduction Act of 2005 (P.L. 109-171) reduced Sec. 9006 mandatory funding by \$20 million in FY2007, leaving \$3 million as the authorized level for FY2007.
- d. Section 310 (7 U.S.C. 8609) of the Biomass Research and Development Act of 2000 (P.L. 106-224) provides discretionary authorization of \$200 million for each of FY2006 through FY2015.
- e. Joint program with the Department of Energy.

## Appendix. Comparison of the Enacted 2008 Farm Bill (P.L. 110-246) with Previous Law and the House- and Senate-Passed 2008 Farm Bill (H.R. 2419)

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
<b>TITLE VII: Agricultural Research and Extension</b>			
<b>Nutrient Management Research and Extension Initiative</b>			
Section 1673(h) of the Food, Agriculture, Conservation, and Trade Act of 1990 (P.L. 101-624) authorized matching grants under the farm bill nutrient management research and extension initiative for finding innovative methods and technologies for economic use or disposal of animal waste. Extended through 2007 in section 7120 of the 2002 farm bill. Such sums as necessary were appropriated annually for FY1999-FY2007. [7 U.S.C. 5925a]	Extends the nutrient management research and extension initiative through 2012 and adds dairy cattle waste as a type of waste to be studied. The authorization of appropriations for such sums as necessary is extended annually for FY2008-12. [Sec. 7307]	Extends program through FY2012. [Sec. 7103]	The Conference substitute adopts the House provision with an amendment to include the production of renewable energy from animal waste as an eligible activity to receive grants under this section. Authorizes such sums as necessary annually for FY2007-12. [Sec. 7205]
<b>Agricultural Bioenergy Feedstock and Energy Efficiency Research and Extension Initiative</b>			
No Provision.	Initiates multi-regional biomass crop experiments with a network of laboratories to provide a sound knowledge base on the production of biomass energy crops, including crop species, nutrient requirements, management practices, environmental impacts, greenhouse gas implications, and economics. Competitive grants to be awarded to a network of laboratories. Discretionary appropriations of \$50 million authorized annually FY2008-FY2012. [Sec 7410]	New Section 9010 of FSRIA. Regional Biomass Crop Experiments. Establishes a program of regional biomass crop experiments at 10 geographically dispersed and competitively selected land-grant universities. Individual grants total \$4 million for FY2008-FY2010. Crop experiments are to include all appropriate biomass species, including perennials, annuals, and woody biomass species in coordination with the Biomass Research and Development Board and with the Sun Grant Centers. Establishes a “best practices” database on all aspects of biomass crop production. Mandatory CCC funding of \$10 million in FY2008, \$20 million in FY2009, and \$10 million in	Establishes the Agricultural Bioenergy Feedstock and Energy Efficiency Research and Extension Initiative, a program to award competitive matching (up to 50%) grants for projects with a focus on supporting on-farm biomass crop research and the dissemination of results to enhance the production of biomass energy crops and the integration of such production with the production of bioenergy. Discretionary appropriations of \$50 million annually are authorized for FY2008-12. [Sec. 7207]

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
FY2010. [Sec. 9001]			
<b>New Century Farm Project</b>			
No provision.	No provision.	New section 9011 of FSRIA. Establishes the New Century Farm Project to serve as a model farm. Authorizes appropriations of \$15 million for FY2008 through FY2012, to remain available until expended.	The purpose of this section is incorporated in section 7207.
<b>Biochar Research, Development, and Demonstration</b>			
No provision.	No provision.	New section 9012 of FSRIA. Creates a program of competitive grants for research and demonstration of the production and use of biochar in the agricultural sector. Provides discretionary funding of \$3 million for each of FY2008 through FY2012. [Sec. 9001]	The purpose of this section is incorporated in the as a research priority in section 7203.
<b>Farm Energy Production Pilot Program</b>			
No provision.	Farm Energy Production Pilot Program. Provides grants to farmers to demonstrate the feasibility of making a farm energy neutral using existing technologies. Discretionary funds of \$5 million are authorized to be appropriated for FY2008-12. [Sec. 9010]	No provision.	The purpose of this section is incorporated in the Agricultural Bioenergy and Biobased Products Research Initiative of section 7207.
<b>Farm Energy Production Pilot Program</b>			
No provision.	Provides grants of not more than \$1 million to no more than 20 universities to develop a 3-year demonstration program of supplementing corn as an ethanol feedstock with sweet sorghum and switchgrass. Discretionary funds of \$20 million are authorized for FY2008-FY2012. [Sec. 9020]	No provision.	The purpose of this section is incorporated in the Agricultural Bioenergy and Biobased Products Research Initiative of section 7207.

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
<b>Research and Development of Renewable Energy</b>			
No provision.	No provision.	New section 9022 of FSRIA. USDA will conduct research, with the Colorado Renewable Energy Collaboratory, relating to various aspects of renewable energy including biomass crops adapted to arid and semi-arid regions, and storage and conversion technologies for wind and solar energy. Authorizes discretionary funding of \$5 million for each of FY2008 through FY2012. Additional discretionary funding of \$110 million to USDA Under Secretary for Research, Education, and Economics for cellulosic biofuel research for each of FY2008 through FY2012; and additional discretionary funding of \$110 million to USDA/DOE for development of small-scale biorefineries for each of FY2008 through FY2012.[Sec. 9001]	The purpose of this section is incorporated in the Agricultural Bioenergy and Biobased Products Research Initiative of section 7207.
<b>Northeast Dairy Nutrient Management and Energy Development Program</b>			
No provision.	No provision.	New section 9023 of FSRIA. Establishes USDA program to provide grants to a consortium of Northeast U.S. land-grant colleges and universities to conduct research, extension, and demonstration projects for dairy nutrient management and energy development . Authorizes discretionary funding of such sums as are necessary. [Sec. 9001]	The purpose of this section is incorporated in section 7204.
<b>Future Farmsteads Program</b>			
No provision.	Section 9015. Establishes a program to equip a farm entity (house and lands), in each of 5 regions of the country, with technologies to improve farm energy production and use efficiencies. Each designated entity would serve as a	New section 9025 of FSRIA. Same as House bill. [Sec. 9001]	The purpose of this section is incorporated in the Agricultural Bioenergy and Biobased Products Research Initiative of section 7207.

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
	working example to farmers and as an educational, research, and demonstration facility for research related to renewable energy or energy conservation technologies. Authorizes appropriations of such sums as are necessary to carry out the program.		
<b>Sun Grant Program</b>			
Section 9011. This provision was added subsequent to the 2002 farm bill under the Sun Grant Research Initiative Act of 2003. Establishes 5 national Sun Grant research centers based at land-grant universities, each covering a different national region, to enhance coordination and collaboration between USDA, DOE, and land-grant universities in the development, distribution, and implementation of biobased energy technologies. Competitive grants are available to land-grant schools within each region. Authorized appropriations of \$25 million in FY2005, \$50 million in FY2006, and \$75 million for each of FY2006 through FY2010 for total discretionary funding of \$375 million during FY2005-10. [7 U.S.C. 8109]	Adds a Sun Grant center at the University of Hawaii. Reauthorizes the Sun Grant program through FY2012 with authorized discretionary appropriations of \$75 million for each of FY2008-12, for a total in discretionary funding of \$375 million. [Sec. 9008]	New section 9009 of FSRIA. Reauthorizes the Sun Grant Program through FY2012 and establishes a 6 <sup>th</sup> regional center—Western Insular Pacific Sub-Center—at the University of Hawaii. Provides, for the first time, mandatory funding for the Sun Grant program of \$5 million in FY2008, \$10 million in each of FY2009 and FY2010 (available until expended) for a total of \$25 million for FY2008-12. Also authorizes appropriations of \$70 million in each of FY2008-12. [Sec. 9001]	Adopts the Senate provision with amendments and moves the provision in statute to the research title of this act. No mandatory funding is provided. The conference substitute authorizes \$75 million per year for FY2008-FY2010. [Sec. 7526]
<b>TITLE IX: Energy</b>			
<b>Definitions</b>			
Sec. 9001. Defines Administrator, Biomass, Biobased Product, Procuring Agency, Renewable Energy, Rural Small Business, and Secretary. [7 U.S.C. 8101]	No changes to definitions. [Sec. 9001]	Sec. 9001. Adds several definitions including “Advanced Biofuels,” which excludes any fuel derived from corn starch, but includes ethanol derived from other plant starches (e.g., sorghum), sugar, as well as cellulosic biomass or organic waste; it also includes organically-derived biogas, butanol or other alcohols;	New section 9001 of FSRIA. Adopts the Senate definitions with amendments. Advanced biofuels includes aviation, jet, and heating fuels made from cellulosic biomass. [Sec. 9001]

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
		and, notably, biodiesel.  Other definitions are biobased product; biomass conversion facility, biorefinery, intermediate ingredient or feedstock; renewable biomass, and renewable energy. [Section 9001]	
<b>Biobased Markets program</b>			
Sec. 9002. Requires federal agencies to purchase biobased products under certain conditions and authorize a voluntary biobased labeling program. USDA regulations define biobased products, identify biobased product categories, and specify the criteria for qualifying those products for preferred procurement. Mandatory Commodity Credit Corporation (CCC) funding of \$1 million is authorized for each of FY2002 through FY2007 for testing biobased products. [7 U.S.C. 8101]	Continues federal commitment to biobased product preference in its purchases. Requires annual reports from agencies to Administrator of Federal Procurement Policy. Also requires annual reports from USDA to Congress on implementation status. Clarifies that products with at least 5% of intermediate ingredients and feedstock that are biobased should be considered under the preference. Requires USDA to complete rulemaking on labeling regulation. Increases mandatory CCC funding to \$2 million for each of FY2008 through FY2012 for bio-product testing, labeling, and procurement research, promotion, and awareness initiatives. [Sec. 9002]	New section 9002 of FSRIA. Continues the Federal Biobased Products Procurement Program, clarifying that biobased intermediate ingredients and feedstocks qualify under the program. It also requires USDA to establish a voluntary labeling program for biobased products—"USDA Certified Biobased Product." Additionally, this section provides grants for education and awareness of bioenergy and biobased products. Provides \$3 million per year in mandatory funding for FY2008 through FY2012. [Sec. 9001]	New section 9002 of FSRIA. Renames program as the Biobased Markets Program. Requires procuring agencies to establish a program and specifications for procuring biobased products (excluding motor vehicle fuels, heating oil, or electricity). Establishes the voluntary labeling program: "USDA Certified Biobased Product." Requires USDA to establish a national registry of biobased testing centers and a report on implementation. Mandatory CCC funding of \$1 million in 2008, and \$2 million annually for FY2009-FY2012. Discretionary funding of \$2 million annually is authorized for FY2009-FY2012. [Sec. 9001]
<b>Biorefinery Assistance</b>			
No provision.	Included in section 9003, below.	Included in new section 9005 of FSRIA, below.	New section 9003 of FSRIA. Biorefinery Assistance Program. Assists in the development of new and emerging technologies for the development of advanced biofuels. Provides competitive grants and loan guarantees for construction and retrofitting of biorefineries for the production of advanced biofuels. Biorefinery grants provided for up to 30% of total cost. Each loan guarantee is limited to \$250 million or 80% of project cost. Mandatory

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
			funding of \$75 million in FY2009 and \$245 million in FY2010, available until expended for loan guarantees. Discretionary funding of \$150 million annually is authorized for FY2009-12. [Sec. 9001]
<b>Repowering Assistance</b>			
Section 9003. Established a grant program to help finance the cost of developing and constructing biorefineries and biofuel production plants to carry out projects to demonstrate the commercial viability of converting biomass to fuels or chemicals. No mandatory funding was authorized and no discretionary funding has been appropriated for the program. Therefore, no implementation regulations have been developed. [7 U.S.C. 8103]	Renamed as the Biorefinery Development Program and extended through FY2012. It replaces grants with new loan guarantee authority of \$2 billion for biorefineries—one-half for loans less than \$100 million, and the other half for loans between \$100 and \$250 million. The loan guarantee would cover 90% of an eligible loan. Requires that construction contractors and subcontractors on federally assisted loan guarantee projects pay their employees not less than the prevailing wage in the same locality under the Davis-Bacon Act. Authorizes mandatory CCC funding of \$75 million in FY2008; \$100 million in FY2009; \$125 million in FY2010; \$200 million in FY2011; and \$300 million in FY2012 for a total in new mandatory funding of \$800 million during FY2008-FY2012. [Sec. 9003]	New section 9005 of FSRIA: Renamed the Biorefinery and Repowering Assistance Program, it refocuses emphasis on “advanced biofuel” production in renewable-fuel-powered biorefineries. Provides competitive grants for up to 50% of project costs for pilot- and demonstration-scale biorefineries; matching funds for feasibility studies; competitive grants for up to 20% of total costs for the repowering of fossil-fueled biomass conversion facilities with renewable resources; and loan guarantees for up to 80% of total eligible project costs for the development and construction of commercial-scale biorefineries and the repowering of biomass conversion facilities with renewable energy. Any loan guaranteed for commercial scale biorefineries cannot exceed \$250 million and a loan guaranteed for repowering cannot exceed \$70 million. Provides \$300 million in mandatory CCC funding during FY2008, to remain available until expended. [Sec. 9001]	New section 9004 of FSRIA. Provides payments to encourage biorefineries in existence on the date of enactment to convert from fossil fuel to renewable energy power sources. Encourages new production of energy for refineries from renewable biomass. Mandatory funding of \$35 million for FY2009, to remain available until expended. Discretionary funding of \$15 million annually for FY2009-12 is authorized. [Sec. 9001]

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
<b>Bioenergy Program for Advanced Biofuels</b>			
Section 9010. Originally created by a 1999 Executive Order during the Clinton Administration, the bioenergy program provides CCC incentive payments to biofuels producers based on year-to-year increases in the quantity of biofuel produced. Mandatory CCC funding of \$150 million was made available for each of FY2002 through FY2006. No funding was authorized for FY2007. [7 U.S.C. 8108]	.Renews and extends the bioenergy program through FY2012. Ethanol produced from corn starch is excluded. Expands eligibility for the production incentive to the production of heat and power at a biofuels plant, biomass gasification, hydrogen for fuel cells, and renewable diesel. Provides mandatory CCC funding of \$225 million in FY2008; \$250 million in FY2009; \$275 million in FY2010; \$300 million in FY2011; and \$350 million in FY2012 for a total of \$1.4 billion during FY2008-12. [Sec. 9007]	New section 9006 of FSRIA. Renews and extends the Bioenergy Program through FY2012. Bases the payment rate on: (1) advanced biofuel production, (2) feedstock prices, and (3) net non-renewable energy content of the biofuel. This will benefit those purchasing feedstocks for cellulosic biofuels and biodiesel.  The program is not available to those claiming a biofuel blenders' tax credit (see Sec. 12312) or those with biofuel production capacity greater than 150 million gallons per year.  Provides \$245 million in mandatory funding for FY2008 through FY2012. [Sec. 9001]	New section 9005 of FSRIA. Establishes the Bioenergy Program for Advanced Biofuels to encourage production of advanced biofuels. Not more than 5% of the funds can go to facilities with total refining capacity exceeding 150 million gallons per year. Producers of advanced biofuels contracts with USDA to receive payments based on the quantity and duration of production of advanced biofuels, the net renewable energy content of the biofuel, and other factors. Payments limited to ensure equitable distribution. Mandatory funding of \$55 million for 2009, \$55 million for FY2010, \$85 million for FY2011, and \$105 million for FY2012. Discretionary funding of \$25 million annually is authorized for FY2009-12. [Sec. 9001]
<b>Biodiesel Fuel Education Program</b>			
Section 9004. Administered by USDA's Cooperative State Research, Education, and Extension Service, awards competitive grants to nonprofit organizations that educate governmental and private entities operating vehicle fleets, and educates the public about the benefits of biodiesel fuel use. Mandatory CCC funding of \$1 million was authorized for each of FY2003 through FY2007. [7 U.S.C. 8104]	Extends the Biodiesel Fuel Education Program through FY2012 with mandatory funding of \$2 million for each of FY2008 through FY2012. [Sec. 9017]	New section 9003 of FSRIA. Same as H.R. 2419. [Sec. 9001]	New section 9006 of FSRIA. Extends the Biodiesel Fuel Education Program through 2012. Mandatory CCC funds of \$1 million are provided annually for FY2008-12. [Sec. 9001]

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
<b>Energy Audit and Renewable Energy Development Program</b>			
Section 9005. A competitive grant program for eligible entities to provide energy audits and technical assistance to agricultural producers and rural small businesses to assist them in becoming more energy efficient and in using renewable energy technology and resources. Authorized appropriations of such sums as are necessary to carry out the program for each of FY2002 through FY2007. [7 U.S.C. 8105]	Section 9004. Extends the Energy Audit and Renewable Energy Development Program through FY2012.	New section 9007 of FSRIA. Extends the Energy Audit and Renewable Energy Development Program through FY2012, but folds it into the new Rural Energy for America Program where mandatory funding is available (see the Renewable Energy Systems section for more information). [Sec. 9001]	See new section 9007 of FSRIA below.
<b>Rural Energy for America Program</b>			
The Renewable Energy Systems and Energy Efficiency Program (Section 9006), administered by USDA's Rural Development Agency, authorizes direct loans, loan guarantees, and grants to farmers, ranchers, and rural small businesses to purchase and install renewable energy systems and to make energy efficiency improvements. Grant funds may be used to pay up to 25% of project costs; combined grants and loans or loan guarantees may fund up to 50% of project cost. Eligible projects include those that derive energy from wind, solar, biomass, or geothermal sources. Projects using energy from those sources to produce hydrogen from biomass or water are also eligible. Mandatory CCC funding of \$23 million was made available for each of FY2003 through FY2007. Unspent money lapses at the end of each year. [[7 U.S.C. 8106]	Renamed as the Rural Energy for America Program. Includes other agricultural producers as eligible recipients. Raises the loan guarantee level from \$10 million to \$25 million. Grant fund cost share is retained at up to 25% of project costs; however, combined grants and loans (including guarantees) is expanded to 75% of project cost. 10% of funds are available for feasibility studies, but excludes recipient from other assistance for feasibility studies. Includes sale of electricity from renewable energy systems as eligible activities for grant and loan funding. 15% of funds available reserved for projects of \$50,000 or less. Increases mandatory CCC funding to \$50 million in FY2008; \$75 million in FY2009; \$100 million in FY2010; \$125 million in FY2011; and \$150 million in FY2012 for total new mandatory funding of \$500 million during FY2008-FY2012. [Sec. 9005]	New section 9007 of FSRIA. Renamed as the Rural Energy for America Program, this section adds the option to receive a production incentive payment in lieu of a grant, and stipulates that a grant may cover up to 25% of project costs while a loan guarantee may cover up to 75% of the cost. Preference given to state-funded projects. Direct loans are excluded. Adds state agencies and public power entities to eligible participants. Energy from manure: Provides grants and loan guarantees to build and evaluate on-farm and community animal manure- to-energy facilities for which agricultural producers, rural small businesses, and cooperatives are eligible participants. Criteria based on energy quality, efficiency, environmental issues, greenhouse gas emissions, diversity factors and cost. Establishes streamlined review and application process for small-scale projects (under \$20,000), and requires that 20% of funds be used for such projects. The Energy Star Program is extended to identify and	New section 9007 of FSRIA. Renamed as the Rural Energy for America Program. Provides grants and loan guarantees to State governments, tribal, or local governments, land-grant institutions, rural electric cooperatives or utilities to provide energy audits and renewable energy assistance, and financial assistance for energy efficiency improvements and renewable energy systems. Grants up to 25% of cost are provided. Loan guarantees up to \$25 million. Combined amount of grant and guaranteed loans limited to 75% of cost. 20% of funds made available in this section to be reserved for grants of \$20,000 or less until the end of the fiscal year. Mandatory CCC funds of \$55 million in FY2009, \$60 million in FY2010, \$70 million in FY2011, and \$70 million in FY2012. Discretionary funding of \$25 million annually is authorized to be appropriated for FY2009-12. [Sec. 9001]

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
		<p>promote energy-efficient equipment and facilities in the agricultural sector. Provides \$230 million in mandatory funding for FY2008 to remain available until expended, with not less than 15% of this funding dedicated to the animal manure-to-energy program and not less than 5% for the Energy Audit and Renewable Energy Development Program provision. [Sec. 9001]</p>	
<b>Biomass Research and Development Program</b>			
<p>This program—created originally under the Biomass Research and Development Act of 2000 (BRDA, P.L. 106-224)—provides competitive funding for research, development, and demonstration projects on biofuels and bio-based chemicals and products, under the Biomass Research and Development Initiative, administered jointly by USDA and DOE. Creates Biomass research and Development Board to coordinate government activities in biomass research, and the Biomass Research and Development Technical Advisory Committee to advise on proposal direction and evaluation. Authorized mandatory CCC funding of \$5 million in FY2002 and \$14 million for each of FY2003 through FY2007 (available until expended). Additional appropriation authority of \$200 million for each of FY2006 through FY2015. [7 U.S.C. 8101]</p>	<p>Extends the program through FY2012. Authorizes mandatory CCC funding of \$35 million in FY2008; \$60 million in FY2009; \$75 million in FY2010; \$100 million in FY2011; and \$150 million in FY2012 for total new mandatory funding of \$420 million during FY2008-FY2012. Continues the appropriations Appropriation authority of \$200 million in each of FY2008 through FY2015. [Sec. 9006]</p>	<p>New section 9008 of FSRIA. Extends the program and transfers statutory authority to this act. Adds new emphasis on utilization of byproducts such as dried distillers grains and solubles (DDGS) and development of technologies for harvest, storage, pre-processing and transportation of renewable biomass feedstocks. Provides mandatory funding (to remain available until expended) of \$15 million in FY2008, \$25 million in FY2009, and \$35 million in FY2010 for a total in new mandatory funding of \$75 million during FY2008-FY2012. Also includes the appropriations authority for \$85 million in each of FY2008 through FY2012. [Sec. 9001]</p>	<p>New section 9008 of FSRIA. Moves the Biomass Research and Development Act of 2000 in statute to Title IX of FSRIA of 2002. Defines biobased product. Expands advisory committee. New technical areas for grants include feedstock development, biofuels and biobased products development, and biofuels development analysis with a minimum of 15% of funding going to each area. Minimum cost-share requirement for demonstration projects increased to 50% and research projects to 20%. Provides for coordination of biomass research and development, including life cycle analysis of biofuels, between USDA and DOE. Authorizes mandatory funding of \$20 million for FY2009, \$28 million for FY2010, \$30 million for FY2011, and \$40 million for FY2012. Discretionary funding of \$35 million is authorized to be appropriated annually for FY2009-12. [Sec. 9001]</p>

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
<b>Rural Energy Self-Sufficiency Initiative</b>			
No provision.	Establishes the Rural Energy Self-Sufficiency Initiative to provide cost-share grants to enable eligible rural communities (with population less than 25,000) to substantially increase their energy self-sufficiency. Grants may not exceed 75% of costs. Requires a report to Congress on best practices/approaches. Total grants under this section are limited to no more than 5 per year. Authorizes discretionary appropriations for grants of not more than \$5 million for FY2008, and such sums as are necessary for FY2009-12. [Sec. 9011 (appended as section 9014 of FSRIA)]	New section 9015 of FSRIA. Establishes a program—the Rural Energy Systems Renewal Program—of competitive cost-shared grants (50% maximum federal share) for rural communities to assess their energy systems and formulate strategies for improvements. Authorizes discretionary funding of \$5 million annually for FY2008-12. [Sec. 9001]	New section 9009 of FSRIA. Establishes the Rural Energy Self-Sufficiency Initiative to assist rural communities with community-wide energy systems that reduce conventional energy use and increase the use of energy from renewable sources. Grants are made available to assess energy use in a rural community, evaluate ideas for reducing energy use, and develop and install integrated renewable energy systems. Grants not to exceed 50% of the total cost of the activity. Appropriations of \$5 million annually are authorized for FY2009-12. [Sec. 9001]
<b>Feedstock Flexibility Program for Bioenergy Producers</b>			
No provision.	Requires that USDA establish (in FY2008) and administer a sugar-for-ethanol program using sugar intended for food use but deemed to be in surplus. USDA would implement the program only in those years where purchases are determined to be necessary to ensure that the sugar program operates at no cost. The use of such sums as necessary to carry out the program is authorized. [Sec. 9013] (would be appended as Section 9016 of FSRIA).	See Title I, Section 1501, Sugar Program, for a similar sugar-for-ethanol provision entitled the “Feedstock Flexibility Program for Bio-Energy Producers.” Identical to the House provision.	New section 9010 of FSRIA. Adopts the House provision with amendments. [Sec. 9001]

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
<b>Biomass Crop Assistance Program</b>			
No provision.	Establishes a new Biomass Energy Reserve (BER) to encourage the production of dedicated energy crops, establish biomass energy reserve project areas, and to provide financial and technical assistance to owners and operators for harvesting, storing, and transporting cellulosic material to bioenergy facilities. Provides financial and technical assistance (including five-year contracts) for landowners and operators to grow dedicated energy crops as feedstock for cellulosic ethanol and other energy production. BER projects must be within a 50-mile radius of a bioenergy facility. Authorizes annual mandatory funding of such sums as are necessary for FY2008-FY2012. [Sec. 9018]	New section 9004 of FSRIA. Creates the Biomass Crop Transition Assistance Program to stimulate production of biomass crops. USDA provides technical and financial assistance for the production of perennial bioenergy crops used in a biomass conversion facility. Restricted to advanced biofuels, biobased products, or heat or power from a biomass conversion facility. Provides \$130 million in mandatory funding for FY2008 through FY2012 to support biomass production. Also provides \$10 million in mandatory funding for each of FY2009 through FY2011 (to remain available until expended) for a fixed assistance payment to agricultural producers for production, collection, harvest, storage and transportation of biomass crops for use in a biomass conversion facility. Requires USDA provide public information on the production potential, environmental impacts, and best practices for production, harvesting, transport and storage of biomass crops and requires participants to provide information as needed for that purpose. [Sec. 9001]	New section 9011 of FSRIA. Establishes the Biomass Crop Assistance Program (BCAP) to provide producers committing to biomass production or a biomass conversion facility with contracts which will enable producers in a BCAP project area to receive financial assistance for crop establishment costs and annual payments t for biomass production. Producers must be within economically practicable distance from a biomass facility and adhere to resource conservation requirements. Cost-share payments cover costs of establishing crop, for collection, harvest, storage and transportation to a biomass conversion facility. Annual payments authorized to producers to support biomass production. A report is required no later than 4 years after enactment. Mandatory CCC funds of such sums as necessary are made available for each of FY2008-12. [Sec. 9001]
<b>Forest Biomass for Energy</b>			
No provision.	.Establishes a new competitive research and development program to encourage the use of woody biomass for bioenergy production. Provides mandatory CCC funding of \$15 million for each of FY2008-FY2012. [Sec. 9019]	New section 9013 of FSRIA. Same as the House provision, but with discretionary (not mandatory) authorization of \$5 million for each of FY2008-12. [Sec. 9001]	New section 9012 of FSRIA. Forest Service competitive research and development program to encourage use of forest biomass for energy. Priority to projects that use low-value forest byproduct biomass for the production of energy, develop processes to integrate bioenergy from forest biomass into existing manufacturing streams and

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
			develop new transportation fuels and improve the production of trees for renewable energy. Authorized appropriations of \$15 annually for FY2009-12. [Sec. 9001]
<b>Community Wood Energy Program</b>			
No provision.	Establishes Community Wood Energy Program to provide matching grants to State and local governments to acquire community wood energy systems for public buildings and to implement a community wood energy plan to meet energy needs with reduced carbon intensity through conservation, reduce costs, and utilize low-value wood sources, and increase awareness of energy consumption. Authorizes discretionary funding of such sums as are necessary. [Sec. 9019]	New section 9014 of FSRIA. Similar to House provision except specifies matching grants of up to \$50,000. Provides discretionary funding of \$5 million for each of FY2008-12. [Sec. 9001]	New section 9013 of FSRIA. Same as Senate provision. [Sec. 9001]
<b>Biofuels Infrastructure Study</b>			
No provision.	No provision.	New section 9018 of FSRIA. Directs USDA, in collaboration with DOE, DOT and EPA, to conduct a study of the infrastructure needs associated with a significant expansion in biofuel production and use. Specifically includes dedicated ethanol pipeline feasibility studies and examination of water resource needs. Requires a report to Congress on the results of the studies. Authority to appropriate \$1 million for each of FY2008 and FY2009. [Sec. 9001]	Requests USDA, DOE, EPA, and DOT to jointly report on the infrastructure needs and development approaches for expanding the domestic production, transport, and distribution of biofuels, and the required infrastructure. Mandatory funding of \$1 million for FY2008, and \$2 million annually for each of FY2009-12. Discretionary appropriations of \$2 million annually are authorized for FY2009-12. [Sec. 9002]

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
<b>Rural Fertilizer Study</b>			
No provision.	No provision.	New section 9019 of FSRIA. Requires USDA to conduct a Renewable Nitrogen Fertilizer Study to assess the feasibility of producing nitrogen fertilizer from renewable energy (and submit a report to Congress within 270 days). Provides discretionary funding of \$1 million for FY2008. [Sec. 9001]	Requires a report within 1 year of appropriations on the production of fertilizer from renewable energy sources in rural areas. Report must identify challenges to commercialization of rural fertilizer production, processes and technologies and the potential impacts of renewable fertilizer on fossil fuel use and the environment. Appropriations of \$1 million are authorized for FY2009. [Sec. 9003]
<b>TITLE XI: Livestock</b>			
<b>Study on Bioenergy Operations</b>			
No provision.	No provision.	No provision.	Requires USDA study on the use of animal manure as a fertilizer, and on the impact on consumers and on agricultural operations of limitations placed on the use of animal manure and the effects of increased competition for manure due to biofuel uses. [Sec. 11014]
<b>TITLE XV: Trade and Tax Provisions; Subtitle C PART II—Energy Provisions (also see <i>Description of the Chairman’s Mark of the “Heartland, Habitat, Harvest, and Horticulture Act of 2007”</i>, Joint Committee on Taxation, JCX-94-07, October 2, 2007)</b>			
<b>Credit for Production of Cellulosic Biofuel</b>			
Under the American Jobs Creation Act (AJCA) of 2004, (P.L. 108-357), cellulosic ethanol, once developed, would receive the current tax credit of \$0.51 per gallon available to any ethanol blended into gasoline as provided, through Dec. 31, 2010. [26 U.S.C. 40]	No provision.	Provides for a total income tax credit of \$1.25 per gallon for cellulosic ethanol blended (inclusive the standard ethanol tax credit of \$0.51/gal. and the small producer credit of \$0.10/gal.). The 15 million gallon limitation on the \$0.10 credit is waived for small cellulosic ethanol producers. Applicable only for domestically produced cellulosic ethanol. The producer credit is extended through April 1, 2015. [Sec. 12312]	Provides a fourth tax credit under 26 U.S.C. 40, the Cellulosic Biofuel Producer Credit. The credit is \$1.01 per gallon less the amount of small-producer ethanol credit claimed and the alcohol mixture credit claimed for ethanol.  [Sec. 15321]

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
<b>Comprehensive Study of Biofuels</b>			
No provision.	No provision.	No provision.	The Secretary of Treasury, with USDA, DOE, and EPA shall commission the National Academy of Sciences to produce a report on biofuels, including current and projected production, economic and environmental impacts, the impact of government programs, and the relative impacts of different types of biofuels. [Sec. 15322]
<b>Alcohol Fuel: Modification of Alcohol Credit</b>			
Any ethanol blended into gasoline is eligible for a tax credit of \$0.51 per gallon as provided under current law (AJCA of 2004, P.L. 108-357) through Dec. 31, 2010. [26 U.S.C. 40]	No provision.	Reduces the ethanol blenders' tax credit of \$0.51 per gallon to \$0.46 per gallon beginning in the first calendar year after the year in which 7.5 billion gallons of ethanol is produced. [Sec. 12315]	Reduces the ethanol tax credit of \$0.51 per gallon to \$0.45 per gallon beginning in the first calendar year after the year in which 7.5 billion gallons of ethanol is produced. [Sec 15331]
<b>Alcohol Fuel: Calculation of Volume of Alcohol for Fuel Credits</b>			
Under current law (AJCA of 2004, P.L. 108-357) the volume of bio-alcohol counted as fuel eligible for the tax credit may include up to 5% of the volume as denaturant. [26 U.S.C. 40]	No provision.	Reduces the permissible volume of denaturant to 2% for purposes of calculating the volume of alcohol eligible for the tax credit. [Sec. 12316]	Reduces the permissible volume of denaturant to 2% for purposes of calculating the volume of alcohol eligible for the tax credit. [Sec. 15332]
<b>Alcohol Fuel: Ethanol Tariff Extension</b>			
Under current law (Heading 9901.00.50 of the Harmonized Tariff Schedule (HTS)) imports of ethyl alcohol are subject to a duty of 14.27¢ per liter (\$0.54 per gallon) and a duty of 5.99¢ per liter (Heading 9901.00.52; HTS) on imports of ethyl tertiary-butyl ether through Dec. 31, 2008. [19 U.S.C. Chapter 18]	No provision.	Extends the tariff of 54 cents per gallon for imported ethanol or mixtures of ethanol (headings 9901.00.50 and 9901.00.52 of the HTS) through Dec. 31, 2010. [Sec. 12317]	Adopts Senate provision. [Sec 15333]

2002 Farm Bill (FSRIA, P.L. 107-171) or Other Law (as indicated)	House-Passed Farm Bill (H.R. 2419)	Senate-Passed Farm Bill (H.R. 2419)	Enacted Farm Bill (P.L. 110-246)
<b>Alcohol Fuel: Limitations on, and Reductions of, Duty Drawback on Certain Imported Ethanol</b>			
Under current law (Section 1313 of the Tariff Act of 1930, as amended) permits the refund of duty if the duty-paid good is re-exported or used to make a good that is exported. In particular, a person who manufactures gasoline with ethanol subject to the duty imposed under either HTS 9901.00.50, can export jet fuel (which does not contain ethanol) and obtain a refund of the duty paid. [19 U.S.C. Chapter 18]	No provision.	Eliminates the ability to obtain a refund of the duty imposed under HTS 9901.00.50 on imported ethanol by substitution of either ethanol not subject to the duty, or of another petroleum product, that is exported to obtain the drawback. [Sec. 12318]	Adopts the Senate provision. [Sec. 15334]

## **Author Contact Information**

Tom Capehart  
Specialist in Agricultural Economics  
tcapehart@crs.loc.gov, 7-2425