

CRS Report for Congress

Biofuels Incentives: A Summary of Federal Programs

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Summary

With recent high energy prices and the passage of major energy legislation in 2005 (P.L. 109-58) and 2007 (P.L. 110-140), there is ongoing congressional interest in promoting alternatives to petroleum fuels. Biofuels — transportation fuels produced from plants and other organic materials — are of particular interest.

Ethanol and biodiesel, the two most widely used biofuels, receive significant government support under this law in the form of mandated fuel use, tax incentives, loan and grant programs, and certain regulatory requirements. The 18 programs and provisions listed in this report have been established over the past 27 years, and are administered by five separate agencies and departments: Environmental Protection Agency, U.S. Department of Agriculture, Department of Energy, Internal Revenue Service, and Customs and Border Protection. These programs target a variety of beneficiaries, including farmers and rural small businesses, biofuel producers, petroleum suppliers, and fuel marketers. Arguably, the most significant federal programs for biofuels have been tax credits for the production or sale of ethanol and biodiesel. However, with the establishment of the renewable fuels standard (RFS) under P.L. 109-58, Congress has mandated biofuels use; P.L. 110-140 significantly expanded that mandate. In the long term, the mandate may prove even more significant than tax incentives in promoting the use of these fuels.

This report outlines federal programs that provide direct or indirect incentives for biofuels. For each program described, the report provides details including administering agency, authorizing statute(s), annual funding, and expiration date. The **Appendix** provides summary information in a table format.

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Biofuels Incentives: A Summary of Federal Programs

Introduction

With recent high energy prices and the passage of the Energy Policy Act of 2005 (P.L. 109-58) and the Energy Independence and Security Act of 2007 (P.L. 110-140), there is ongoing congressional interest in promoting greater use of alternatives to petroleum fuels. Biofuels — transportation fuels produced from plants and other organic materials — are of particular interest. Ethanol and biodiesel, the two most widely used biofuels, receive significant federal support in the form of tax incentives, loan and grant programs, and regulatory programs.¹ Further action on biofuels is likely as Congress negotiates on a Farm Bill in the 110th Congress.²

This report outlines 17 current and expired federal programs and provisions (plus one authorized but unfunded program) that provide direct or indirect incentives for biofuels. The programs are grouped below by administering agency. The incentives for biofuels are summarized in the **Appendix**. This information is compiled from authorizing statutes, committee reports, and Administration budget request documents.

Environmental Protection Agency (EPA)

Renewable Fuel Standard

Administered by: EPA

Annual funding: N/A

FY2008 budget request: N/A

Established: 2005 by the Energy Policy Act of 2005, §1501 (P.L. 109-58); expanded by the Energy Independence and Security Act of 2007, §202 (P.L. 110-140)

Scheduled termination: None

Description: The Energy Policy Act of 2005 established a renewable fuels standard (RFS) for automotive fuels. The RFS was expanded by the Energy Independence and

¹ For more information on ethanol, see CRS Report RL33290, *Fuel Ethanol: Background and Public Policy Issues*, by Brent D. Yacobucci. For more information on biofuels in general, see CRS Report RL30758, *Alternative Transportation Fuels and Vehicles: Energy, Environment, and Development Issues*, by Brent D. Yacobucci, and CRS Report RL32712, *Agriculture-Based Renewable Energy Production*, by Randy Schnepf.

² For more information on the Farm Bill, see CRS Report RL33934, *Farm Bill Legislative Action in the 110th Congress*, coordinated by Renée Johnson.

Security Act of 2007. The RFS requires the blending of renewable fuels (including ethanol and biodiesel) in transportation fuel.³ In 2008, fuel suppliers must blend 9.0 billion gallons of renewable fuel into gasoline; this requirement increases annually to 36 billion gallons in 2022. The expanded RFS also specifically mandates the use of “advanced biofuels” — fuels produced from non-corn feedstocks and with 50% lower lifecycle greenhouse gas emissions than petroleum fuel — starting in 2009. Of the 36 billion gallons required in 2022, at least 21 billion gallons must be advanced biofuel. There are also specific quotas for cellulosic biofuels and for biomass-based diesel fuel. On May 1, 2007, EPA issued a final rule on the RFS program detailing compliance standards for fuel suppliers, as well as a system to trade renewable fuel credits between suppliers.⁴ While this program is not a direct incentive for the construction of biofuels plants, the guaranteed market created by the renewable fuel standard is expected to stimulate growth of the biofuels industry.

Internal Revenue Service (IRS)

Volumetric Ethanol Excise Tax Credit

Administered by: Internal Revenue Service

Annual funding: N/A

Established: 2005 by the American Jobs Creation Act of 2004, §301 (P.L. 108-357)

Scheduled termination: December 31, 2010

Description: Gasoline suppliers who blend ethanol with gasoline are eligible for a tax credit of 51 cents per gallon of ethanol.

Qualified applicant: Blenders of gasohol (i.e., gasoline suppliers and marketers)

For more information: IRS Publication 510, Chapter 2: Fuel Tax Credits and Refunds [<http://www.irs.gov/publications/p510/ch02.html>]

Small Ethanol Producer Credit

Administered by: Internal Revenue Service

Annual funding: N/A

Established: 1990 by the Omnibus Budget Reconciliation Act of 1990, §11502 (P.L. 101-508); extended by the American Jobs Creation Act of 2004, §301 (P.L. 108-357); expanded by the Energy Policy Act of 2005, §1347 (P.L. 109-58)

Scheduled termination: December 31, 2010

Description: The small ethanol producer credit is valued at 10 cents per gallon of ethanol produced. The credit may be claimed on the first 15 million gallons of ethanol produced by a small producer in a given year.

Qualified applicant: Any ethanol producer with production capacity below 60 million gallons per year

³ The original requirement was for renewable fuel in gasoline. P.L. 110-140 expanded the mandate to include all transportation fuels, and increased the amount of renewable fuel mandated annually.

⁴ 72 *Federal Register* 23899-24014.

For more information: IRS Publication 510, Chapter 2: Fuel Tax Credits and Refunds [<http://www.irs.gov/publications/p510/ch02.html>]

Biodiesel Tax Credit

Administered by: Internal Revenue Service

Annual funding: N/A

Established: 2005 by the American Jobs Creation Act of 2004, §302 (P.L. 108-357); extended by the Energy Policy Act of 2005, §1344 (P.L. 109-58)

Scheduled termination: December 31, 2008

Description: Biodiesel producers (or producers of diesel/biodiesel blends) can claim a per-gallon tax credit. The credit is valued at \$1.00 per gallon of “agri-biodiesel” (biodiesel produced from virgin agricultural products such as soybean oil or animal fats), or 50 cents per gallon of biodiesel produced from previously used agricultural products (e.g., recycled fryer grease).

Qualified applicant: Biodiesel producers and blenders

For more information: IRS Publication 510, Chapter 2: Fuel Tax Credits and Refunds [<http://www.irs.gov/publications/p510/ch02.html>]

Small Agri-Biodiesel Producer Credit

Administered by: Internal Revenue Service

Annual funding: N/A

Established: 2005 by the Energy Policy Act of 2005, §1345 (P.L. 109-58)

Scheduled termination: December 31, 2008

Description: The small agri-biodiesel producer credit is valued at 10 cents per gallon of “agri-biodiesel” (see Biodiesel Tax Credit, above) produced. The credit may be claimed on the first 15 million gallons of ethanol produced by a small producer in a given year.

Qualified applicant: Any agri-biodiesel producer with production capacity below 60 million gallons per year

For more information: IRS Publication 510, Chapter 2: Fuel Tax Credits and Refunds [<http://www.irs.gov/publications/p510/ch02.html>]

Biodiesel Tax Credit

Administered by: Internal Revenue Service

Annual funding: N/A

Established: 2005 by the Energy Policy Act of 2005, §1346 (P.L. 109-58)

Scheduled termination: December 31, 2008

Description: Producers of biomass-based diesel fuel made through a thermal depolymerization process (or producers of diesel/renewable biodiesel blends) can claim \$1.00 per gallon tax credit. As defined by law, diesel fuel substitutes produced through thermal processes are not considered “biodiesel,” and thus are ineligible for the biodiesel credits.

Qualified applicant: Renewable diesel producers and blenders

For more information: IRS Publication 510, Chapter 2: Fuel Tax Credits and Refunds [<http://www.irs.gov/publications/p510/ch02.html>]

Special Depreciation Allowance for Cellulosic Biomass Ethanol Plant Property

Administered by: Internal Revenue Service

Annual funding: N/A

Established: 2006 by the Tax Relief and Health Care Act of 2006, §209 (P.L. 109-432)

Scheduled termination: December 31, 2012

Description: A taxpayer may take a depreciation deduction of 50% of the adjusted basis of a new cellulosic ethanol plant in the year it is put in service. The accelerated depreciation applies only to cellulosic ethanol plants that break down cellulose through enzymatic processes (as opposed to gasification). Any portion of the cost financed through tax-exempt bonds is exempted from the depreciation allowance.

Qualified applicant: Any enzymatic cellulosic ethanol plant acquired after December 20, 2006, and placed in service before January 1, 2013. Any plant that had a binding contract for acquisition before December 20, 2006, does not qualify.

For more information: See Senate Finance Committee, *Summary of House-Senate Agreement on Tax, Trade, Health, and Other Provisions*, December 7, 2006.

Department of Agriculture (USDA)

Bioenergy Program

Administered by: Commodity Credit Corporation (CCC)

Annual funding: \$100 million appropriated for FY2005, \$60 million for FY2006; up to \$150 million authorized annually for FY2004 through FY2006

FY2008 budget request: \$0

Established: FY2001 in response to Executive Order 13134 (August 12, 1999)

Developing and Promoting Biobased Products and Bioenergy, through CCC's general authority to conduct commodity programs; extended by the Farm Security and Rural Investment Act of 2002, §9010 (P.L. 101-171)

Termination: End of FY2006

Description: The Bioenergy Program reimbursed ethanol and biodiesel producers for expanding their production capacity. Payments helped defray the purchase cost of the additional commodities needed for that expansion. The amount of each payment was based on the change in production capacity, as well as the number of applicants selected for funding. Eligible commodities included grain and oilseed crops (e.g. barley, corn, soybeans), cellulosic crops (e.g. switchgrass, rice hulls), animal fats, agricultural byproducts, and oils.

Qualified applicant: Any ethanol or biodiesel producer who expanded production capacity

Renewable Energy Systems and Energy Efficiency Improvements

Administered by: Rural Business Cooperative Service

Annual funding: \$23 million for all projects through FY2007, including biofuels projects; \$36 million for FY2008

FY2008 budget request: \$34 million

Established: FY2003 by the Farm Security and Rural Investment Act of 2002, §9006 (P.L. 101-171); funding authorization for FY2007 reduced to \$3 million by §1301 of the Deficit Reduction Act of 2005 (P.L. 109-171); full funding restored by FY2007 Continuing Resolution (P.L. 110-5)

Scheduled termination: End of FY2007

Description: This program provides grants, loans, and loan guarantees for the development of renewable energy projects and energy efficiency improvements. The construction of a biofuel plant could be an eligible project. Grants are limited to 25% of the costs of the project; loans are limited to 50% of the cost of the project.

Qualified applicant: Farmers, ranchers, and rural small businesses

For more information: [<http://www.rurdev.usda.gov>]

Value-Added Producer Grants Program (VAPG)

Administered by: Rural Business Cooperative Service

Annual funding: \$15.5 million appropriated for FY2005; \$20.5 million for FY2006; \$20.3 million for FY2007; \$18.9 million for FY2008

FY2008 budget request: \$15 million

Established: FY2001, expanded in FY2003 to include renewable energy projects by the Farm Security and Rural Investment Act of 2002, §6401 (P.L. 101-171); the Deficit Reduction Act of 2005, §1402 (P.L. 109-171), required that all previously appropriated funds unobligated by October 1, 2006 be returned to the Treasury

Scheduled termination: End of FY2007

Description: VAPG provides grants to independent producers for the development of value-added agricultural activities, including biofuel production. The grants can be used for feasibility studies, the development of a business plan, or to acquire working capital to operate a value-added business. Grants are limited to \$500,000 per recipient.

Qualified applicant: Independent producer, producer group, cooperative, or a majority-controlled producer-based business venture

For more information: [<http://www.rurdev.usda.gov/rbs/coops/vadg.htm>]

Biorefinery Development Grants (Unfunded)

Administered by: If funded, it would likely be administered by USDA's Rural Development Agency

Annual funding: \$0

Established: 2002 by the Farm Security and Rural Investment Act of 2002, §9003 (P.L. 101-171)

Scheduled termination: End of FY2007

Description: This program was established by the Farm Security and Rural Investment Act of 2002 (P.L. 101-171); however, no funding has been provided. If funded, the program would provide grants for the development and construction of biorefineries, including those that produce biofuels.

Qualified applicant: Virtually any non-federal entity (including a national laboratory) or group of entities that plans to build a biorefinery

For more information: N/A

Business and Industry (B&I) Guaranteed Loans

Administered by: Rural Business Cooperative Service

Annual funding: Approximately \$1 billion in loans are guaranteed annually

Scheduled termination: None

Description: This program provides guarantees for up to 90% of a loan made by a commercial lender. Loan proceeds may be used for working capital, machinery and equipment, buildings and real estate, and certain types of debt refinancing.

Qualified applicant: Virtually any legal entity.

For more information: [http://www.rurdev.usda.gov/rbs/busp/b&i_gar.htm]

Rural Business Enterprise Grants (RBEG)

Administered by: Rural Business Cooperative Service

Annual funding: Approximately \$40 million in each of FY2005 through FY2007; \$38.7 million for FY2008

Scheduled termination: None

Description: RBEG provides grants to finance and facilitate development of small and emerging private rural business enterprises. The grant is awarded to a third party to assist a business; grant funds do not go directly to the business.

Qualified applicant: Public bodies, private nonprofit corporations, and federally recognized Indian Tribal groups.

For more information: [<http://www.rurdev.usda.gov/rbs/busp/rbeg.htm>]

Other USDA Programs

The following programs within the Rural Business Cooperative Service could possibly be used to assist biofuels producers indirectly:

- Rural Economic Development Loan Program;
- Rural Development Loan Program;
- Rural Economic Development Grants.

Department of Energy (DOE)

Biomass Research and Development Initiative

Administered by: National Biomass Coordination Office (a joint DOE-USDA program)

Annual funding: \$14 million per year through FY2007 (\$12 million in FY2006); \$11 million for FY2008

FY2008 budget request: \$12 million

Established: FY2001 by the Biomass Research and Development Act of 2000, §307 (P.L. 106-224); program extended and mandatory appropriations provided by the Farm Security and Rural Investment Act of 2002, §9008 (P.L. 101-171); program extended and funding authorization expanded by the Energy Policy Act of 2005, §941 (P.L. 109-58) — currently authorized at \$200 million per year

Scheduled termination: End of FY2015

Description: Grants are provided for biomass research, development, and demonstration projects. Eligible projects include ethanol and biodiesel demonstration plants.

Qualified applicant: Wide range of possible applicants

For more information: [<http://www.brdisolutions.com/default.aspx>]

Biorefinery Project Grants

Administered by: Office of Energy Efficiency and Renewable Energy

Annual funding: For FY2008, \$186 million appropriated for the biomass program — not all of this funding will go toward biorefinery project grants

FY2008 budget request: \$179 million for entire biomass program

Established: FY2001 through funding authorized in various statutes

Scheduled termination: None

Description: This program provides funds for cooperative biomass research and development for the production of fuels, electric power, chemicals, and other products.

Qualified applicant: Varies from year to year, depending on program goals in a given year

For more information: [<http://www.eere.energy.gov/biomass/>]

Loan Guarantees for Ethanol and Commercial Byproducts from Cellulose, Municipal Solid Waste, and Sugar Cane

Administered by: DOE

Annual funding: Not specified

FY2008 budget request: \$0

Established: 2005 by the Energy Policy Act of 2005, §§1510, 1511, and 1516 (P.L. 109-58)

Scheduled termination: Varies, depending on specific program

Description: The Energy Policy Act of 2005 authorizes several programs to provide loan guarantees for the construction of facilities that produce ethanol and other commercial products from cellulosic material, municipal solid waste, or sugar cane.

Qualified applicant: Private lending institutions, to guarantee loans for the construction of biofuels plants

DOE Loan Guarantee Program

Administered by: DOE

Annual funding: \$5.3 million for administrative expenses; authority for \$38.5 billion in loan guarantees for energy projects in FY2008, including \$10 billion for renewable energy and energy efficiency

FY2008 budget request: \$2 million for administrative expenses

Established: 2005 by the Energy Policy Act of 2005, Title XVII (P.L. 109-58)

Scheduled termination: Not specified

Description: Title XVII of the Energy Policy Act of 2005 authorizes DOE to provide loan guarantees for energy projects that reduce air pollutant and greenhouse gas emissions, including biofuels projects.

Qualified applicant: Private lending institutions, to guarantee loans for clean energy projects.

For more information: [<http://www.lgprogram.energy.gov/>]

Cellulosic Biofuels Production Incentive

Administered by: DOE

Annual funding: \$25 million total authorized for all fiscal years

FY2008 budget request: None

Established: 2005 by the Energy Policy Act of 2005, §942 (P.L. 109-58)

Scheduled termination: Not specified

Description: Section 942 of the Energy Policy Act of 2005 authorizes DOE to provide per-gallon incentive payments for cellulosic biofuels until annual U.S. production reaches 1 billion gallons or 2015, whichever is earlier. DOE accepted comments on the program through July 14, 2006; DOE has yet to promulgate regulations.

Qualified applicant: Any U.S. cellulosic biofuel production facility that meets applicable permitting requirements, as well as any financial requirements set by DOE.

U.S. Customs and Border Protection

Import Duty for Fuel Ethanol

Administered by: U.S. Customs and Border Protection

Annual funding: N/A

Established: 1980 by the Omnibus Reconciliation Act of 1980 (P.L. 96-499); amended by the Tax Reform Act of 1986, §423 (P.L. 99-514; extended by the Tax Relief and Health Care Act of 2006, §302 (P.L. 109-432).

Scheduled termination: December 31, 2008

Description: A 2.5% ad valorem tariff and a most-favored-nation duty of \$0.54 per gallon of ethanol (for fuel use) applies to imports into the United States from most countries; most ethanol from Caribbean Basin Initiative (CBI) countries may be imported duty-free.

Covered Entities: Fuel ethanol importers

For more information: CRS Report RS21930, *Ethanol Imports and the Caribbean Basin Initiative*, by Brent D. Yacobucci; Senate Finance Committee, *Summary of House-Senate Agreement on Tax, Trade, Health, and Other Provisions*, December 7, 2006.

Appendix. Summary of Federal Incentives Promoting for Biofuels

Administering Agency	Program	Description	Original Authorizing Legislation	FY2008 Funding	Expiration Date
Environmental Protection Agency	Renewable Fuels Standard	Mandated use of renewable fuel in gasoline: 4.0 billion gallons in 2006, increasing to 7.5 billion gallons in 2012	P.L. 109-58 §1501	N/A	None
Internal Revenue Service	Volumetric Ethanol Excise Tax Credit	Gasoline suppliers who blend ethanol with gasoline are eligible for a tax credit of 51 cents per gallon of ethanol	P.L. 108-357 §301	N/A	End of 2010
	Small Ethanol Producer Credit	An ethanol producer with less than 60 million gallons per year in production capacity may claim a credit of 10 cents per gallon on the first 15 million gallons produced in a year	P.L. 101-508	N/A	End of 2010
	Biodiesel Tax Credit	Producers of biodiesel or diesel/biodiesel blends may claim a tax credit of \$1.00 per gallon of agri-biodiesel (produced from virgin agricultural products) or 50 cents per gallon of biodiesel from recycled products	P.L. 108-357	N/A	End of 2008
	Small Agri-Biodiesel Producer Credit	An agri-biodiesel producer (see above) with less than 60 million gallons per year in production capacity may claim a credit of 10 cents per gallon on the first 15 million gallons produced in a year	P.L. 109-58	N/A	End of 2008

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Administering Agency	Program	Description	Original Authorizing Legislation	FY2008 Funding	Expiration Date
	Renewable Diesel Tax Credit	Producers of renewable diesel (similar to biodiesel, but produced through a different process) may claim a tax credit of \$1.00 per gallon.	P.L. 109-58	N/A	End of 2008
	Special Depreciation Allowance for Cellulosic Biomass Ethanol Plant Property	Plants producing cellulosic ethanol through enzymatic processes may take a 50% depreciation allowance in the first year of operation, subject to certain restrictions	P.L. 109-432	N/A	End of 2012
Department of Agriculture	Bioenergy Program	Reimburses ethanol and biodiesel producers for feedstocks necessary to expand operations	P.L. 101-171 §9010	\$0	Expired: End of FY2006
	Renewable Energy Systems and Energy Efficiency Improvements	Grants, loans, and loan guarantees for the development of renewable energy projects and energy efficiency improvements	P.L. 101-171 §9006	\$36 million	Scheduled: End of FY2007
	Value-Added Producer Grants	Grants to independent producers for the development of value-added agricultural activities, including biofuel production	P.L. 101-171 §6401	\$19 million	Scheduled: End of FY2007
	Biorefinery Development Grants - Unfunded	If funded, would provide grants for the development and construction of biorefineries, including biofuel plants	P.L. 101-171 §9003	\$0	Scheduled: End of FY2007
	Business and Industry (B&I) Guaranteed Loans	Loan guarantees for various projects — could be used for biofuels	Various statutes	Approx. \$1 billion	None
	Rural Business Enterprise Grants	Grants to finance and facilitate development of small and emerging rural business enterprises	Various statutes	Approx. \$40 million	None

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Administering Agency	Program	Description	Original Authorizing Legislation	FY2008 Funding	Expiration Date
Department of Energy	Biomass Research and Development Initiative	Grants for biomass research, development, and demonstration projects	P.L. 106-224	\$11 million	End of FY2015
	Biorefinery Project Grants	Funds cooperative R&D on biomass for fuels, power, chemicals, and other products	Various statutes	\$186 million total for biomass R&D program	None
	Loan Guarantees for Ethanol and Commercial Byproducts from Various Feedstocks	Several programs of loan guarantees to construct facilities that produce ethanol and other commercial products from cellulosic material, municipal solid waste, and/or sugarcane	P.L. 109-58 §§1510, 1511, and 1516	N/A	Varies
	DOE Loan Guarantee Program	Loan guarantees for energy projects that reduce air pollutant and greenhouse gas emissions, including biofuels projects	P.L. 109-58 Title XVII	N/A	None
	Production Incentives for Cellulosic Biofuels	Authorizes DOE to provide per-gallon payments to cellulosic biofuel producers	P.L. 109-58 §942	N/A	August 8 ,2015
U.S. Customs and Border Protection	Import Duty for Fuel Ethanol	All imported ethanol is subject to a 2.5% ad valorem tariff; fuel ethanol is also subject to a most-favored-nation added duty of 54 cents per gallon (with some exceptions)	P.L. 96-499	N/A	End of 2008