



**CONGRESSIONAL BUDGET OFFICE
COST ESTIMATE**

July 5, 2007

H.R. 2773

Biofuels Research and Development Enhancement Act

*As ordered reported by the House Committee on Science and Technology
on June 27, 2007*

SUMMARY

H.R. 2773 would authorize the appropriation of \$963 million in 2010 for the Department of Energy (DOE) to research and develop renewable energy technologies. The bill also would authorize \$75 million over the 2008-2010 period for DOE to make grants to certain institutions of higher education to research and develop biofuel production technologies. Moreover, H.R. 2773 would authorize additional funding for systems biology (the study of the structural and functional design of organisms) and bioenergy programs from amounts authorized in 2008 and 2009 under current law.

CBO estimates that implementing H.R. 2773 would cost \$16 million in 2008 and about \$1 billion over the 2008-2012 period, assuming appropriation of the authorized funds. Enacting H.R. 2773 would have no effect on direct spending or revenues.

H.R. 2773 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would benefit state and local governments.

ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary impact of H.R. 2773 is shown in the following table. The costs of this legislation fall within budget function 250 (general science, space, and technology).

	By Fiscal Year, in Millions of Dollars				
	2008	2009	2010	2011	2012
CHANGES IN SPENDING SUBJECT TO APPROPRIATION					
Renewable Energy Programs					
Authorization Level ^a	0	0	963	0	0
Estimated Outlays	0	0	530	289	144
Biofuels Production Research Grants					
Authorization Level	25	25	25	0	0
Estimated Outlays	14	21	25	11	4
Bioenergy Studies					
Estimated Authorization Level	2	1	0	0	0
Estimated Outlays	2	1	0	0	0
Total Changes					
Estimated Authorization Level	27	26	988	0	0
Estimated Outlays	16	22	555	300	148

a. Public Law 109-58 authorized the appropriation of \$743 million in 2008 and \$852 million in 2009 for renewable energy programs.

BASIS OF ESTIMATE

For this estimate, CBO assumes that the bill will be enacted in fiscal year 2007 and that the amounts authorized and estimated to be necessary will be appropriated for each fiscal year.

Renewable Energy Programs

H.R. 2773 would authorize the appropriation of \$963 million in 2010 for renewable energy research and development. Based on the historical spending patterns of DOE research programs, CBO estimates that implementing this provision would cost \$963 million over the 2010-2012 period, subject to appropriation of the specified amount. In 2005, the Congress authorized the appropriation of \$743 million in 2008 and \$852 million in 2009 for renewable energy research and development (see Public Law 109-58).

Biofuels Production Research Grants

H.R. 2773 would authorize the appropriation of \$25 million a year over the 2008-2010 period to research and develop biofuel production technologies. The bill would direct the Secretary

to make research grants to institutions of higher education located in states with low rates of ethanol production. Based on information from DOE, CBO estimates that implementing this provision would cost \$75 million over the 2008-2012 period, subject to appropriation of the specified amounts.

Bioenergy Studies

H.R. 2773 would require DOE to examine several issues involving the production, consumption, and impact of bioenergy fuels. The bill would require the Secretary to complete those studies within two years of enactment. Based on the costs of similar activities, CBO estimates that producing the studies outlined in the bill would cost \$3 million over the next two years, subject to the appropriation of the necessary funds.

Bioenergy Research and Development

H.R. 2773 would increase the authorized funding level for bioenergy research and development programs of DOE by \$126 million in 2008 and \$147 million in 2009. (The current law authorization levels for those programs are \$251 million and \$274 million, respectively.) Additional amounts authorized by the bill would be used to examine the existing fuel distribution infrastructure as well as ways to improve the energy efficiency of biorefinery facilities and enabling them to accept a wider range of biomass inputs. Funding also would be used to establish an information center for biofuels and biorefineries research.

The additional amounts authorized by the bill would be allocated from \$1.6 billion previously authorized to be appropriated for all DOE renewable energy programs in 2008 and 2009 (see Public Law 109-58). Because the additional amounts specified in the bill for bioenergy programs would effectively set aside part of the existing authorization levels for renewable energy programs, CBO estimates that implementing this provision would have no net additional cost over the five-year period.

Systems Biology Research and Development

H.R. 2773 would expand DOE's systems biology research and development programs to include environmental science, and would establish at least five centers for biofuels research. In 2005, the Congress authorized the appropriation of \$4.6 billion for 2008 and \$5.2 billion for 2009 for the DOE Office of Science. Those authorizations included such sums as necessary for systems biology research and development (see Public Law 109-58). Because H.R. 2773 would not amend the overall authorization level for the Office of Science, it would

effectively reallocate the existing authorization levels for DOE science programs, and we estimate that implementing this provision would have no net cost over the five-year period.

INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT

H.R. 2773 contains no intergovernmental or private-sector mandates as defined in UMRA. The bill would create a grant program benefitting institutions of higher education. Any costs that state, local, or tribal governments might incur, including matching funds, would be incurred voluntarily.

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