



**CONGRESSIONAL BUDGET OFFICE
COST ESTIMATE**

July 10, 2007

**H.R. 1933
Department of Energy Carbon Capture and Storage Research,
Development, and Demonstration Act of 2007**

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

SUMMARY

H.R. 1933 would authorize appropriations primarily to expand the Department of Energy's (DOE's) carbon sequestration development program. Carbon sequestration refers to methods of storing carbon emissions that result from the use of fossil fuels. Activities under the bill would include demonstration and grant programs to develop and test carbon dioxide capture and sequestration technologies to reduce emissions from electric power plants. Assuming appropriation of the authorized and necessary amounts, CBO estimates that implementing H.R. 1933 would cost \$58 million in 2008 and \$1.3 billion over the 2008-2012 period. Enacting H.R. 1933 would not affect direct spending or revenues.

H.R. 1933 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. 1933 is shown in the following table. The costs of this legislation fall within budget function 270 (energy).

	By Fiscal Year, in Millions of Dollars					
	2007	2008	2009	2010	2011	2012
SPENDING SUBJECT TO APPROPRIATION						
DOE Carbon Capture and Sequestration Program						
Budget Authority ^a	100	35	0	0	0	0
Estimated Outlays	65	67	45	19	10	7
Proposed Changes						
DOE Carbon Sequestration and Capture Research and Demonstration Programs						
Authorization Level	0	205	420	420	420	180
Estimated Outlays	0	51	198	303	367	328
DOE Grant Programs						
Estimated Authorization Level	0	10	2	2	3	4
Estimated Outlays	0	3	3	4	3	3
EPA Safety Research Program						
Authorization Level	0	5	5	5	5	5
Estimated Outlays	0	3	5	5	5	5
DOE Reporting Requirement						
Authorization Level	0	1	0	0	0	0
Estimated Outlays	0	1	0	0	0	0
Total Changes						
Estimated Authorization Level	0	221	427	427	428	189
Estimated Outlays	0	58	206	312	375	336
Spending Under H.R. 1933						
Estimated Authorization Level	100	256	427	427	428	189
Estimated Outlays	65	125	251	331	385	343

Note: DOE = Department of Energy; EPA = Environmental Protection Agency.

a. The 2007 level is the amount appropriated for that year for the Office of Fossil Energy's carbon sequestration program. The 2008 level is the amount authorized under current law.

BASIS OF ESTIMATE

For this estimate, CBO assumes that H.R. 1933 will be enacted near the end of fiscal year 2007 and that the entire amounts authorized and estimated to be necessary will be

appropriated for each fiscal year. Estimated outlays are based on historical spending patterns for similar programs.

H.R. 1933 would authorize the appropriation of \$221 million in 2008 and \$1.7 billion over the 2008-2012 period for specific DOE and EPA programs. In addition, CBO estimates that a university grant program to study the storage of carbon in geologic features would cost \$6 million over the 2009-2012 period. Assuming appropriation of the necessary amounts, CBO estimates that implementing H.R. 1933 would cost \$58 million in fiscal year 2008 and \$1.3 billion over the 2008-2012 period. As described below, most of those amounts would be used for carbon sequestration and capture research and demonstration programs. (That is, the removal of carbon from fossil fuel combustion emissions and its permanent storage).

DOE Carbon Sequestration and Capture Research and Demonstration Programs

H.R. 1933 would authorize the appropriation of \$240 million (of which \$35 million was already authorized in Public Law 109-58) in 2008 and about \$1.6 billion over the 2008-2012 period for research and demonstration programs. Specifically, the bill would authorize \$100 million annually for fiscal years 2008 through 2011 for general carbon capture and storage research and field testing, and \$140 million annually (over the same period) for programs to demonstrate the sequestration of carbon. The bill would authorize the appropriation of \$180 million a year over the 2009-2012 period for demonstration programs to test technologies for carbon dioxide capture at industrial sources. CBO estimates that appropriation of the specified amounts would result in discretionary spending of \$51 million in 2008 and \$1.3 billion over the 2008-2012 period.

DOE Grant Programs

H.R. 1933 would create two new grant programs. The first would award funds to colleges and universities to create programs to study the sequestration of carbon in geologic features. Based on the cost of other DOE grant programs, CBO estimates that the program would cost \$6 million over the 2009-2012 period. (Because of a 2008 reporting requirement, described below, grants would be awarded beginning in fiscal year 2009.) The second program would award five grants to colleges and universities to study carbon capture and sequestration technologies involving various types of coal. H.R. 1933 would authorize the appropriation of \$10 million in 2008 for this purpose.

EPA Safety Research Program

The bill also would authorize the appropriation of \$5 million annually for an EPA research program to determine necessary procedures to protect public safety and health and the environment from the adverse effects associated with the storage of greenhouse gases in subterranean reservoirs. Assuming appropriation of the authorized amounts, CBO estimates that this program would cost \$3 million in 2008 and \$23 million over the 2008-2012 period.

DOE Reporting Requirement

H.R. 1933 would authorize the appropriation of \$1 million in fiscal year 2008 for the National Academy of Sciences to conduct a study to define a national interdisciplinary carbon capture program and other activities.

INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT

H.R. 1933 contains no intergovernmental or private-sector mandates as defined in UMRA and would create several research and grant programs benefitting state and local governments. Any costs to those governments, including matching funds, would be incurred voluntarily.

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