CONGRESSIONAL BUDGET OFFICE
COST ESTIMATE

May 23, 2005

S. 606
Reliable Fuels Act

As ordered reported by the Senate Committee on Environment and Public Works on March 16, 2005

SUMMARY

Under S. 606, methyl tertiary butyl ether (known as MTBE), a widely used motor fuel additive, would be banned four years after enactment of the bill—except individual states could choose to continue to allow the use of MTBE by notifying the administrator of the Environmental Protection Agency (EPA). The bill would eliminate a requirement under current law for motor fuel to contain oxygenates, but would require that all motor fuels sold by a refiner, blender, or importer contain specified amounts of renewable fuel. CBO expects that this renewable fuel standard would largely be met by adding ethanol to gasoline. S. 606 also would authorize funding for several grant programs to support research and development of renewable fuels technology. The bill also would authorize funding for rulemaking, studies, and reports to the Congress related to the renewable fuels program.

The bill's requirement to use renewable fuels would reduce spending on farm support programs and also would have an insignificant effect on motor fuels tax receipts. CBO estimates that enacting S. 606 would reduce direct spending by about $1.5 billion over the 2011-2015 period by increasing the demand for certain agricultural commodities.

Finally, we estimate that implementing S. 606 would cost about $340 million in 2006 and $1.5 billion over the 2006-2010 period, subject to appropriation of the necessary amounts. Most of that spending would be for grants to producers of MTBE (to convert their facilities to produce other fuel additives), and to producers of biomass ethanol (derived from plants, grasses, fibers, and certain waste sources). The bill would authorize the appropriation of $1.15 billion for those grants, as well as authorizing funding for other related programs.

S. 606 contains an intergovernmental mandate as defined in the Unfunded Mandates Reform Act (UMRA) because it would preempt state liability laws and prevent state and local

governments from seeking damages from producers of gasoline that contains renewable fuel. CBO expects that the costs to comply with this mandate would not be significant over the next five years; therefore, the threshold established in UMRA ($62 million in 2005, adjusted annually for inflation) would not be exceeded.

S. 606 contains several private-sector mandates as defined in UMRA. While CBO cannot estimate the aggregate cost of all the mandates contained in the bill, we anticipate that the costs would not be large. Therefore, CBO estimates that the total cost of the private-sector mandates would be below the annual threshold established in UMRA ($123 million in 2005, adjusted annually for inflation) for the first five years that the mandates are in effect.

ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary impact of S. 606 is shown in Table 1. The costs of this legislation fall within budget functions 270 (energy), 300 (natural resources and environment), 350 (agriculture), 370 (commerce and housing credit), and 950 (undistributed offsetting receipts).

BASIS OF ESTIMATE

For this estimate, CBO assumes that the bill will be enacted by the end of fiscal year 2005, that the full amounts authorized will be appropriated for each fiscal year, and that spending will follow historical rates for ongoing or similar activities.

Spending Subject to Appropriation

S. 606 contains several provisions that specify amounts authorized to be appropriated for researching methods to improve the production of renewable fuels and amounts to correct environmental contamination caused by MTBE. The bill also would authorize unspecified amounts to be appropriated for the promulgation of new rules, studies, and reports to the Congress associated with the new renewable fuels standard that would be established under the bill. Assuming appropriation of the specified and estimated amounts, CBO estimates that implementing these provisions would cost about $340 million in 2006 and $1.5 billion over the 2006-2010 period. Major components of this estimate are described below.

TABLE 1. ESTIMATED BUDGETARY IMPACT OF S. 606

	By Fiscal Year, in Millions of Dollars				
	2006	2007	2008	2009	2010
CHANGES IN SPENDING SUBJECT TO APPROPRIATION					
Grants to MTBE Producers					
Authorization Level	250	250	250	0	0
Estimated Outlays	100	213	250	150	38
Grants to Producers of Cellulosic Biomass Ethanol					
Authorization Level	400	0	0	0	0
Estimated Outlays	180	140	60	20	0
Center for Biomass-Based Energy					
Authorization Level	4	4	0	0	0
Estimated Outlays	3	4	1	0	0
Grants for Renewable Fuel Production					
Authorization Level	25	25	25	25	25
Estimated Outlays	11	20	24	25	25
LUST Program					
Authorization Level	30	30	30	30	0
Estimated Outlays	8	18	26	29	23
Loan Guarantees					
Estimated Authorization Level	30	0	40	0	40
Estimated Outlays	30	0	40	0	40
Clean Air Act Provisions					
Estimated Authorization Level	11	13	12	11	11
Estimated Outlays	11	13	12	11	11
Total Proposed Changes					
Estimated Authorization Level	750	322	357	66	76
Estimate Outlays	343	408	413	235	137
CHANGES IN DIRECT SPENDING [a]					
Estimated Budget Authority	0	0	0	0	0
Estimated Outlays	0	0	0	0	0
CHANGES IN REVENUES					
Estimated Revenues	0	*	*	*	*

NOTES: LUST = Leaking Underground Storage Tanks; * = less than $500,000.

a. CBO estimates that the bill would have no direct spending impact over the 2006-2010 period but would reduce direct spending by $1.5 billion over the 2011-2015 period (See table 2).

Grants to MTBE Producers. S. 606 would authorize the appropriation of $750 million to the Department of Energy (DOE) over the 2006-2008 period for grants to assist producers of MTBE to convert facilities to produce alternative fuel additives instead of MTBE.

Grants to Producers of Cellulosic Biomass Ethanol. S. 606 would authorize the appropriation of $400 million to DOE in 2006 for grants to producers of cellulosic biomass ethanol (ethanol derived from such materials as plants, grasses, fibers, municipal solid waste, and wood residues) to build production facilities.

Center for Biomass-Based Energy. This legislation would authorize the appropriation of $8 million over the 2006-2007 period to establish a resource center at the University of Mississippi and the University of Oklahoma for the purpose of developing new methods to produce ethanol.

Research and Development Grants for Renewable Fuel Production. S. 606 would authorize the appropriation of $125 million to EPA over the 2006-2010 period for grants to certain academic institutions and consortia (consisting of academic institutions, industry, state government agencies, or local government agencies) for research and development related to technologies for the production of renewable fuel.

LUST Program. This legislation would authorize the appropriation of $120 million over the 2006-2009 period from EPA's Leaking Underground Storage Tank (LUST) Trust Fund. This funding would be used for grants to states to correct contamination caused by MTBE and for enforcement and inspection activities related to LUST sites.

Loan Guarantees. S. 606 would authorize DOE to issue loan guarantees to help finance the construction of facilities to produce fuel ethanol from agricultural residue or municipal solid waste. The development of such facilities poses some risk mainly because the technology that would be used to process ethanol from such sources is new and is not well-proven.

For this estimate, we expect that such facilities would be debt-financed and sponsors would recover costs through the sale of ethanol. Prices for ethanol have a history of fluctuating widely and the likelihood of future fluctuations could contribute additional credit risk for such a project. Moreover, the cash flow for these projects also would rely heavily on the cost of purchasing feedstock or (for solid waste facilities) on revenues from “tipping fees” (i.e., those fees charged by the plant to accept municipal solid waste feedstock). According to DOE, a plant’s reliance on feedstock from these sources would increase a project’s credit risk because prices for feedstock can become competitive if demand for such products increases and tipping fee revenue may also fluctuate.

Under credit reform procedures, funds must be appropriated in advance to cover the subsidy cost of loan guarantees, measured on a present-value basis. Because of the significant level of risk associated with these types of projects, the costs of subsidizing such loan guarantees could vary widely. At worst, the government could absorb all of the risk, effectively converting the loan guarantees into grants. S. 606 would authorize DOE to issue loan guarantees limited to $250 million per project for a total of four projects (i.e., up to $1 billion worth of guarantees could be made). Under this legislation, an applicant for a loan guarantee would have to be currently operating an existing facility that produces at least 50,000 gallons of ethanol per year.

CBO estimates that, over the next five years, DOE would probably provide loan guarantees for three projects, each with a total construction cost of about $250 million. Because the bill also would require applicants to contribute at least 20 percent of the project's total cost, CBO estimates that the value of each loan guarantee would be about $200 million. In addition, based on information from DOE, CBO assumes that the department would seek projects with a financial outlook similar to those of bonds rated B- or better by companies such as Standard and Poors and Moodys. Projects with this rating typically have a cumulative default risk of over 40 percent. Under those assumptions, CBO estimates that loans guaranteed under the bill would be likely to have a subsidy rate between 15 percent and 20 percent and would cost $110 million over the 2006-2010 period.

Motor Fuels and Clean Air Act Provisions. This legislation would require EPA to promulgate new rules, prepare studies for the Congress, and implement new programs related to the renewable content of motor fuels and air pollution resulting from the use of motor fuels. CBO estimates that implementing these provisions in S. 606 would cost $10 million in 2006 and $58 million over the 2006-2010 period. Of the $58 million, more than half would be for EPA's costs to enforce motor fuel standards. Specifically, the bill would require that EPA promulgate rules that require motor fuels sold by a refiner, blender, or importer contain specified amounts of renewable fuels. Under the bill, by 2012, gasoline sold to U.S. consumers would be required to include, on an annual average basis, 6 billion gallons of renewable fuel. (In 2004, 140 billion gallons of gasoline were sold in the United States.)

Additionally, the bill would require the EPA to conduct annual surveys on market shares of various renewable fuels starting in December 2006. Such a survey could cost as much as $4 million annually if EPA were to undertake a survey of all retail gasoline sales. This legislation also would require EPA, at the request of a state, to enforce any state-adopted regulations concerning fuels requirements. State fuels programs can vary. Some programs are seasonal, while others are more complex where many fuel parameters are regulated. Specifically, EPA staff would be required to travel to the affected cities, take samples, review records, and conduct audits of refiners and importers. Based on information from EPA, CBO

estimates that implementing this provision would require the equivalent of an additional 22 staff, funding for their travel expenses, and funding associated with laboratory sampling and technical analysis, resulting in a cost of $5 million annually and $25 million over the next five years, subject to appropriation of the necessary funds.

S. 606 also includes several other provisions that would require new studies, reports to the Congress, and activities related to banning the use of MTBE in motor fuels to be prepared by DOE and the Federal Trade Commission. CBO estimates that such activities would cost about $3 million over the 2006-2010 period.

Direct Spending and Revenues

CBO estimates that enacting S. 606 would lower direct spending by about $1.5 billion over the next 10 years and have an insignificant effect on revenues over the same period. The bill's impact on direct spending and revenues over the 2006-2015 period is shown in Table 2.

TABLE 2. ESTIMATED IMPACT OF S. 606 ON DIRECT SPENDING AND REVENUES

	By Fiscal Year, in Millions of Dollars									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CHANGES IN DIRECT SPENDING AND REVENUES										
Estimated Budget Authority	0	0	0	0	0	-115	-250	-340	-375	-385
Estimated Outlays	0	0	0	0	0	-115	-250	-340	-375	-385
Estimated Revenues	0	*	*	*	*	*	*	*	*	*

NOTE: * = less than $500,000.

Renewable Fuels Requirement and Agriculture Support Programs. Section 101 of the bill would require that motor fuels sold by a refiner, blender, or importer contain specified amounts of renewable fuel. The required volume of renewable fuel would start at 3.8 billion gallons in 2006 and escalate to 6 billion gallons for 2012 and increase at the growth in gasoline consumption. The bill also would amend the Clean Air Act to eliminate the requirement for gasoline that is sold in certain regions of the country to contain 2 percent oxygen by weight. This provision might lower demand for gasoline oxygenates (including ethanol), particularly in the first few years of the period because the mandated use of renewable fuels is below CBO's baseline for the use of ethanol.

However, the bill also provides for the generation of credits towards meeting the renewable fuel requirement, which can be used to satisfy future years' requirements. Because of the ability of a refiner, blender, or importer to save ethanol-use credits generated in one year to satisfy requirements in a future year, CBO does not expect that the use of renewable fuels would be significantly affected until 2011 when the bill's renewable fuel requirement would exceed the CBO baseline for such fuels (including accumulated credits).

CBO expects that most of the fuel produced to meet the requirements under the act would be corn-based ethanol. Because ethanol is primarily derived from corn, demand for corn would rise with the requirement to use more ethanol. CBO expects that higher prices for corn during the 2011-2015 period would result. Accordingly, the costs of federal programs to support farm prices and provide income support would fall over the 2011-2015 period. CBO estimates that spending for farm price and income supports would decline by about $1.5 billion over the 2011-2015 period.

Renewable Fuels Requirement and Revenues. Because ethanol-blended fuels are taxed at a lower rate than gasoline, receipts from motor fuels would change when ethanol use changes. CBO estimates, however, that effects on revenues from this bill would be insignificant for two main reasons. First, effects on ethanol use would be insignificant before 2011 because the bill provides for the generation of credits toward meeting the renewable fuel requirement, which can be used to satisfy future years' requirements. Second, although ethanol use would increase significantly under the bill after 2010, the special tax treatment of ethanol fuels expires at the end of calendar year 2010, so changes in ethanol use would not significantly affect revenues after that point.

Enacting this bill could also increase receipts from new civil penalties against violators of the renewable fuels program established under this legislation. CBO estimates that any such increase in civil penalties would not be significant.

ESTIMATED IMPACT ON STATE, LOCAL, AND TRIBAL GOVERNMENTS

S. 606 would shield manufacturers of gasoline from liability claims based on the renewable content of their fuel. This provision would limit the application of state law and prohibit state and local governments from seeking damages from producers of gasoline that contains renewable fuel. That provision constitutes an intergovernmental mandate as defined in UMRA. Because there are currently no such lawsuits pending in the courts, CBO estimates that the mandate would impose no duty on state or local governments that would result in significant additional spending (or forgone collections) over the next five years. Therefore, the threshold established in UMRA ($62 million in 2005, adjusted annually for inflation) would not be exceeded.

Other provisions of the bill contain no intergovernmental mandates and would impose no direct costs on state, local, or tribal governments. States with EPA approval to enforce clean air standards for motor fuels would have to comply with several new requirements, but they would do so voluntarily. In general, the bill would benefit states by authorizing grants and amounts from the LUST Trust Fund for a variety of activities.

ESTIMATED IMPACT ON THE PRIVATE SECTOR

S. 606 contains several private-sector mandates as defined in the Unfunded Mandates Reform Act. While CBO cannot estimate the aggregate cost of all the mandates contained in the bill, we anticipate that such costs would not be large. Therefore, CBO estimates that the total cost of the private-sector mandates would be below the annual threshold established in UMRA ($123 million in 2005, adjusted annually for inflation) for the first five years that the mandates are in effect.

Renewable Fuel Program

Renewable Fuel Standard. Section 101 would require domestic refiners, blenders, and importers of gasoline to ensure that gasoline sold or dispensed to consumers in the contiguous United States contains a minimum volume of renewable fuels. The required volume of renewable fuel would start at 3.8 billion gallons in 2006 and increase to 6.0 billion gallons by 2012. Section 101 also would allow refineries, blenders, and importers to accumulate and trade credits for quantities of renewable fuels. Individual refineries, blenders, or importers may experience cost increases, should they need to purchase credits to meet individual compliance provisions. In the first five years that the renewable fuel standard would be in effect, the motor fuels industry would be able to meet the standard without increasing renewable fuel use. Thus, CBO expects the net cost for the industry as a whole to be zero in the first five years the standard is in effect.

Seasonal Variation in Renewable Fuel Use. Section 101 would direct the Energy Information Administration (EIA) to determine if there are excessive seasonal variations in the amount of renewable fuel blended into gasoline. Refiners might have an incentive to use more of the annual requirement for renewable fuel (mostly ethanol) in the winter months, when evaporative emissions from gasoline are less of a concern. Sharp seasonal changes in the demand for ethanol could lead to large swings in ethanol and gasoline prices. If EIA determines that there are excessive seasonal fluctuations, EPA would impose regulations requiring that at least 35 percent of the renewable fuel standard be blended into gasoline in summer months and another 35 percent be blended in winter months. At this time EPA does not have any information on excessive seasonal variation in renewable fuel use, but expects

that such requirements will not be likely. In the event that a determination by EIA triggers additional EPA regulations, the duty to comply with those regulations would constitute a private-sector mandate.

Safe Harbor. The renewable fuel standard required by the bill would substantially increase the amount of renewable fuel that is blended into gasoline. Section 101 would shield motor fuel manufacturers and other persons from liability for a defect in design or manufacture of a motor vehicle fuel containing renewable fuel. That protection would be in effect as long as the fuel is in compliance with other applicable federal requirements. The provision would impose a private-sector mandate by limiting existing rights to seek compensation under current law, but CBO cannot determine the cost of this mandate. Effective on the date of enactment, the provision would have no impact on existing claims or court determinations or settlements. Currently, there are no lawsuits of this nature.

Eliminate the Ethanol Waiver. Section 101 would authorize states to apply for an exclusion from a waiver that under current law allows gasoline blended with ethanol to have higher evaporative properties than gasoline blended with other fuel additives. Gasoline blends containing ethanol evaporate more readily at a given temperature, contributing to smog formation. To the extent that gasoline blended with ethanol is sold in a state requesting an exclusion, the exclusion would increase the cost of an existing private-sector mandate on refiners who sell in the state. According to industry sources, it is unlikely that states using ethanol would request an exclusion from the waiver. In the event that such a state did request an exclusion, CBO estimates the increased cost to refiners would be small.

Recordkeeping and Reporting Requirements. Section 102 would require the EPA to collect data and issue a report on the amount of renewable fuel blending. The EPA may require refiners, blenders, and importers to keep records or make reports that are necessary for the EPA's survey of renewable fuel blending. In the event that the EPA does issue new recordkeeping or reporting requirements for refiners, blenders, and importers, that would constitute a new private-sector mandate. The bill, however, would require that any new recordkeeping or reporting requirements be folded into existing requirements. CBO expects that the cost for any new recordkeeping requirements would be small.

MTBE Ban

Under the Clean Air Act Amendments of 1990, areas with poor air quality are required to add chemicals called "oxygenates" to gasoline as a means of reducing certain air pollution emissions. One of the most commonly used oxygenates is methyl tertiary butyl ether. Roughly one-third of the MTBE used in the United States is supplied to refiners by merchant producers and the rest is produced by the refiners themselves or imported. In recent years,

concerns have been raised about the adverse effects on ground water supplies from MTBE that leaks from underground tanks, and 19 states have passed laws to either ban or reduce the local use of MTBE.

Section 203 would ban the use of MTBE in gasoline within four years of the bill's enactment. At the same time, the provision would allow any state to authorize MTBE use by notifying the EPA. A nationwide ban with states opting to continue use of MTBE may not be fundamentally different from the current situation in which states impose their own local bans. Therefore, it is possible that MTBE use would not be significantly affected by the new ban. Moreover, CBO anticipates that the renewable fuels standard established in section 101 would, on its own, greatly reduce—if not eliminate—incentives to use MTBE.

CBO cannot determine in which states, if any, the federal MTBE ban would be more constraining than the renewable fuel standard and, therefore, cannot determine the cost of the mandate. In states where the federal ban would be more constraining, the ban could impose costs on refiners and merchant producers. Gasoline refiners would need to replace MTBE with higher-cost blendstocks, and merchant producers would likely convert their operations to the production of less-profitable blendstocks, such as alkylates or iso-octane. The bill would authorize federal transition grants—amounting to $750 million over the 2006-2008 period—to merchant producers to convert their facilities.

Other Fuel Requirements

Anti-Backsliding Baseline. Section 204 would direct the EPA to establish a more stringent baseline for toxic emissions from reformulated gasoline. The current baseline, which became effective in 2002, is refinery specific and is based on average 1998 through 2000 reformulated gasoline parameter values. The bill would establish a baseline that averages parameter values only from calendar years 1999 and 2000, which would require reformulated gasoline to be slightly cleaner. According to industry sources, it is unclear that the more-stringent baseline would increase costs significantly. CBO expects that the cost of this mandate would be small.

VOC Region Consolidation. Section 204 would consolidate the regional regulations that limit the emissions of volatile organic compounds (VOCs) from gasoline, by applying the more-stringent standards for gasoline sold in the southern United States to gasoline sold in the northern United States. Meeting the more-stringent standards would impose a private-sector mandate. According to industry experts, the difference in the stringency of the two standards is small, and therefore, the mandate is not likely to increase industry costs.

Increased Environmental and Public Health Testing. Section 205 would require fuel and fuel additive manufacturers to test their products regularly for any environmental or public health effects, as part of the registration process with the EPA. Under current law, such testing occurs at the discretion of the EPA Administrator. The specific test items listed in

the provision commonly are included in industry testing, and neither the EPA nor the industry expects the frequency of testing to change. CBO does not expect the mandate to impose any additional costs on manufacturers of fuels or fuel additives.

State Opt-in to Reformulated Gasoline (RFG) Program. Section 207 would authorize states in the ozone transport region (several states in the Northeast) to ask EPA to apply the more-stringent air emissions standards of the RFG program in areas that are already in attainment of air quality standards. Industry experts indicate that few of the states in the ozone transport region currently using conventional gasoline would want to opt in to the RFG program under this provision. Furthermore, should a state in the region choose to opt in, the mandate would impose a very small cost on refineries.

PREVIOUS CBO ESTIMATE

On April 19, 2005, CBO transmitted a cost estimate for H.R. 6, the Energy Policy Act of 2005, as introduced on April 18, 2005. H.R. 6 also would require the use of renewable fuel in motor fuel; however, CBO estimated that requirement would not have a significant federal budget impact because the required amount would be lower than the amount specified in S. 606. Both bills also contain an intergovernmental mandate as defined in UMRA by shielding manufacturers of gasoline from certain liability claims. Because the mandate in H.R. 6 is much broader and would shield them from liability claims (including many pending claims) for the manufacture of MTBE, CBO estimated that bill's mandate costs would be significantly higher than the mandate costs in S. 606.

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