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110TH CONGRESS, 1st Session } HOUSE OF REPRESENTATIVES { REPORT 110–7

ADVANCED FUELS INFRASTRUCTURE RESEARCH AND DEVELOPMENT ACT

FEBRUARY 5, 2007.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. GORDON of Tennessee, from the Committee on Science and Technology, submitted the following

R E P O R T

[To accompany H.R. 547]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science and Technology, to whom was referred the bill (H.R. 547) to facilitate the development of markets for alternative fuels and Ultra Low Sulfur Diesel fuel through research, development, and demonstration and data collection, having considered the same, report favorably thereon with amendments and recommend that the bill as amended do pass.

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I. AMENDMENTS

The amendments are as follows:

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the "Advanced Fuels Infrastructure Research and Development Act".

SEC. 2. FINDINGS.

The Congress finds that—

(1) in order to lessen United States dependence on foreign sources of petroleum, and decrease demand for petroleum in the transportation sector, the Nation must diversify its fuel supply to include domestically produced biofuels;

(2) while ethanol has been successful in the market place as a fuel additive, newer biofuels may present unique challenges that may render the fuels incompatible with the current fuel transportation and delivery infrastructure, placing the burden of costly refurbishment and construction on fuel distributors and retailers;

(3) chemical additives to the fuels may mitigate the negative impacts of some biofuels on existing infrastructure and preclude costly retrofitting or installation of new biofuel compatible infrastructure and transportation systems;

(4) in order to mitigate air pollution and comply with Federal mandates, Ultra Low Sulfur Diesel fuel was introduced into the marketplace in 2006;

(5) fuel labeled Ultra Low Sulfur Diesel may accumulate more than the statutory limit of 15 parts per million of sulfur when transported through multiple pipelines, tanks, and trucks to the final point of sale; and

(6) fuel distributors and retailers may inadvertently take delivery of fuel labeled Ultra Low Sulfur Diesel with more than 15 parts per million of sulfur without a practical means of verifying sulfur content.

SEC. 3. BIOFUEL INFRASTRUCTURE AND ADDITIVES RESEARCH AND DEVELOPMENT.

The Assistant Administrator of the Office of Research and Development of the Environmental Protection Agency (in this Act referred to as the "Assistant Administrator"), in consultation with the Secretary of Energy and the National Institute of Standards and Technology, shall carry out a program of research and development of materials to be added to biofuels to make them more compatible with existing infrastructure used to store and deliver petroleum-based fuels to the point of final sale. The program shall address—

(1) materials to prevent or mitigate—

(A) corrosion of metal, plastic, rubber, cork, fiberglass, glues, or any other material used in pipes and storage tanks;

(B) dissolving of storage tank sediments;

(C) clogging of filters;

(D) contamination from water or other adulterants or pollutants;

(E) poor flow properties related to low temperatures;

(F) oxidative and thermal instability in long-term storage and use;

(G) microbial contamination; and

(H) problems associated with electrical conductivity;

(2) alternatives to conventional methods for refurbishment and cleaning of gasoline and diesel tanks, including tank lining applications; and

(3) other problems as identified by the Assistant Administrator, in consultation with the Secretary of Energy and the National Institute of Standards and Technology.

SEC. 4. SULFUR TESTING FOR DIESEL FUELS.

(a) PROGRAM.—The Assistant Administrator, in consultation with the National Institute of Standards and Technology, shall carry out a research, development, and demonstration program on portable, low-cost, and accurate methods and technologies for testing of sulfur content in fuel, including Ultra Low Sulfur Diesel and Low Sulfur Diesel.

(b) SCHEDULE OF DEMONSTRATIONS.—Not later than 1 year after the date of enactment of this Act, the Assistant Administrator shall begin demonstrations of technologies under subsection (a).

SEC. 5. STANDARD REFERENCE MATERIALS AND DATA BASE DEVELOPMENT.

Not later than 6 months after the date of enactment of this Act, the National Institute of Standards and Technology shall develop a physical properties data base

and standard reference materials for biofuels. Such data base and standard reference materials shall be maintained and updated as appropriate as additional biofuels become available.

SEC. 6. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Environmental Protection Agency $10,000,000 for carrying out this Act.

Amend the title so as to read:

A bill to facilitate the development of markets for biofuels and Ultra Low Sulfur Diesel fuel through research and development and data collection.

II. PURPOSE OF THE BILL

The purpose of the bill is to facilitate the development of markets for biofuels and Ultra Low Sulfur Diesel fuel through research and development, including data collection and demonstration of research and development results.

III. BACKGROUND AND NEED FOR THE LEGISLATION

Rising oil prices, concern about the level of U.S. dependence on foreign energy sources, and efforts to reduce air emissions have all increased interest in diversifying our energy supply through the development of clean domestic sources of transportation fuel.

Biofuels

The demand for biobased fuels such as ethanol and biodiesel is increasing, and there is great interest in expanding the development and production of these fuels beyond low-concentration blends. There are over 100 ethanol refineries in operation today, with many more in various stages of planning. Ethanol is currently blended with roughly 40% of the nation's gasoline supply, usually as an oxygenate and at concentrations of approximately 10% of the fuel by volume. Similarly, biodiesel is used as additive in diesel fuel because of its good lubricating properties and lack of sulfur, but seldom in concentrations higher than 20%.

Ethanol is both hydrophilic and highly corrosive and not compatible with much of the existing petroleum and gasoline distribution infrastructure. Even low concentration blends containing ethanol currently must be transported through a "virtual pipeline" consisting of truck, barge, and rail. As demand for ethanol has grown, ethanol shippers have found themselves in increasing competition with other users of rail transportation. Capacity is strained and costs are increasing for all users of these transportation methods.

The auto industry is currently ahead of the energy industry in the movement towards biobased fuels. According to the National Ethanol Vehicle Coalition there are approximately six million E85-compatible Fuel Flexible Vehicles (FFV) on American roads today; these vehicles can handle ethanol concentrations in fuel of up to 85 percent (E85), and auto manufacturers are in the process of adding several new FFV models to their product lines.

The U.S. Department of Energy counts less than a thousand stations to date that are capable of selling E85; these are concentrated in the Upper Midwest, close to ethanol sources. While the number of stations is expanding, it is still less than 1% of the approximately 167,000 retail fuel outlets in the U.S. California currently has one public E85 station.

It is at higher concentrations such as in E85 and B100 (100% biodiesel) where the toughest technical issues arise. Biofuels such as E85 and biodiesel have different physical and chemical properties that make them incompatible with existing transportation, distribution, and retail infrastructure and hardware. These fuels are associated with a variety of technical issues relating to corrosion of tank and pipeline materials, increased buildup and dissolving of storage tank sediment, filter clogging, electrical conductivity, water and microbial contamination, varying flow rates, and thermal and oxidative instability. The degrading and corrosive effects are most problematic since this can affect the glues, corks, rubbers, plastics and many metal compounds used in hoses, gaskets, seals, elastomers, regulators, pipe welds, and other fittings. It is also important to note that to date, no E85-specific dispenser has been certified by Underwriters Laboratory (UL), a crucial step in establishing a market-wide infrastructure. The lack of service stations selling E85 means that in the near-term only a very small proportion of flexible fuel vehicles will actually utilize E85.

A variety of industry and government sources have estimated costs that range from $15,000 to $200,000 for refurbishment or replacement of the infrastructure at a retail outlet. When applied over the more than 160,000 stations nationwide costs quickly reach into the billions of dollars. Unfortunately, even with federal assistance grants, the cost of replacing or building new infrastructure is simply not feasible for many fuel retailers and distributors, most of whom are small businesses.

It may be possible to develop additives and blendstocks that would mitigate certain negative effects of biofuels and avoid the need for expensive modification and replacement of existing infrastructure and hardware. It may also be possible to develop safer and less destructive infrastructure refurbishment methods and technologies. Therefore, Section 3 of H.R. 547 directs the Assistant Administrator of the Office of Research and Development of the Environmental Protection Agency, in consultation with the Secretary of Energy and the National Institute of Standards and Technology to develop additives, blendstocks, technologies and methods to address these concerns.

Ultra Low Sulfur Diesel (ULSD)

In 2000 the U.S. Environmental Protection Agency (EPA) instituted a program to lower the emissions of diesel fuels by approximately 97%. Federal regulations mandated that after an initial phase-in period, beginning June 1, 2006, all diesel fuel refined and sold in the U.S. must be Ultra Low Sulfur Diesel (ULSD). ULSD is diesel fuel containing less than 15 parts per million (ppm) of sulfur.

Prior to this time retailers sold Low Sulfur Diesel (LSD) containing up to 500 ppm of sulfur. The reduction in the sulfur content of diesel fuel served to mitigate the acid rain-causing effects of sulfur compounds and also allowed for the introduction in 2007 of advanced diesel engine technologies that would otherwise foul with high concentrations of sulfur. These new engine technologies reduce the emissions of particulate matter and nitrogen oxides, or NO_x, which exacerbate respiratory ailments and react with oxygen to produce ozone. A wide range of new clean diesel trucks and pas-

senger vehicles using the new engine technologies are now entering the U.S. market.

Major challenges remain at various points of the ULSD distribution chain. Prior to and during the transition to ULSD, there were widespread concerns throughout the industry that as ULSD moves from the refinery through the pipelines, tanks, trucks and related infrastructure it can absorb residual sulfur left by other, high-sulfur fuel products. Products such as Low Sulfur Diesel with up to 500 ppm sulfur, Jet Fuel with 3000 ppm, and even Heating Oil with up to 5000 ppm utilize much of the same infrastructure as ULSD. The fuel industry feared that contamination could result in diesel fuel arriving at fueling stations with sulfur content that exceeded 15 ppm, thus exposing "downstream" retailers and distributors to liability and fines of up to $32,500 for the sale of noncompliant fuels. Six months after market introduction of ULSD the transition is progressing smoothly, but it is not perfect. The results of market testing conducted at the end of 2006 show the over 80% of samples complying with ULSD sulfur limits.

The state of the art for verifying sulfur content in fuels is advancing, but further technological hurdles remain. Current protocols and equipment, as specified in ASTM standards such as D–2622, D–5453, and D–7039, are still expensive, unwieldy, and often inaccessible for most fuel distributors and retailers. For instance, the method described in D–5453 requires pyrolyzing fuel samples with flammable gas to obtain a sulfur signature. Furthermore, these forms of testing often require shipping fuel samples to an off-site laboratory and waiting days for results. While other aspects of the transition to ULSD have gone smoothly by most all accounts, the development of less expensive, robust, accurate and rapid testing methods would enable more frequent testing of fuel sulfur content to assure that regulated limits are not exceeded and rapid correction of any contamination problems that may occur along the distribution chain.

The need for advances in testing equipment is not limited to ULSD. Evolution in sulfur analysis technologies may lead to advances in testing for other fuel contaminants. For instance, current standards for biodiesel (ASTM standard D6751) lay out the critical specifications and set limits for manufacturers on maximum allowed concentrations for various contaminants, including sulfur. The biodiesel industry is pushing for strict adherence to these specifications. Because of the low concentrations and narrow tolerances needed to meet these standards, the measurements are difficult to perform accurately, especially in the smaller production facilities that tend to characterize the biofuels industry.

Further steps that can be taken to improve measurement accuracy for diesel fuels involve working with analytical instrument manufacturers and commercial suppliers of calibration materials to transfer the inherent accuracy of Standard Reference Materials developed by NIST to calibration standards used for field testing instrumentation. Therefore, Section 4 of H.R. 547 directs the Assistant Administrator of the Office of Research and Development of the Environmental Protection Agency, in consultation with the National Institute of Standards and Technology, to develop portable, low cost, and accurate technologies for testing sulfur content of die-

sel fuels, and begin demonstrations of such technologies within one year.

Standard Reference Materials (SRMs)

NIST prepares Standard Reference Materials (SRMs) for three main purposes: (1) to help develop accurate methods of analysis; (2) to calibrate measurement systems used to facilitate exchange of goods, institute quality control, determine performance characteristics, or measure a property at the state-of-the-art limit; and (3) to ensure the long-term adequacy and integrity of measurement quality assurance programs.

Industry, academia, and government use NIST SRMs to facilitate commerce and trade and to advance research and development. For example, state governments use SRMs for fuels to certify station pumps and other dispensing equipment.

Market acceptance of any fuel requires a reliable supply of the fuel that consistently meets certain specifications needed to ensure quality and compatibility with engines and infrastructure. Therefore, Section 5 of H.R. 547 directs NIST to compile a database of physical properties for alternative fuels, and use these data to develop Standard Reference Materials (SRMs) such as those NIST develops for conventional fuels.

IV. HEARING SUMMARY

On Tuesday, January 30, 2007 the Subcommittee on Energy and Environment of the Committee on Science and Technology held a legislative hearing on H.R. 547, the Advanced Fuels Infrastructure Research and Development Act introduced by Chairman Bart Gordon. The hearing examined the infrastructure-related challenges of adopting biofuels in the nation's fuel marketplace and of transitioning to clean diesel fuels. The Committee received testimony from Mr. John Eichberger, Vice President of the National Association of Convenience Stores (NACS) who testified on behalf of the Society of Independent Gasoline Marketers of America (SIGMA); Mr. Bob Dinneen, President and CEO of the Renewable Fuels Association; and Mr. Richard Kassel, Senior Attorney and Director of the Clean Fuels and Vehicles Project at the Natural Resources Defense Council.

Mr. Eichberger described the substantial technical and cost barriers fuel retailers encounter in making the decision to sell biofuels such as ethanol and biodiesel. He also described retailers' concerns that the lack of sulfur testing methods hinders the market's ability to ensure ULSD quality controls and regulatory compliance. NACS and SIGMA endorsed H.R. 547.

Mr. Dinneen described the current and future role of ethanol in fuel markets, the state of development of ethanol refineries, and the "Virtual Pipeline" of trucks, rail and barges the ethanol manufacturers must use to transport product from biorefineries to the marketplace. RFA endorsed H.R. 547.

Mr. Kassel described the successful implementation of the Environmental Protection Agency's Highway Diesel Rule which mandates the use of Ultra Low Sulfur Diesel. NRDC supports H.R. 547 with modifications suggested in Mr. Kassel's testimony.

The Subcommittee also received written testimony and endorsements from the National Association of Truck Stop Owners, The

Society of Independent Gas Marketers of America, the Petroleum Marketers Association of America, the National Association of Shell Marketers, The Coalition of E85 Retailers, X-Ray Optical Systems, and the Underwriters Laboratory which were inserted in the hearing record.

V. COMMITTEE ACTIONS

On January 18, 2007 the Science and Technology Committee Chairman Bart Gordon introduced H.R. 547, the Advanced Fuels Infrastructure Research and Development Act. The purpose of the bill is to facilitate the development of markets for biofuels and Ultra Low Sulfur Diesel fuel through research and development, including data collection and demonstration of research and development results. (This bill as introduced was virtually identical to Congressman Gordon's bill from the 109th Congress, H.R. 5658, to facilitate the development of markets for alternative fuels and Ultra Low Sulfur Diesel fuel through research, development, and demonstration and data collection. The language from H.R. 5658 was included as Section 17 of H.R. 5656, the Energy Research, Development, Demonstration and Commercial Application Act of 2006, during Full Committee markup of that bill. The same text later passed by the House under suspension of the rules as Section 15 of H.R. 6203.)

The Full Committee on Science and Technology met on January 31, 2007 to consider H.R. 547. A Manager's Amendment was offered by Chairman Gordon and adopted by voice vote. In addition to minor and conforming changes, this amended the bill by removing the Department of Energy as the lead agency, and instructing the Assistant Administrator of the Office of Research and Development at the Environment Protection Agency to conduct programs under Sections 3 and 4 of the bill; making the term "biofuels" consistent throughout the bill; removing the words "demonstration and commercial application"; and adding a one-time authorization of appropriations for $10 million to carry out programs under the bill.

VI. SUMMARY OF MAJOR PROVISIONS OF THE BILL

Section 3 directs the Assistant Administrator of the Office of Research and Development of the Environmental Protection Agency, in consultation with the Secretary of Energy and the National Institute of Standards and Technology to develop additives, blendstocks, technologies and methods to mitigate the negative effects of biofuels on infrastructure.

Section 4 directs the Assistant Administrator of the Office of Research and Development of the Environmental Protection Agency, in consultation with the National Institute of Standards and Technology to develop portable, low cost, and accurate technologies for testing sulfur content of diesel fuels, and begin demonstrations of such technologies within one year.

Section 5 directs NIST to compile a database of physical properties for alternative fuels, and use these data to develop Standard Reference Materials (SRMs) such as those NIST develops for conventional fuels.

Section 6 authorizes an appropriation of $10 million to the Environmental Protection Agency to carry out programs under the Act.

VII. SECTION-BY-SECTION ANALYSIS

Section 1. Short title

The Advanced Fuels Infrastructure Research and Development Act

Section 2. Findings

The nation should have a diverse fuel supply which includes alternative fuels, but incompatibility of some fuels with existing infrastructure presents significant and costly barriers to market penetration. Fuel additives or other technologies may allow such alternative fuels to be distributed and dispensed in existing infrastructure. Fuel retailers and distributors do not have ready access to technologies that verify fuels are in compliance with federal regulations for diesel fuels.

Section 3. Alternative fuel and ULSD infrastructure and additives research and development

Directs the Environmental Protection Agency (EPA) in consultation with the Department of Energy (DOE) and the National Institute of Standards and Technology (NIST) to conduct research and development of additives for biofuels to address infrastructure compatibility issues such as: corrosion of infrastructure materials, dislodging of storage tank sediment, water and microbial contamination, increased emissions, temperature-sensitivity. The program should also investigate various methods of refurbishment and cleaning of storage tanks, and other infrastructure-related problems as identified by EPA, DOE and NIST.

Section 4. Sulfur testing for diesels fuels

Directs the Environmental Protection Agency and the National Institute of Standards and Technology (NIST) to conduct research, development, demonstration and commercial application of portable, low cost, and accurate technologies for testing sulfur content of diesel fuels, and begin demonstrations of such technologies within one year.

Section 5. Standard reference materials and data base development

Instructs the National Institute of Standards and Technologies (NIST) to collect data on the physical properties of various alternative fuels, and develop the Standard Reference Materials (SRM) such as those that are available for conventional petroleum-based fuels.

Section 6. Authorization of appropriations

Authorizes $10,000,000 to EPA to carry out this Act.

VIII. COMMITTEE VIEWS

The Committee views biofuels including E85 and biodiesel as important steps towards increased reliance on domestic sources of fuel. It affirms the traditional roles of the voluntary consensus standards system in developing standards that can be used both by the government and the private sector. It also recognizes the major roles played by government in energy research and development to assure that new fuels can enter the commercial marketplace in an

environmentally acceptable manner. It recognizes that NIST has a long history through its research programs and its development of standard reference materials in maintaining quality control of transportation fuels.

The Committee sees a series of impediments to substantial market penetration by these new fuels. Ethanol is hydrophilic and additives and blendstocks and new infrastructure technologies are needed to mitigate the corrosive properties of biofuels before there can be significant market penetration by these fuels. The financial incentives to do this research and development do not exist in the private sector because of the relative costs of the new fuels and the petroleum based products they seek to replace.

Similarly, significant improvements are needed in the test methods used to verify that ultra low sulfur diesel is still in compliance after transmission with EPA limits of 15 parts per million (ppm) of sulfur. Current tests are slow, expensive, and cumbersome and put the small businessmen who sell this fuel in risk of substantial penalties even though they do not control the sulfur levels in the fuel they sell. The Committee feels that it is in the national interest to ask EPA and NIST to develop portable, low cost, and accurate technologies for testing sulfur content of diesel fuels, and begin demonstrations of such energy technologies within one year and for NIST to compile a database of physical properties for alternative fuels, and use these data to develop Standard Reference Materials (SRMs) such as those it develops for conventional fuels.

IX. COST ESTIMATE

A cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 402 of the Congressional Budget Act of 1974 has been timely submitted to the Committee on Science prior to the filing of this report and is included in Section X of this report pursuant to House rule XIII, clause 3(c)(3).

H.R. 547 does not contain new budget authority, credit authority, or changes in revenues or tax expenditures. Assuming that the sums authorized under the bill are appropriated, H.R. 547 does authorize additional discretionary spending, as described in the Congressional Budget Office report on the bill, which is contained in Section X of this report.

X. CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

FEBRUARY 1, 2007.

Hon. BART GORDON,
Chairman, Committee on Science and Technology,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 547, the Advanced Fuels Infrastructure Research and Development Act.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Daniel Hoople.

Sincerely,

PETER R. ORSZAG,
Director.

Enclosure.

H.R. 547—Advanced Fuels Infrastructure Research and Development Act

Summary: H.R. 547 would authorize appropriations for two projects to be carried out by the Office of Research and Development at the Environmental Protection Agency (EPA). The bill would direct the agency to undertake research and development programs involving additives to biofuels that would increase compatibility with the existing motor fuel storage and delivery infrastructure, as well as alternative methods for testing the sulfur content of diesel fuels. CBO estimates that implementing H.R. 547 would cost $10 million over the 2008–2010 period, assuming the appropriation of the specified amount. Enacting H.R. 547 would not affect direct spending or revenues.

H.R. 547 contains no intergovernmental or private-sector as defined in the Unfunded Mandates Reform Act (UMRA) and would not affect the budgets of state, local, or tribal governments.

Estimated cost to the Federal Government: The estimated budgetary impact of H.R. 547 is shown in the following table. The cost of this legislation falls within budget function 300 (natural resources and environment). For this estimate, CBO assumes that the bill will be enacted in fiscal year 2007 and that the amounts authorized by the bill will be appropriated for fiscal year 2008.

	By fiscal year, in millions of dollars—					
	2007	2008	2009	2010	2011	2012
CHANGES IN SPENDING SUBJECT TO APPROPRIATION						
Biofuel Infrastructure and Sulfur Testing Research and Development Programs:						
Authorization Level	0	10	0	0	0	0
Estimated Outlays	0	4	5	1	0	0

Intergovernmental and private-sector impact: H.R. 547 contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no direct costs on state, local, or tribal governments.

Estimate prepared by: Federal Costs: Daniel Hoople. Impact on State, Local, and Tribal Governments: Lisa Ramirez-Branum. Impact on the Private Sector: Craig Cammarata.

Estimate approved by: Robert A. Sunshine, Assistant Director for Budget Analysis.

XI. COMPLIANCE WITH PUBLIC LAW 104–4

H.R. 547 contains no unfunded mandates.

XII. COMMITTEE OVERSIGHT FINDINGS AND RECOMMENDATIONS

The Committee on Science's oversight findings and recommendations are reflected in the body of this report.

XIII. STATEMENT ON GENERAL PERFORMANCE GOALS AND OBJECTIVES

Pursuant to clause (3)(c) of House rule XIII, the goals of H.R. 547 are to develop additives, blendstocks, technologies and methods to mitigate the negative effects of biofuels on infrastructure, to develop portable, low cost, and accurate technologies for testing sulfur content of diesel fuels, and begin demonstrations of such tech-

nologies within one year, and for NIST to compile a database of physical properties for alternative fuels, and use these data to develop Standard Reference Materials (SRMs) such as those NIST develops for conventional fuels.

XIV. CONSTITUTIONAL AUTHORITY STATEMENT

Article I, section 8 of the Constitution of the United States grants Congress the authority to enact H.R. 547.

XV. FEDERAL ADVISORY COMMITTEE STATEMENT

H.R. 547 does not establish nor authorize the establishment of any advisory committee.

XVI. CONGRESSIONAL ACCOUNTABILITY ACT

The Committee finds that H.R. 547 does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act (Public Law 104–1).

XVII. EARMARK IDENTIFICATION

H.R. 547 does not contain any congressional earmarks, limited tax benefits, or limited tariff benefits as defined in clause 9(d), 9(e), or 9(t) of rule XXI.

XVIII. STATEMENT ON PREEMPTION OF STATE, LOCAL, OR TRIBAL LAW

This bill is not intended to preempt any state, local, or tribal law.

XIX. CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

None.

XX. COMMITTEE RECOMMENDATIONS

On January 31, 2007, the Committee on Science and Technology favorably reported the Advanced Fuels Infrastructure Research and Development Act by a voice vote, and recommended its enactment.

XXI. MINORITY VIEWS

None.

XXII. PROCEEDINGS OF THE FULL COMMITTEE MARKUP ON H.R. 547, THE ADVANCED FUELS INFRASTRUCTURE RESEARCH AND DEVELOPMENT ACT

WEDNESDAY, JANUARY 31, 2007

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE AND TECHNOLOGY,
Washington, DC.

The Committee met, pursuant to call, at 11:05 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Bart Gordon [Chairman of the Committee] presiding.

Chairman GORDON. Welcome, everyone, to the Committee of Science and Technology, and we will come to order. Pursuant to notice, the Committee meets to consider the following measures: H.R. 547, the *Advanced Fuels Infrastructure Research and Development Act;* H.Res. 72, *Recognition of the work and accomplishments of Mr. Britt Max Mayfield, Director of the National Hurricane Center's Tropical Prediction Center upon his retirement.* We are moving forward now for two reasons: one is because it is time to move forward, and the second is that we are going to be having votes in about 15 minutes. And if some of your Members aren't here yet, we are not trying to preempt them but rather provide them the courtesy of being able to get to vote and not have to come back.

So we now proceed with the markup, beginning with opening statements. I will be brief, since I will also speak to two bills.

Today, we will be meeting to markup two good, bipartisan pieces of legislation. The first bill, H.R. 547, is a quick-shot bill to help address a very important energy issue confronting our nation. As I said, it is a quick-shot piece of legislation rather than a large, ominous bill. My hope is that as good ideas come to this committee we can quickly address them and get them out the door, and this bill is a good example.

As I mentioned, both of these bills are co-sponsored by some of our Republican colleagues, and my hope is that this committee will continue to work on a bipartisan basis.

And I now recognize Mr. Hall to present his opening statement.

Mr. HALL. Mr. Chairman, I will waive my opening statement. You have already set forth a policy that benefits our country and spends the taxpayer dollars efficiently and I do support your legislation and the manager's amendment and hope my Republican colleagues will do likewise.

Chairman GORDON. I compliment your statement, and without objection, Members may place statements in the record.

[The prepared statement of Ms. Johnson follows:]

PREPARED STATEMENT OF REPRESENTATIVE EDDIE BERNICE JOHNSON

Thank you, Mr. Chairman, for holding today's markup and for being aggressive in expediting good proposals through the Committee on Science and Technology.

The mountain of data supporting global warming is too large to ignore. This committee is positioned to have leadership on this issue.

One important thing the Science and Technology Committee needs to be doing is supporting research and development into alternative fuels.

Texas has great potential for wind power, as well as solar.

Until the American public begin investing in economy cars and alternative fuel sources, government must take the lead. That way, when this nation feels the pinch of oil in short supply, like it has in recent years, we will be set to ramp up our alternative fuel market.

H.R. 547, the *Advanced Fuels Infrastructure Research and Development Act* is a solid proposal with a noble purpose.

I support investments in research to develop alternative fuel markets and better understand and develop ultra low sulfur diesel.

This is a good bill, and I urge my colleagues to support it.

Thank you, Mr. Chairman. I yield back the balance of my time.

[The prepared statement of Mr. Hill follows:]

PREPARED STATEMENT OF REPRESENTATIVE BARON P. HILL

Thank you Mr. Chairman for bringing this extremely important bill before our committee. Our country needs to end our dependence on foreign oil. Indiana boasts coal, corn, soy, and other forms of biomass that will help solve the country's energy problems. For this reason, I am proud to support the *Advanced Fuels Infrastructure Research and Development Act.* This bill provides for important research into making our current fuel infrastructure compatible with new bio-based fuels. By making the transition to bio-based fuels less costly for retailers, we can accelerate the pace of the country's transition away from foreign oil. Energy independence is important for my constituents and for our county. I proudly support this bill.

Chairman GORDON. We will now consider H.R. 547, the *Advanced Fuels Infrastructure Research and Development Act.* I yield myself five minutes to describe the bill.

When I became Chairman of the Committee, I made a promise that this would be a committee of good ideas and consensus. And we are here to solve problems. I want H.R. 547 to serve as an example of how we can identify problems, big and small, leverage the resources and expertise of the Committee to develop creative ways to bridge technological gaps through research and development.

It is clear that fueling our economy solely on conventional fuels threatens our economic well-being and environmental health. The public wants and deserves clean and reliable fuel choices.

But if this country is serious about reducing our dependency on foreign oil, we need to get serious about mobilizing the infrastructure necessary to distribute and dispense the newest generation of fuels. For a number of reasons, alternative bio-based fuels, such as ethanol and bio-diesel, are often incompatible with many components of the present-day infrastructure.

Fuel distributors and retailers are left to bear the considerable burden and much of the cost of refurbishing, replacing, or constructing entirely new infrastructure if they want or even are required at a later date to carry such fuels. At $30,000 to $200,000 per station, a nationwide change in infrastructure could cost $5 to $30 billion.

Instead, my bill directs research and development of fuel additives and other technologies that could mitigate many of these problems and make bio-based fuels more compatible with the country's petroleum-based infrastructure. In addition, this bill address-

es potential challenges as suppliers transition to significantly cleaner fuels by directing development of portable, low-cost, and accurate methods that suppliers can use to test sulfur content in fuels.

Since infrastructure is used for various fuel productions with sulfur content ranging anywhere from 15 to 5,000 ppm, there is a concern that distributors and retailers may sell fuel with levels of sulfur beyond what is safe for the newest generation of diesel technologies.

And with that, I am going to conclude my remarks other than to simply say this is, once again, an example of an industry that came to us, told us problems that they were having, and how technological changes could move this bill forward.

Our purpose here today is not to create an enormous energy bill. As a matter of fact, this was part of our bill last year that passed but never became law, because it got bogged down. And once again, my hope is that we are going to take good ideas, move them forward. Today, it is a Democratic bill, but I understand that Mrs. Biggert has introduced her bills, and we look forward to hearing those in the future.

And with that, I thank you, and I recognize Mr. Hall to present any remarks on the bill.

[The prepared statement of Chairman Gordon follows:]

PREPARED STATEMENT OF CHAIRMAN BART GORDON

When I took the reins of this committee, I made a promise that this would be a committee of "good ideas" and "consensus." We are here to solve problems.

I want H.R. 547 to serve as an example of how we can identify problems big and small, and leverage the resources and expertise of the Committee to develop creative ways to bridge technological gaps through research and development.

It is clear that fueling our country solely on conventional fuels threatens our economic well-being and environmental health. The public wants and deserves clean and reliable fuel choices.

But, if this country is serious about reducing our dependence on foreign oil, we need to get serious about mobilizing the infrastructure necessary to distribute and dispense the newest generation of fuels.

For a number of reasons, alternative bio-based fuels such as ethanol and biodiesel are often incompatible with many components of the present-day infrastructure.

Fuel distributors and retailers are left to bear the considerable burden and much of the cost of refurbishing, replacing, or constructing entirely new infrastructure if they want (or are ever required) to carry such fuels.

At $30,000 to $200,000 per station, a nationwide change in infrastructure could cost $5 to $30 billion.

Instead, my bill directs research and development of fuel additives and other technologies that could mitigate many of these problems and make bio-based fuels more compatible with the country's petroleum-based infrastructure.

In addition, this bill addresses potential challenges as suppliers transition to significantly cleaner fuels by directing development of portable, low-cost, and accurate methods suppliers can use to test sulfur content in fuels.

Since infrastructure is used for various fuel products with sulfur content ranging from 15 to 5000 ppm, there is a concern that distributors and retailers may sell fuel with levels of sulfur beyond what is safe for the newest generation of highway diesel engines.

It should be noted that this section is not meant to interfere with the role of the Environmental Protection Agency in what has been a very successful market transition to Ultra Low Sulfur Diesel. It simply seeks to provide easier access to testing and verification for all participants. In the legislative hearing yesterday, we heard from three valuable experts in the field, and we have taken testimony, endorsements and suggestions that will make this a better bill.

Today, with your cooperation we will send the bill out of Committee with some minor changes, the addition of the EPA Assistant Administrator for the Office of

Research and Development, as well as the addition of a funding authorization. These changes have been discussed with and agreed to by both sides of the aisle.

But this is not our last chance to improve the bill.

H.R. 547 could be on the Floor under a rule as early as next week, and it is possible that I will have a Floor amendment that makes additional minor adjustments. Nor is this the last chance for the Committee to act on the issue of biofuels, or any fuel or energy issue for that matter. On the contrary, this is just the beginning. We will be very active in energy this Congress.

I hope this bill also illustrates that solving problems does not require years of wrangling over major omnibus legislation that in the end fails to meet everyone's expectations.

Here we took a good idea, turned it into a good bill, and with the support of our Members we will pass it out of Committee today and send it to the Floor next week.

Thank you.

Mr. HALL. Mr. Chairman, I think you have said it very well, and we are, on this side, in total support of the bill.

Chairman GORDON. Does anyone else wish to be recognized?

I ask unanimous consent that the bill is considered as read and open to amendment at any point and that the Members proceed with the amendments in order of the roster. Without objection, so ordered.

The first amendment on the roster is a manager's amendment. The amendment is at the desk, and the Clerk will report the amendment.

The CLERK. Amendment to H.R. 547, offered by Mr. Gordon of Tennessee.

Chairman GORDON. I ask unanimous consent to dispense with the reading, and without objection, so ordered.

After consultation with colleagues on Energy and Commerce and our minority and following up on testimony from the hearings yesterday, I made the following changes in the manager's amendment. Biofuels is used to make the term for this category of fuel consistent throughout the bill and consistent with terms of existing law. We removed demonstration and commercial applications to make the bill consistent with activities that we expect the EPA to engage in. And since EPA is the agency that is charged with implementation of both diesel and renewable fuel rules and standards, EPA is now the lead agency for sections 3 and 4 of the bill. And it makes a one-time authorization of $10 million.

The practical implication here is that after talking with Energy and Commerce, they felt there were some jurisdictional concerns. We wanted to meet that need. We talked with them. We worked it out. We talked with the minority, and I think all problems have been settled.

Is there further discussion of the amendment?

If no, the vote occurs on the amendment. All in favor, say aye. Those opposed, say no. The ayes have it, and the amendment is agreed to.

The second amendment on the roster is offered by Mr. Costello, if he is here. And he is not here. If I could, I have discussed Mr. Costello's amendment with him, and let me relate to the Committee our conversation.

Jerry was going to introduce an amendment and was going to withdraw it, and the amendment was concerned with coal technologies. It really wasn't adaptable to this particular bill. Jerry and I had a discussion yesterday, and the fact of the matter is that any

type of serious look at our energy problem is going to have to deal also with coal. And we agreed that we should bring together Resources as well as Energy and Commerce under the auspices of this committee, have probably an informal, rather than a formal, hearing about the pros and cons of coal, the technology, where it is going, and its role that it can play.

I think this is going to be constructive to an overall energy bill, and I look forward to working with him on that. And he was supposed to withdraw his amendment after that, so we will move on.

Are there any other amendments?

Hearing none, the vote is on the bill H.R. 547, the *Advanced Fuels Infrastructure Research and Development Act.*

Mr. BILBRAY. Mr. Chairman?

Chairman GORDON. Yes. Who is——

Mr. BILBRAY. Mr. Chairman?

Chairman GORDON. Yes, Mr. Bilbray.

Mr. BILBRAY. Yes, Mr. Chairman. I just want to thank you for bringing this bill forward. As a former member of the State Air Resources Board in the State of California, I do want to sort of reflect the fact that those of us in California, in many ways with clean air technology, have been far ahead of the curve nationally, as you know. States all across this country are using California as the goal standard for clean air.

Chairman GORDON. Yeah.

Mr. BILBRAY. The reference to California on the issue of ethanol is not by accident, and I just want to point out that though biofuels have some great opportunities, in fact, I was one of those who fought strongly that diesel—bio-diesel be recognized in our—in the exemption from certain type of assessments and taxes, the fact is there are challenges. And the ethanol issue in California was not by accident. Our scientists came forward and said that there are certain applications, especially during warm summers, that there was major environmental problems that needed to be addressed. That aside, winter application, because of emission issues, the biofuel opportunities are huge. I just want us, as we move forward, to remember to do a reality check that there are scientific challenges here, and California has been the lead on this issue and reflect that.

The other issue I would like to point out, and I hope this study looks into, the challenges I have run into with using alternative fuels has not been as much economic and market-based as it has been government obstruction. A good example was the opportunity for consumers to use natural gas as an alternative to gasoline where we have public utilities that were absolutely blocking that application even though, from an air pollution point of view, we were trying to initiate it.

So I just want to point out that there—we hope, as we move forward, that we continue to keep this as a science-based, because in the long run, when we—with all of the different economic opportunities, the science is going to determine our success and our failure.

And I thank you for bringing this forward. I look forward to seeing us work in California, and I hope—in fact, I know the EPA has worked great—very closely with the Air Resources Board and the California EPA and actually, again, allowed us to take a lead on

many issues. And with this bill, hopefully, we will see that relationship continue.

I yield back, Mr. Chairman.

Chairman GORDON. Well, if you would—if the gentleman would yield, there have been a lot of models from California. I hope that you will review those, brings some of those toward this Committee, and I hope you will bring some of your members on your side of the aisle to support those, too. And I think, again, California has been out front to see some of the things that work, some of the things that don't work. I hope you will bring those things that work to us.

Mr. BILBRAY. If you may yield, Mr. Chairman.

Chairman GORDON. Yes.

Mr. BILBRAY. I——

Chairman GORDON. I yield back.

Mr. HALL. Would the gentleman yield?

Mr. BILBRAY. I—yes, Mr. Hall.

Mr. HALL. Yeah, I agree with the gentleman, and I thank him for his information on biofuels and would suggest, also, though, that hydrogen, solar, wind, plug-in hybrids, energy-efficient buildings, coal gasification and a lot of other things need to be addressed that aren't addressed in this that we are—that no one on either side is in opposition to it. It is just that we work them in right. I am from a state that is a fossil fuel state, but I believe in coal. Our major producer for electricity for the State of Texas has used lignite for over 50 percent of their energy for the past 15 years, so coal—clean coal is very important and probably there is enough coal in this country to double the total output of OPEC nations all put together if we could just mine it. We need to be the avenue through which they are able to do that, and I yield back my time——

Mr. BILBRAY. Reclaiming my——

Mr. HALL. —to the gentleman from California.

Mr. BILBRAY. Thank you. Mr. Chairman, I just want to sort of restate that in my previous life on the—in the House of Chambers, I was the author of the bill that eliminated the ethanol—methanol mandate for those states that had cleaner alternatives. The fact is, three years after sponsoring that bill and being attacked by people who thought they were protecting the environment, the methanol disaster came out. And in fact, Chairman Waxman's city of Santa Monica has probably got the most polluted wells, and those wells were polluted by a federal mandate that were well intentioned but were not grounded in good science. So that is why I feel strongly that we do that. And as the gentleman from Texas pointed out the issue about coal, I have been a strong opponent of the use of coal from a clean air point of view, but now, with the latest issues of global dimming, which is something we haven't even discussed in Congress. All at once, coal comes out as maybe not being such a bad guy, at least in the short run.

So I appreciate the chance to be able to dialogue on this issue, and I appreciate the chance to be able to vote on this bill.

Chairman GORDON. If the gentleman will yield, this is a good dialogue. It is one we need to continue. Unfortunately, we have votes today at about 11:15. I don't want to have to bring you back.

But I think, as Mr. Hall pointed out, there isn't a silver bullet here. You know. Where the wind blows, where the sun shines, whether it is geothermal, nuclear, the whole works, we are going to take a look at it and we are going to bring together. And this is a model, and let us bring them forth as we have them. Let us not try to wait for two or three years to develop an enormous bill that gets bogged down.

Are there any other amendments? If not, all in favor, say aye. All of those opposed, nay. The ayes have it. And I recognize Mr. Hall to offer a motion.

Mr. HALL. Mr. Chairman, I move that the Committee favorably report H.R. 547, as amended, to the House with the recommendation that the bill do pass. Furthermore, I move that the staff be instructed to prepare the legislative report and make necessary technical and conforming changes and that the Chairman take all necessary steps to bring the bill before the House for consideration.

I yield back my time.

Chairman GORDON. The question is on the motion to report the bill favorably. Those in favor of the motion will signify by saying aye. Opposed, no. The ayes have it, and the bill is favorably reported.

Without objection, the motion to reconsider is laid on the table. I move that Members have two subsequent calendar days in which to submit supplemental, minority, or additional views on the measure. I move pursuant to Clause 1 of Rule 22 of the Rules of the House of Representatives that the Committee authorize the Chairman to offer such motions as may be necessary in the House to adopt and pass H.R. 547, the *Advanced Fuels Infrastructure Research and Development Act.* Without objection, so ordered.

And let me say to our new Members and other Members today. This was a bit of a bim-bam operation today, the reason being a couple of things. First of all, these bills were well vetted. They were bipartisan. Also, we had consultation with our other committees of jurisdiction. And as I mentioned to you, we are going to be having votes any moment now. Let this be the opening of discussion about climate change, of energy, and of alternative energies. We have got a lot to do here. I know that Mrs. Biggert has a couple of bills that she has just introduced. We are looking forward to those. Mrs. Biggert, we are glad you are here. And we welcome other bills on this issue. We want to try to get a good idea, vet it well, take it out and get it passed, and then we hope that you will talk with senators in your states, and we will get some things done.

So I want to thank the Members for their attendance, and this concludes our markup.

[Whereupon, at 11:29 a.m., the Committee was adjourned.]

Appendix:

H.R. 547, Roster of Amendments

I

110TH CONGRESS
1ST SESSION

H. R. 547

To facilitate the development of markets for alternative fuels and Ultra Low Sulfur Diesel fuel through research, development, and demonstration and data collection.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 18, 2007

Mr. GORDON of Tennessee introduced the following bill; which was referred to the Committee on Science and Technology

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A BILL

To facilitate the development of markets for alternative fuels and Ultra Low Sulfur Diesel fuel through research, development, and demonstration and data collection.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Advanced Fuels Infrastructure Research and Development Act".

SEC. 2. FINDINGS.

The Congress finds that—

(1) in order to lessen United States dependence on foreign sources of petroleum, and decrease de-

mand for petroleum in the transportation sector, the Nation must diversify its fuel supply to include domestically produced alternative biobased fuels;

(2) while ethanol has been successful in the market place as a fuel additive, newer biobased fuels may present unique challenges that may render the fuels incompatible with the current fuel transportation and delivery infrastructure, placing the burden of costly refurbishment and construction on fuel distributors and retailers;

(3) chemical additives to the fuels may mitigate the negative impacts of some biobased fuels on existing infrastructure and preclude costly retrofitting or installation of new biobased fuel compatible infrastructure and transportation systems;

(4) in order to mitigate air pollution and comply with Federal mandates, Ultra Low Sulfur Diesel fuel was introduced into the marketplace in 2006;

(5) fuel labeled Ultra Low Sulfur Diesel can accumulate more than the statutory limit of 15 parts per million of sulfur when transported through multiple pipelines, tanks, and trucks to the final point of sale; and

(6) fuel distributors and retailers may inadvertently take delivery of fuel labeled Ultra Low Sulfur

Diesel with more than 15 parts per million of sulfur without a practical means of verifying sulfur content.

SEC. 3. ALTERNATIVE FUEL AND ULSD INFRASTRUCTURE AND ADDITIVES RESEARCH AND DEVELOPMENT.

The Secretary of Energy (in this Act referred to as the "Secretary") , in consultation with the National Institute of Standards and Technology, shall carry out a program of research, development, demonstration, and commercial application of materials to be added to alternative biobased fuels and Ultra Low Sulfur Diesel fuels to make them more compatible with existing infrastructure used to store and deliver petroleum-based fuels to the point of final sale. The program shall address—

(1) materials to prevent or mitigate—

(A) corrosion of metal, plastic, rubber, cork, fiberglass, glues, or any other material used in pipes and storage tanks;

(B) dissolving of storage tank sediments;

(C) clogging of filters;

(D) contamination from water or other adulterants or pollutants;

(E) poor flow properties related to low temperatures;

(F) oxidative and thermal instability in long-term storage and use;

(G) increased volatile emissions;

(H) microbial contamination;

(I) problems associated with electrical conductivity; and

(J) increased nitrogen oxide emissions;

(2) alternatives to conventional methods for refurbishment and cleaning of gasoline and diesel tanks, including tank lining applications; and

(3) other problems as identified by the Secretary in consultation with the National Institute of Standards and Technology.

SEC. 4. SULFUR TESTING FOR DIESEL FUELS.

(a) PROGRAM.—The Secretary, in consultation with the National Institute of Standards and Technology, shall carry out a research, development, and demonstration program on portable, low-cost, and accurate methods and technologies for testing of sulfur content in fuel, including Ultra Low Sulfur Diesel and Low Sulfur Diesel.

(b) SCHEDULE OF DEMONSTRATIONS.—Not later than 1 year after the date of enactment of this Act, the Secretary shall begin demonstrations of technologies under subsection (a).

SEC. 5. STANDARD REFERENCE MATERIALS AND DATA BASE DEVELOPMENT.

Not later than 6 months after the date of enactment of this Act, the National Institute of Standards and Technology shall develop a physical properties data base and standard reference materials for alternative fuels. Such data base and standard reference materials shall be maintained and updated as appropriate as additional alternative fuels become available.

○

Roster of Amendments

1. Amendment by Mr. Gordon

Adds the term "Biofuels" to make terminology consistent through the bill and with current law; removes the words "demonstration and commercial application" from the bill, directs the Assistant Administrator of the Office of Research and Development at the Environmental Protection Agency to lead the R&D program under sections 3 and 4; provides a one-time authorization of $10 million.

2. Amendment by Mr. Costello

To provide funding for research, development, testing, and evaluation of coal-to-liquid fuels.

AMENDMENTS TO H.R. 547

OFFERED BY MR. GORDON OF TENNESSEE

Page 2, line 3, strike ''alternative biobased fuels'' and insert ''biofuels''.

Page 2, line 5, strike ''biobased fuels'' and insert ''biofuels''.

Page 2, line 12, strike ''biobased fuels'' and insert ''biofuels''.

Page 2, line 14, strike ''biobased fuel'' and insert ''biofuel''.

Page 2, line 19, strike ''can'' and insert ''may''.

Page 3, line 4, strike ''**ALTERNATIVE FUEL AND ULSD**'' and insert ''**BIOFUEL**''.

Page 3, lines 7 and 8, strike ''Secretary of Energy (in this Act referred to as the 'Secretary'), in consultation with'' and insert ''Assistant Administrator of the Office of Research and Development of the Environmental Protection Agency (in this Act referred to as the 'Assistant Administrator'), in consultation with the Secretary of Energy and''.

Page 3, lines 10 and 11, strike ", development, demonstration, and commercial application" and insert "and development".

Page 3, lines 11 and 12 strike "alternative biobased fuels" and insert "biofuels".

Page 3, line 12, strike "and Ultra Low Sulfur Diesel fuels".

Page 4, line 3, strike subparagraph (G).

Page 4, lines 4 and 5, redesignate subparagraphs (H) and (I) as subparagraphs (G) and (H), respectively.

Page 4, line 4, insert "and" after "contamination;".

Page 4, line 6, strike "and".

Page 4, line 7, strike subparagraph (J).

Page 4, lines 11 and 12, strike "Secretary in consultation with" and insert "Assistant Administrator, in consultation with the Secretary of Energy and".

Page 4, line 15, strike "Secretary" and insert "Assistant Administrator".

Page 4, line 23, strike "Secretary" and insert "Assistant Administrator".

Page 5, line 6, strike ''alternative fuels'' and insert ''biofuels''.

Page 5, lines 8 and 9, strike ''alternative fuels'' and insert ''biofuels''.

Page 5, after line 9, add the following new section:

1 **SEC. 6. AUTHORIZATION OF APPROPRIATIONS.**

2 There are authorized to be appropriated to the Envi-
3 ronmental Protection Agency $10,000,000 for carrying
4 out this Act.

Amend the title so as to read: ''A Bill to facilitate the development of markets for biofuels and Ultra Low Sulfur Diesel fuel through research and development and data collection.''.

AMENDMENT TO H.R. 547

OFFERED BY MR. COSTELLO OF ILLINOIS

At the end of the bill, add the following new sections:

1 **SEC. 6. AUTHORIZATION TO CONDUCT RESEARCH, DEVEL-**
2 **OPMENT, TESTING, AND EVALUATION OF AS-**
3 **SURED DOMESTIC FUELS.**

4 Of the amount authorized to be appropriated for the
5 Air Force for research, development, testing, and evalua-
6 tion, $10,000,000 may be made available for the Air Force
7 Research Laboratory to continue support efforts to test,
8 qualify, and procure synthetic fuels developed from coal
9 for aviation jet use.

10 **SEC. 7. REPORT ON EMISSIONS OF FISCHER-TROPSCH**
11 **PRODUCTS USED AS TRANSPORTATION**
12 **FUELS.**

13 (a) IN GENERAL.—In cooperation with the Adminis-
14 trator of the Environmental Protection Agency, the Sec-
15 retary of Defense, the Administrator of the Federal Avia-
16 tion Administration, and the Secretary of Health and
17 Human Services, the Secretary shall—

18 (1) carry out a research and demonstration pro-
19 gram to evaluate the emissions of the use of Fischer-

1 Tropsch fuel for transportation, including diesel and
2 jet fuel;
3 (2) evaluate the effect of using Fischer-Tropsch
4 transportation fuel on land and air engine exhaust
5 emissions; and
6 (3) in accordance with subsection (e), submit to
7 Congress a report on the effect on air quality and
8 public health of using Fischer-Tropsch fuel in the
9 transportation sector.
10 (b) GUIDANCE AND TECHNICAL SUPPORT.—The Sec-
11 retary shall issue any guidance or technical support docu-
12 ments necessary to facilitate the effective use of Fischer-
13 Tropsch fuel and blends under this section.
14 (c) FACILITIES.—For the purpose of evaluating the
15 emissions of Fischer-Tropsch transportation fuels, the
16 Secretary shall—
17 (1) support the use and capital modification of
18 existing facilities and the construction of new facili-
19 ties at the research centers designated in section
20 417 of the Energy Policy Act of 2005 (42 U.S.C.
21 15977); and
22 (2) engage those research centers in the evalua-
23 tion and preparation of the report required under
24 subsection (a)(3).

1 (d) REQUIREMENTS.—The program described in sub-
2 section (a)(1) shall consider—
3 (1) the use of neat (100 percent) Fischer-
4 Tropsch fuel and blends of Fischer-Tropsch fuels
5 with conventional crude oil-derived fuel for heavy-
6 duty and light-duty diesel engines and the aviation
7 sector; and
8 (2) the production costs associated with domes-
9 tic production of those fuels and prices for con-
10 sumers.
11 (e) REPORTS.—The Secretary shall submit to the
12 Committee on Energy and Natural Resources of the Sen-
13 ate and the Committee on Energy and Commerce of the
14 House of Representatives—
15 (1) not later than 180 days after the date of
16 enactment of this Act, an interim report on actions
17 taken to carry out this section; and
18 (2) not later than 1 year after the date of en-
19 actment of this Act, a final report on actions taken
20 to carry out this section.
21 (f) AUTHORIZATION OF APPROPRIATIONS.—There
22 are authorized to be appropriated such sums as are nec-
23 essary to carry out this section.