NRDC
THE EARTH'S BEST DEFENSE

NATURAL RESOURCES DEFENSE COUNCIL

Transportation Fuels Briefing for the

Committee on Environment and Public Works

United States Senate

Daniel A. Lashof, Ph.D.

Climate Center Science Director

Natural Resources Defense Council

June 13, 2007

Introduction

U.S. energy policy must address three major challenges: reducing America's dangerous dependence on oil, reducing global warming pollution, and providing affordable energy services that sustain a robust economy. Biofuels have the potential to contribute significantly to all three of these goals. Sustainably produced biomass feedstocks, processed efficiently and used in efficient vehicles can reduce our dependence on oil for transportation, reduce emissions of heat-trapping carbon dioxide, and contribute significantly to a vibrant farm economy. Pursued without adequate guidelines, however, biofuels production carries grave risk to our lands, forests, water, wildlife, public health and climate.

Accelerated corn cultivation for ethanol, for example, threatens to deplete water tables, magnify contamination by fertilizers, pesticides, and herbicides, and undermine vital conservation programs such as the Farm Bill's Conservation Reserve Program. On farms and in forests across the country and abroad, imprudent biomass harvesting would cause soil erosion, water pollution, and habitat destruction, while also substantially reducing the carbon sequestered on land. Advancing a biofuels policy that increases lifecycle greenhouse gas emissions would be a particularly perverse result for a policy that is intended, at least in part, to reduce global warming pollution.

The Need for Performance Standards

As introduced, S.1321 distinguishes between "conventional biofuel," defined as ethanol derived from corn kernels, and "advanced biofuels," which is essentially fuel derived from any other form of biomass, other than old growth forests. The bill would limit the portion of the overall renewable fuels standard that can be satisfied with conventional biofuels to 15 billion gallons. Structuring the standard in this way to ensure the diversification of feedstocks used for biofuels production is very helpful, but is not an adequate substitute for explicit greenhouse gas performance standards and sustainable feedstock sourcing requirements.

In structuring an effective biofuels policy it is important to recognize that the choice of feedstocks is just one of many factors that influence the environmental impacts of biofuels production. Key factors to consider in addition to feedstock type are carbon emissions from converting land from other uses to feedstock production, tillage method, energy use for irrigation, fertilizer application rate, the source of thermal energy and electricity at the biorefinery, the overall efficiency of the biorefinery, and whether CO_2 produced during fermentation is sequestered or released into the atmosphere. The impacts will also depend on the total volume of fuel produced. In other words, the first billion gallons of cellulosic ethanol could have very different impacts than the 21st billion gallon. Considering all of these factors it is possible to produce ethanol derived from corn in a way that produces less than half of the lifecycle greenhouse gas emissions of gasoline (per BTU of delivered fuel). Conversely it is possible to produce ethanol from cellulosic feedstocks in a manner that produces far more CO_2 than gasoline.

First consider a dry mill corn ethanol plant. Greenhouse gas emissions from corn production can be minimized by obtaining the corn from a farm that practices no-till cultivation. In addition, by collecting a portion of the corn stover along with the grain the ethanol plant can meet its thermal energy needs with this biomass energy source rather than fossil fuels. Finally, fermentation produces carbon dioxide in a pure stream that can be easily captured for geologic sequestration. Using Argonne National Laboratory's GREET model, we estimate that the lifecycle greenhouse gas emissions from ethanol produced at such a plant would be 7.5 pounds per gasoline gallon equivalent, or more than 70% lower than gasoline. NRDC has examined the greenhouse gas emissions from a wide variety of feedstock and conversion process combinations using the Argonne GREET model (see Figure 1 and Appendix A). EPA conducted a similar analysis for a fact sheet released in conjunction with its final rule for implementing the Renewable Fuels Standard enacted in EPACT 2005.[1] EPA's results are shown in Figure 2 and are very similar to ours (note that EPA displays results relative to conventional gasoline, which is set to zero on their chart.)

Now consider a cellulosic ethanol plant. While such plants are often considered to be environmentally superior to corn ethanol plants, this is not necessarily the case, depending on how the cellulosic feedstock is produced. For example, if the biomass for the cellulosic ethanol plant is obtained by converting to biomass production land that had been enrolled in the conservation reserve program (CRP), then the forgone conservation benefits and carbon benefits must be accounted for. The CRP has enrolled more than 1 million acres in forest cover, including hardwoods, longleaf pine, and other softwoods. While these are secondary, rather than old growth, forests, they nonetheless provide important ecological services and sequester a substantial amount of carbon. Converting

[1] http://www.epa.gov/otaq/renewablefuels/420f07035.htm

such lands to biofuels production would not only rapidly return to the atmosphere the carbon sequestered since the trees were planted, but would also forgo future carbon sequestration on this land. The net result would be CO_2 emissions to the atmosphere many times greater than the annual greenhouse gas benefits from cellulosic ethanol production on this land.

Land conversion need not be this direct to undermine the environmental benefits of biofuel production. Devoting an increased share of U.S. agricultural output to fuel production rather than grain exports will result in increased demand for animal feed from sources abroad. If any significant portion of this additional feed is obtained by converting mature forests into pasture or cropland the CO_2 emissions from this land use change could greatly exceed the emission reductions from the use of biofuels. This type of indirect impact has not yet been adequately incorporated into fuel cycle greenhouse gas assessment tools. A substantial modeling effort that takes a comprehensive systems approach will be needed to understand and address these effects.

Global Warming Pollution from Liquid Coal

As debate on the energy bill continues there is a lot of discussion about the idea of producing transportation fuels from coal. Two authoritative recent studies conclude that even if liquid coal synfuels plants fully employ carbon capture and storage, full lifecycle greenhouse gas emissions from using these fuels will be worse than conventional diesel fuel. There is a straightforward reason for this. Vehicle tailpipe CO_2 emissions from using liquid coal would be nearly identical to those from using conventional diesel fuel.

Any CO_2 emissions released from the synfuels production facility have to be added to the tailpipe emissions. The residual emissions from a liquid coal plant employing CCS are still somewhat higher than emissions from a petroleum refinery, hence lifecycle emissions are higher.

In April, EPA released an analysis of lifecycle greenhouse gas emissions in conjunction with publishing its final rule to implement the Renewable Fuels Standard enacted in the Energy Policy Act of 2005. EPA's analysis finds that without carbon capture lifecycle greenhouse gas emissions from coal-to-liquid fuels would be more than twice as high as from conventional diesel fuel (118% higher). Assuming carbon capture and storage EPA finds that lifecycle greenhouse gas emissions from coal-to-liquid fuels would be 3.7% higher than from conventional diesel fuel.[2]

In May, Michael Wang of Argonne National Laboratory, the developer of the most widely used transportation fuels lifecycle emissions model, presented the results of his more detailed analysis of coal-to-liquid fuels to the Society of Automotive Engineers conference. The Argonne analysis shows that coal-to-liquid fuels could have lifecycle greenhouse gas emissions as much as 2.5 times those from conventional diesel. Even assuming a high-efficiency coal-to-liquids conversion process and carbon capture and storage, Argonne finds that lifecycle greenhouse gas emissions from coal-to-liquids would still be 19% higher than from conventional diesel (Figure 3)[3].

[2] http://www.epa.gov/otaq/renewablefuels/420f07035.htm
[3] M. Wang, M. Wu, H. Huo, "Life-cycle energy and greenhouse gas results of Fischer-Tropsch diesel produced from natural gas, coal,, and biomass," Center for Transportation Research, Argonne National laboratory, presented at 2007 SAE Government/Industry meeting, Washington, DC, May 2007.

Given these results, it is not surprising that a recent Battelle study found that a significant coal-to-liquids industry is not economic in the face of policies designed to stabilize atmospheric CO_2 concentrations below twice the pre-industrial value. Battelle found that if there is no constraint on CO_2 emissions conventional petroleum would be increasingly replaced with liquid coal, but that in scenarios in which CO_2 concentrations are limited to 550 ppm or below, petroleum fuels are replaced with biofuels rather than liquid coal (Figure 4)[4].

Plug In Hybrid Electric Vehicles

While I believe that there are better alternatives, if coal is to be used to replace gasoline, generating electricity for use in plug-in hybrid vehicles (PHEVs) can be far more efficient and cleaner than making liquid fuels. In fact, a ton of coal used to generate electricity used in a PHEV will displace more than twice as much oil as using the same coal to make liquid fuels, even using optimistic assumptions about the conversion efficiency of liquid coal plants.[5] The difference in CO_2 emissions is even more dramatic. Liquid coal produced with CCS and used in a hybrid vehicle would still result in lifecycle greenhouse gas emissions of approximately 330 grams/mile, or **ten times** as much as the

[4] J. Dooley, R. Dahowski, M. Wise, and C. Davidson, "Coal-to-Liquids and Advanced Low-Emissions Coal-fired Electricity Generation: Two Very Large and Potentially Competing Demands for US Geologic CO2 Storage Capacity before the Middle of the Century." Battelle PNWD-SA-7804. Presented to the NETL Conference, May 9. 2007.

[5] Assumes production of 84 gallons of liquid fuel per ton of coal, based on the National Coal Council report. Vehicle efficiency is assumed to be 37.1 miles/gallon on liquid fuel and 3.14 miles/kWh on electricity.

33 grams/mile that could be achieve by a PHEV operating on electricity generated in a coal-fired power plant equipped with CCS.[6]

Biofuels Environmental Performance Principles

The benefits of biofuels can be realized, and the potential pitfalls avoided, through carefully crafted policy. Here I outline key principles that should be incorporated into Senate energy bill through a combination of more robust environmental performance standards, limitations on what qualifies as a renewable fuel, and incentives to promote voluntary management practices that protect ecological values. These principles are reflected in S. 1297, the Advanced Clean Fuels Act of 2007, sponsored by Chairman Boxer, Senator Collins, and Senator Lieberman.

- *The use of bioenergy must reduce greenhouse gas emissions.*

To assure benefits, new incentives and requirements for increased use of biofuels need to be tied to significant reductions in the greenhouse gas intensity of these fuels. As discussed above, this requires explicit greenhouse gas performance standards rather than an implicit assumption that certain feedstocks will produce greater benefits than others. The most effective approach is to cap total greenhouse gas emissions from transportation fuels and require progressive reductions in the average greenhouse gas emissions per gallon of transportation fuels sold, as California is planning to do, and as would be required under S.1297. If the renewable fuels standard is expanded, conventional biofuels should be required to achieve at least a 20% reduction in lifecycle greenhouse gas

[6] Assumes lifecycle greenhouse gas emission from liquid coal of 27.3 lbs/gallon and lifecycle greenhouse gas emissions from an IGCC power plant with CCS of 106 grams/kWh, based on R. Williams et al., paper presented to GHGT-8 Conference, June 2006.

emissions compared to conventional gasoline. This level of performance can easily be achieved with efficient corn ethanol plants as shown in Figure 1. Advanced biofuels should achieve at least a 50% reduction in lifecycle greenhouse gas emissions, which can be accomplished through several different feedstock and conversion process combinations. Climate impacts need to be assessed using an integrated systems approach that accounts for both direct and indirect impacts.

- *Biomass used for bioenergy has to be renewable.*

Biomass must be regrown on site, recapturing its released carbon, so that it is genuinely sustainable – unless it is the by-product of essential activity, such as removal of vegetation immediately around wildland-interface homes. Greenhouse gas emissions from land-use change associated with biofuels production, both directly and indirectly, must be accounted for to ensure that biofuels are genuinely renewable and produce net environmental benefits. If wastes are used, care must be taken to prevent combustion of any toxic materials, such as pressure treated or painted wood products. In addition, material such as post-consumer waste paper should be recycled rather than converted to fuel in order to reduce the pressure on forests for virgin fibers.

- *Bioenergy feedstocks must not be grown on environmentally sensitive lands*.

Some areas should simply be off limits for biofuels production. Biofuels should not qualify toward compliance with any renewable fuels standard if the biomass is obtained from old growth forests, wilderness study areas, roadless areas of national forests, native grasslands, important wildlife habitat, or ecosystems that are intact, rare, high in species richness or endemism, or exhibit rare ecological phenomena.

- *Conversion of natural ecosystems must be avoided*.

Habitat loss from the conversion of natural ecosystems represents the primary driving force in the loss of biological diversity worldwide. Activities to be avoided include those that alter the native habitat to such an extent that it no longer supports most characteristic native species and ecological processes.

- *Exemptions and waivers from environmental rules must not be used to promote biomass production or utilization*.

Trading one serious environmental harm for another is poor policy. Our environmental laws and regulations act as a fundamental system of checks and balances to guard against just such collateral damage and the promotion of bioenergy production and utilization must in no way be exempted.

- *Conservation and Wetland Reserve Programs supported by the Farm Bill must be managed for their conservation benefits.*

These programs protect marginal lands, water quality, soil, and wildlife habitat. Enrolled lands need to be managed principally for these important values, not bioenergy feedstocks.

- *Independent certification, market incentives, and minimum performance requirements are necessary to ensure that bioenergy feedstocks are produced using sustainable practices.*

Certification standards for biomass from private lands must address key environmental and social objectives, such as protection of wildlife habitat, prevention of erosion, conservation of soil and water resources, nutrient management, selection of appropriate feedstock species, and biologically-integrated pest management. New policies are needed to ensure that producers, refiners and distributors adhere to minimum performance requirements and have incentives to maximize environmental performance at each step.

- *Stringent safeguards must be established for bioenergy production from feedstock derived from federal land.*

Federal lands, including wildlife refuges, national forests and grasslands, are held subject to the public's interest in their non-commodity values. They are not appropriate for large-scale, sustained biomass sourcing.

Implementing a Renewable Fuels Standard

The 2005 Energy Policy Act established the existing renewable fuels standard (RFS) through an amendment to the Clean Air Act, appropriately charging EPA with implementing it as part of its program to regulate transportation fuels under the Clean Air Act. Any Low Carbon Fuels Standard or expansion of the RFS should similarly be implemented by EPA under the Clean Air Act and should build on the system of

Renewable Identification Numbers (RINs) established by EPA to implement the existing program. Incorporating the program into the Clean Air Act would make it subject to the general administrative subpoena and enforcement measures in the Clean Air Act, public participation in rulemaking, limitations on judicial review, and civil law suit provisions to enforce the law. (See Appendix B for a more detailed description)

The five-fold increase in biofuels production currently under consideration could have profound economic, ecological, and public health consequences. In implementing either a low carbon fuels standard or an expanded renewable fuels standard EPA should be charged with regularly assessing these impacts and mitigating adverse impacts on food or feed production or prices, ecosystem health, or environmental quality. Among the tools available to the Administrator, he or she should have the authority and obligation to reduce the required volume of renewable fuels if necessary to mitigate adverse impacts.

Special attention should be paid to the potential adverse impacts that increased biofuels use may have on air quality. It is widely recognized that when ethanol, whether derived from corn or cellulosic biomass, is mixed with gasoline and burned in today's vehicles, some emissions go up and some go down. Further, it is understood that the magnitude of these emissions is significantly affected by both the parameters of the fuel in which the ethanol is used and the air pollution control and other equipment on the vehicles that burn the fuel. This includes not only emissions that contribute to smog, but also the potential for increases in particle pollution and toxic air pollutants. The latest scientific research indicates that our current National Ambient Air Quality Standard for ozone (smog) does not provide an adequate level of safety. Therefore, it is critically important that we continue to reduce the emissions that contribute to smog even as we promote ways to transition our nation's transportation system to low-carbon biofuels.

EPA's Regulatory Impact Analysis that accompanied its recent renewable fuels standard (RFS) rulemaking found that, particularly in the areas that do not use gasoline with special limits to volatility, the use of the mandated levels in the current RFS will increase smog emissions 4-6 % (Table 4.1-12) with the possibility that NOx emissions might increase as much as 10% (Table 4.1-13). Clearly the prospect of adopting an RFS that more than quadruples the amount of ethanol mandated to be used in the nation's fuel supply demands an examination of such fuel use on smog impacts. Any such legislation should require serious analysis of the potential impact of a large ethanol increase on emissions, and a requirement that new volumes of ethanol be introduced in transportation fuel in ways that, at a minimum, do not increase the current levels of smog-forming pollutants in the nation's vehicle fleet. Further, the introduction of such fuels should also not increase toxic air pollutants or particle pollution.

To accomplish these sensible – and we believe uncontroversial – objectives, NRDC urges Congress to direct EPA to adopt regulations requiring that the emissions of any air pollutant from vehicles using renewable fuel shall be no greater than the level of such emissions from vehicles when using conventional gasoline. This is a straightforward no-backsliding requirement that will ensure that ethanol actually lives up to the name of being a cleaner fuel, delivering very real global warming benefits while not worsening air quality.

Conclusion

Biofuels holds great promise as a tool for reducing global warming pollution, breaking our dangerous oil addiction, and revitalizing rural economies, as long as appropriate standards and incentives are used to shape the nascent bioenergy industry to provide these benefits in a sound and truly sustainable fashion. I look forward to working with the Committee to improve S.987 to accomplish this important goal.

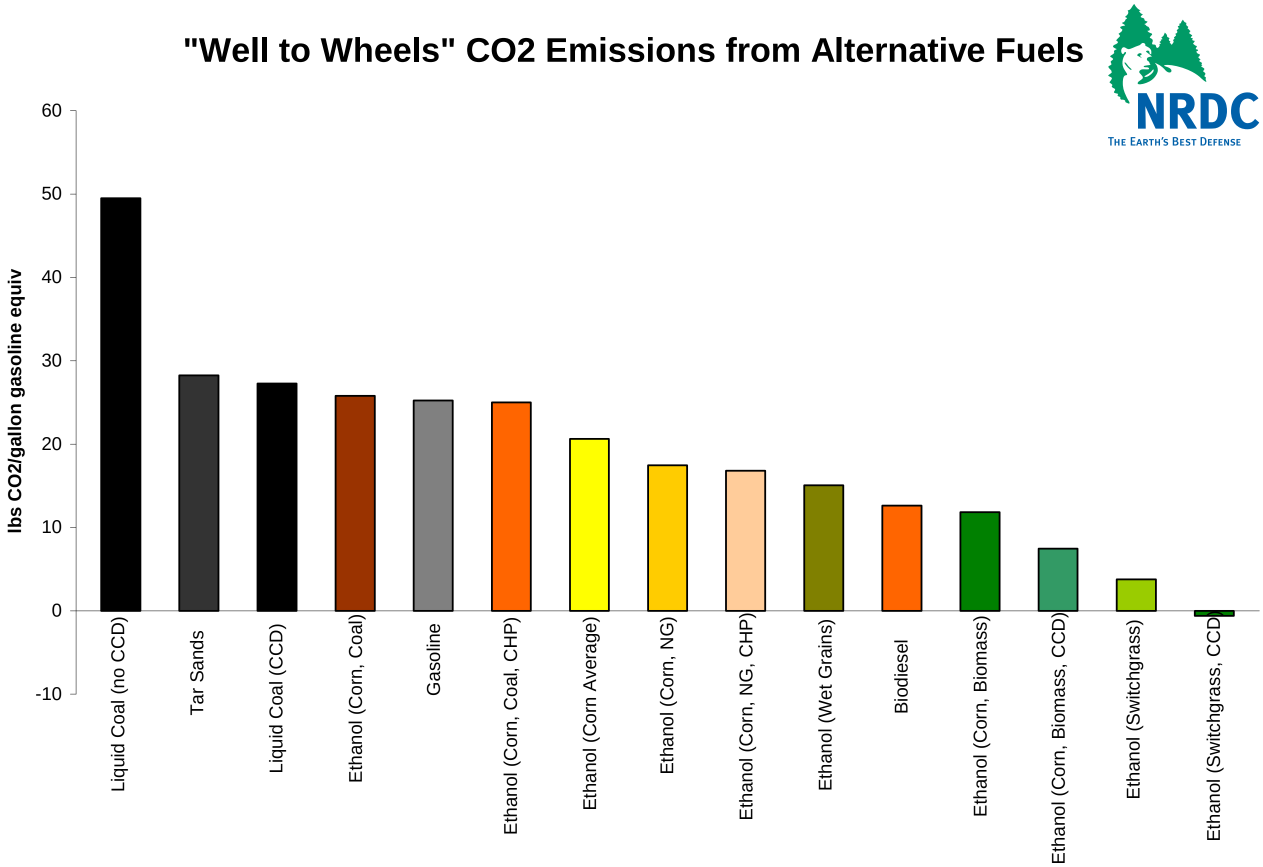

Figure 1. NRDC Lifecycle Greenhouse Gas Analysis. See Appendix A for assumptions.

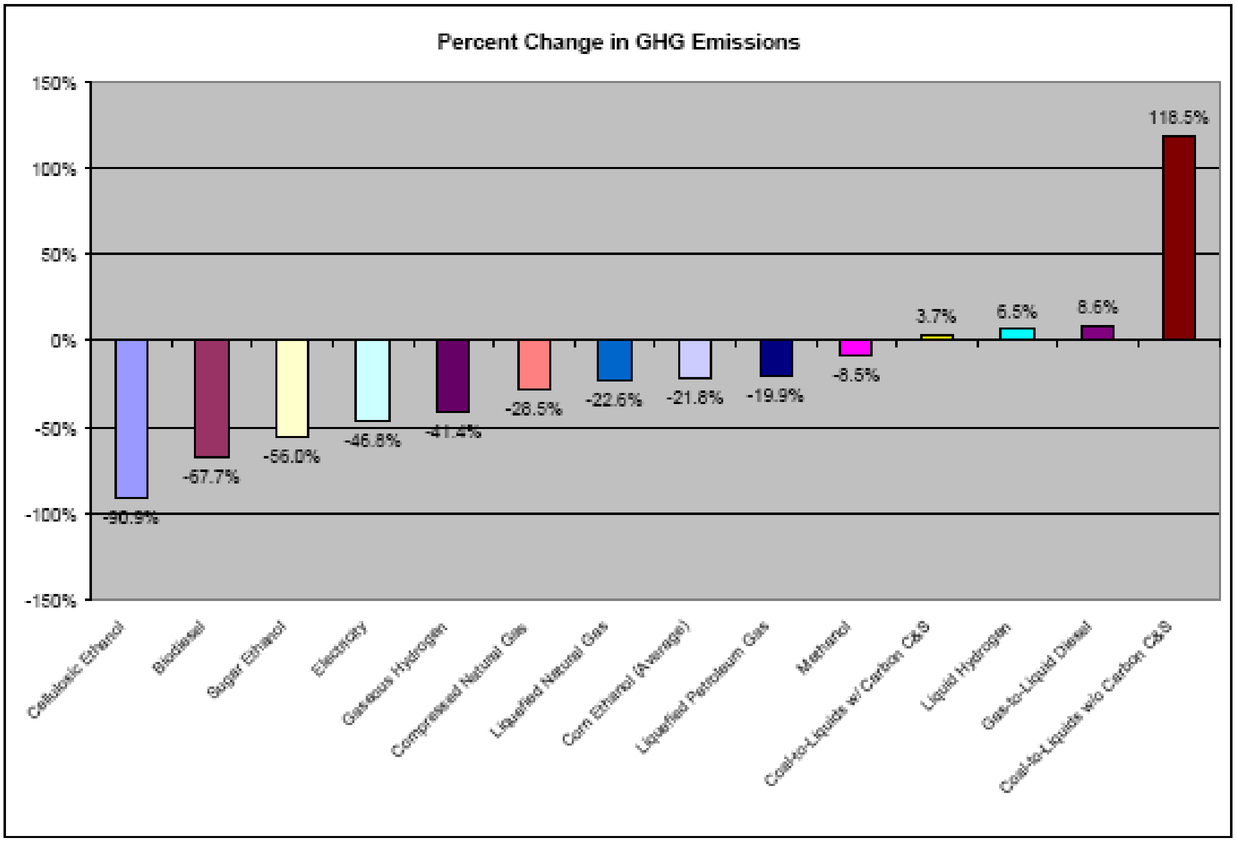

Figure 2. EPA Lifecycle Greenhouse Gas Analysis.
Source: http://www.epa.gov/otaq/renewablefuels/420f07035.htm

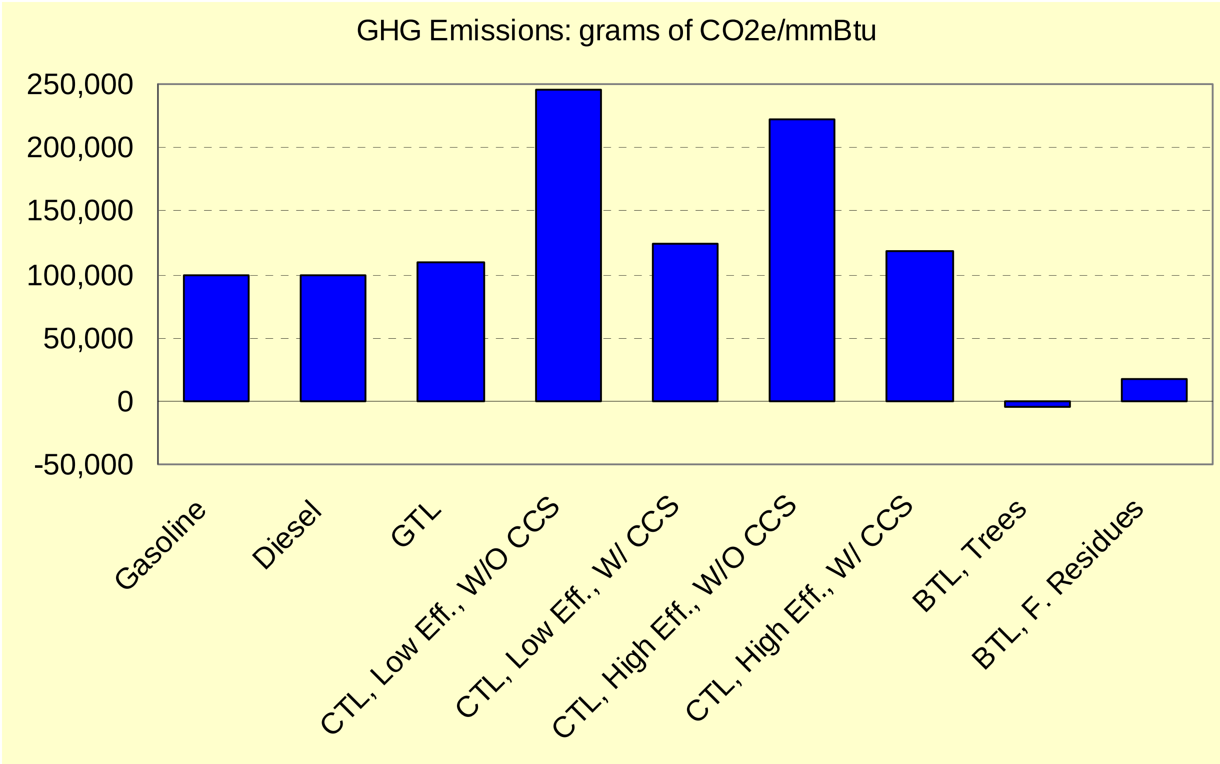

Figure 3. Life-cycle greenhouse gas results of Fischer-Tropsch diesel produced from natural gas, coal and biomass (GTL=gas-to-liquids, CTL=coal-to-liquids, CCS=carbon capture and sequestration, BTL=biomass-to-liquids, F=forest; emissions include CO_2, methane and N20). Wang et al., 2007.

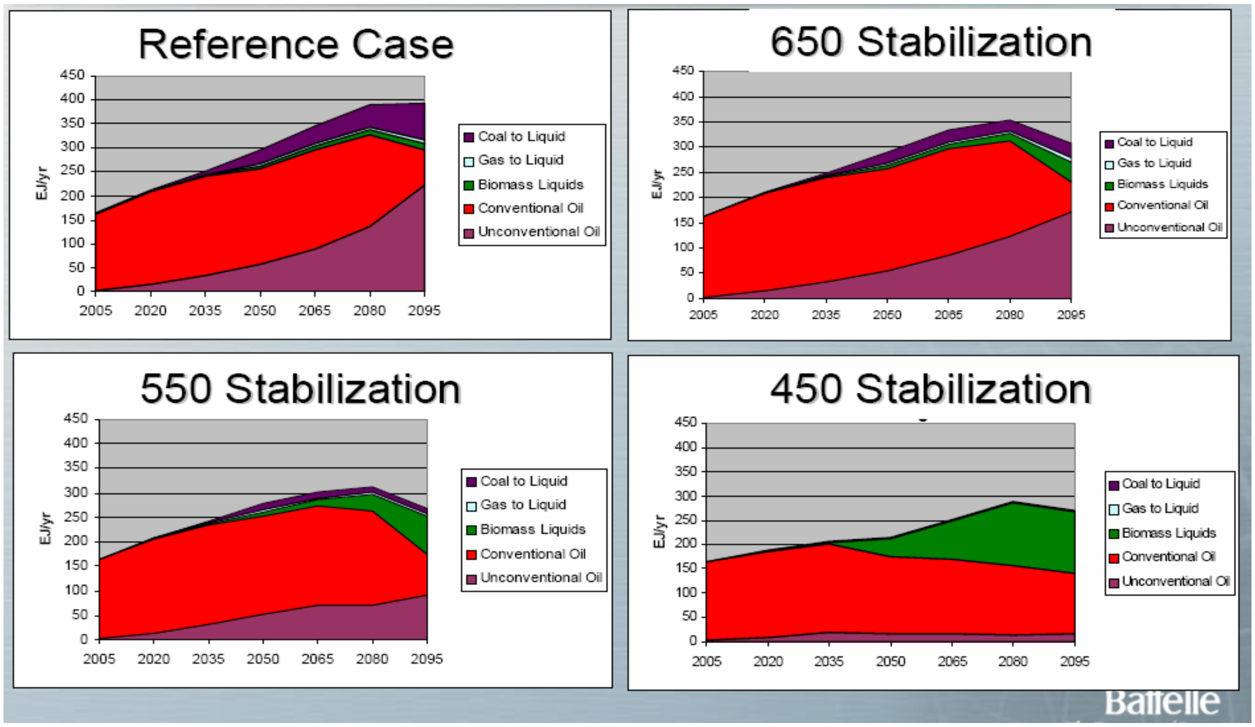

Figure 4. Conventional oil and alternative fuel supplies under four global warming emission limitation scenarios. Dooley et al., 2007.

Appendix A. Basis for Figure 1.

Figure 1 compares the well-to-wheels (or full fuel cycle) emissions from alternative transportation fuels in pounds of CO2-equivalent per gallon of gasoline energy content equivalent. The basis for each bar is described briefly below:

Liquid Coal (no CCD): Fischer-Tropsch fuel produced from coal without carbon dioxide capture and disposal (CCD). Based on a stand-alone plant (R. Williams, Princeton University).

Tar Sands: Gasoline made from synthetic petroleum produced from Canadian tar sands. (Based on Oil Sands Fever, Pembina Institute, November 2005)

Ethanol (Corn, Coal): Ethanol produced from corn using coal for process energy at the ethanol plant. (Based GREET 1.7 beta as modified by Turner et al.)

Liquid Coal (CCD): Fischer-Tropsch fuel produced from coal with carbon dioxide capture and disposal (CCD) from the production plant and assuming a stand-alone plant. (R. Williams, Princeton University).

Gasoline: Conventional gasoline, including upstream emissions. (Based on GREET 1.7 beta)

Ethanol (Corn, Coal, CHP): Ethanol produced from corn using coal for process energy in a combined heat and power system at a new dry mill ethanol plant. (Based GREET 1.7 beta as modified by Turner et al.)

Ethanol (Corn Average): Estimate of the national average emissions rate from the current mix of fuel used for ethanol production and the current mix of dry and wet mills. (Based on GREET 1.7 beta as presented in Wang et al., "Life-Cycle Energy and Greenhouse Gas Emissions Impacts of Different Corn Ethanol Plant Types," presentation to 16th International Symposium on Alcohol Fuels, November 2006.)

Ethanol (Corn, NG): Ethanol produced from corn using natural gas for process energy at a dry mill ethanol plant. (Based GREET 1.7 beta as modified by Turner et al.)

Ethanol (Corn, NG, CHP): Ethanol produced from corn using natural gas for process energy in a combined heat and power system at a new dry mill ethanol plant. (Based on GREET 1.7 beta as presented in Wang et al., "Life-Cycle Energy and Greenhouse Gas Emissions Impacts of Different Corn Ethanol Plant Types," presentation to 16th International Symposium on Alcohol Fuels, November 2006.)

Ethanol (Wet Grains): Same as “Corn, NG,” except that plant sells wet distiller grains as a coproduct, saving the energy of drying the grains. (Based GREET 1.7 beta as modified by Turner et al.)

Biodiesel: Biodiesel derived from soy oil through fatty-acid methol-esterfication estimate including upstream emissions. (Based on GREET 1.7 beta)

Ethanol (Corn, Biomass): Same as Corn No Till, except that biomass is used for process energy. (Based GREET 1.7 beta as modified by Turner et al.)

Ethanol (Corn, Biomass, CCD): Ethanol produced from corn using biomass for process energy at a dry mill ethanol plant with capture and disposal of the CO2 produced from the fermentation process. Corn is grown with no-till practices and plant sells wet grains. (Based GREET 1.7 beta as modified by Turner et al. subtracting fermentation CO2 of 6.6 pounds of CO2 per gallon of ethanol per http://www.kgs.ku.edu/PRS/Poster/2002/2002-6/P2-05.html.)

Ethanol (Switchgrass): Ethanol produced from the cellulose in switchgrass using the lignin for process energy. (Based GREET 1.7 beta as modified by Turner et al.)

Ethanol (Switchgrass, CCD): Ethanol produced from the cellulose in switchgrass using the lignin for process energy with capture and disposal of the CO2 produced from the fermentation process. (Based GREET 1.7 beta as modified by Turner et al. subtracting fermentation CO2 of 6.6 pounds of CO2 per gallon of ethanol per http://www.kgs.ku.edu/PRS/Poster/2002/2002-6/P2-05.html.)

Sources:

The Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) Model, GREET 1, Version 1.7, developed by the UChicago Argonne, LLC as Operator of Argonne National Laboratory under Contract No. DE-AC02-06CH11357 with the Department of Energy (DOE).

Turner et al., "Creating Markets for Green Biofuels, Measuring and Improving Environmental Performance," UC Berkeley Transportation Sustainability Research Center, publication pending.

Appendix B. ENERGY SAVINGS ACT – CLEAN AIR ACT COMPARISON

While it is not clear to what agency the President may give Section 111, the Renewable Fuel Standard, to administer, it is clear that S. 1321 intends to create a new statutory program that resembles the RFS program in section 211(o) of the Clean Air Act but differs in several important respects.

First and foremost, as a free standing statute, S. 1321 would not be subject to the general administrative subpoena and enforcement measures in the Clean Air Act, public participation in rulemaking, limitations on judicial review, and civil law suit provisions to enforce the law.

The Clean Air Act Provides for Administrative Enforcement Without Going to Court

Under Section 205(c) of the Act (42 USC 7524(c)) the Administrator has the authority to issues administrative penalties for failure to comply utilizing an administrative process similar to a rulemaking. This is a valuable enforcement tool that only involves the federal court system once the administrative enforcement process is complete. Under S. 1321, the President can only seek compliance, including compelling documents and information, and penalties through the federal court system (see section 111(h)). This is a much more cumbersome system that burdens the courts and will result in weaker compliance.

The Clean Air Act Requires Judicial Review of RFS Rules in D.C. Court of Appeals

The Clean Air Act has long required challenges to EPA's rules under the Clean Air Act be brought in the D.C. Court of Appeals (Section 307(b) (42 U.S.C. 7607(b)). This eliminates "forum shopping" by the plaintiff for the most favorable court and has resulted in a unique reservoir of expertise to develop among the members of the D. C. Circuit which is not duplicated in any other Circuit. S. 1321 would allow challenges to the President's RFS rules to be brought in any Federal District Court in the nation.

The Clean Air Act Requires Effective Public Participation in Rulemaking

Sections 307(d) and (h) (42 U.S.C. 7607(d) and (h))contain specific statutory requirements that mandate EPA create a clear record on which to base its rules, require public notification and participation in rulemaking, and limits on interlocutory judicial reviews that otherwise might burden or delay rulemaking completion. Federal agency and OMB comments must be included in the rulemaking record. Any new matters adopted after closure of the public comment period are subject to petition for reconsideration. S. 1321 contains none of these "good government" protections.

The Clean Air Act Allows Civil Suits for Enforcement of the Act

Section 304 (42 U.S.C. 7604) carefully prescribes circumstances under which "any person" may sue those violating statutory or regulator requirements of the Act or the Administrator for failure to implement mandatory measures under the Act. This provision is open to states and local governments, members of the regulated community, and affected citizens. This provision has long been regarded as a landmark measure that has helped make the Clean Air Act one of the most successful environmental and public health statutes ever enacted. S. 1321 provides no such provisions. Only the United States would be authorized to enforce the provisions of S. 1321, and there is no specific provision for suits to compel completion of delayed rules or standards.

S. 1321 Eliminates Important Measures of the RFS in the Clean Air Act to Protect Air Quality

Section 111(e) of S. 1321 provides measures to prevent a pattern of excessive seasonal variation in the use of renewable fuels mandated under the RFS. While this provision closely resembles Section 211(o) (6) of the Clean Air Act, it eliminates the exemption for states that use California Cleaner Burning Gasoline (CBG). This fuel is considered the cleanest fuel in the nation and is used by California, Arizona and Nevada to combat air pollution. The exemption was intended to prevent the disruption of the CBG program.

S. 1321 Restricts State Waivers of RFS Mandates Due to Lack of Supply

Under Section 211(o)(7), The EPA Administrator may grant a one year waiver of RFS requirements to prevent severe harm to the economy or environment of a state, region or the U.S. OR if the Administrator determines there is inadequate domestic supply of renewable fuels. While generally replicating the waiver language in the Clean Air Act, Section 111(f) of S. 1321 conditions a waiver based on inadequate supply only where the President finds that an “extreme and unusual circumstances” prevent distribution of an adequate supply. This waiver requirement is clearly intended to be different and more restrictive that that found in the Clean Air Act. Given that the level of renewable fuel required under S. 1321 is 400% or more greater than required by the Clean Air Act RFS, prudence would dictate maintaining the less restrictive waiver conditions in order to address the greater likelihood that shortages in renewable fuel supply may periodically occur.

EPA’s regulation of fuel content is critical to its achievement of health protections required by the Clean Air Act

The composition of motor vehicle fuel has a direct and substantial impact on the ability of communities throughout the nation to attain clean air health standards for ozone, fine particles, and sulfur dioxide. For this very reason, Congress included in the Clean Air Act provisions directing EPA to set rules for reformulated gas – rules that mandate fuel standards that have produced substantial reductions in dangerous motor vehicle emissions in major metropolitan areas throughout the nation. EPA has also used its authority under the Clean Air Act to adopt important fuel standards for benzene – a known human carcinogen – and to limit sulfur in gasoline and diesel fuel, thereby promoting significant cuts in airborne particle and sulfur pollution. Because changes in fuel content invariably impact vehicle emissions, and because those emissions are a major cause of unhealthful air in much of the nation, EPA cannot fully carry out its job of protecting public health without having authority to regulate the quality of the nation’s fuel supplies. This is a concern even if EPA is authorized to implement a free-standing RFS as laid out in S. 1321.