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EPA's Proposed Renewable Fuels Lifecycle Rule: McGuireWoods report

The 500+ page proposed renewable fuels greenhouse gas lifecycle rule released by EPA on May 5th and published in the Federal Register on May 26, 2009 (74 Fed. Reg. 24904) has been met with a hail storm of criticism from agriculture and biofuels advocates. Little wonder. The political and economic stakes are high and regulating on the basis of "lifecycle" emissions including "indirect land use changes" is unprecedented.

Background

The EPA proposal effectively defines which "renewable fuels" will qualify - now and in the future - to meet the fuel blending mandates established under the Energy Independence and Security Act (EISA). Enacted in 2007, EISA amended the 2005 Energy Policy Act (EPAct) which mandated that renewable fuels, such as ethanol, be blended into gasoline used to fuel motor vehicles. EISA dramatically increased the volumes of renewable fuel required to be blended into gasoline and extended the timeframe for the mandate. The EPAct mandate started at 4.0 billion gallons in 2006 and topped out at a maximum of 7.5 billion gallons by 2012. In contrast, EISA mandates the blending of 11.1 billion gallons of renewable fuel in 2009, 15.2 billion gallons by 2012, and 36 billion gallons by 2022.

The stated intent of both EPAct and EISA was to reduce dependence on foreign oil and to incentivize the production of renewable fuels in the U.S. But in response to growing concern about global warming, Congress also included provisions in EISA designed to reduce greenhouse gas (GHG) emissions from the transportation sector. EISA created subcategories of renewable fuels, including emerging renewable fuels such as cellulosic and biomass-based fuels, and mandated specific blending volumes for each category. Progressively higher volumes of the "greener" renewable fuels are required to be blended

into gasoline over the period between 2009 and 2022, creating an incentive and market for the production of progressively "greener" renewable fuels.

EISA established GHG emission thresholds which must be met for each subcategory of renewable fuel in order for that fuel to qualify for the blending mandate. To qualify, a renewable fuel must be demonstrated to result in significant reductions in GHG emissions over its entire "lifecycle" as compared to the gasoline it is displacing. Essentially, the quid pro quo for displacing gasoline is that renewable fuels must be anywhere from of 20% to 60% cleaner than gasoline in terms of GHG.

To implement this GHG reduction requirement, Congress required that EPA undertake a rulemaking to determine the GHG generated during the full "lifecycle" of renewable fuels and compare those emissions with the GHG generated in the full lifecycle of gasoline. For the first time, Congress required that "lifecycle" emissions include "significant indirect emissions from land use changes."

EPA's Lifecycle Analysis

As required by EISA, EPA's proposed rule attempts to account for the greenhouse gas emissions released over the "lifecycle" of the "renewable fuel." The full "lifecycle" includes emissions from the production of the feedstocks, production of the fuel, and ultimate combustion of the "renewable fuel" in motor vehicles - including "significant indirect emissions .from land use changes" associated with all of the above.
In recognition of the complex and unprecedented nature of this undertaking, EPA devotes hundreds of pages to a far-reaching discussion of matters not typically considered in EPA rulemakings. For example, the preamble to the proposed rule discusses the cost and value of U.S. energy security, considers the potential for decreases in world-wide food supplies and rising food costs, and attempts to anticipate the reaction of foreign governments, international land developers, and financial markets to increased U.S. biofuels production.

This is the first time any federal regulatory agency has attempted to quantify emissions generated by "indirect" land use changes over the full upstream and downstream "lifecycle" for any type of product - let alone a product as ubiquitous and politically and economically significant as a fuel. To account for "indirect" impacts, EPA has had to make a number of significant assumptions - many of which EPA confesses are supported by incomplete data and review. EPA repeatedly states that further studies and peer review must be performed to support a final rule.

Not surprisingly, EPA finds "the indirect, international emissions are the component of our analysis with the highest level of uncertainty. For example, identifying what type of land is converted internationally and the emissions associated with this land conversion are critical issues that have a large impact on the GHG emissions estimates." EPA notes that there are several other approaches which could improve the models and assumptions used in its international land use analysis - e.g. using relative land use values of cropland, forest and pastureland and considering country-specific information. Citing the insufficiency of both time and information, EPA asks for "recommendations on how best to conduct sound, statistically based uncertainty analyses for the final rule."

Quite noticeably missing from EPA's analysis is any explanation of what upstream activities EPA considered in determining the lifecycle GHG emissions from gasoline or petroleum — the baseline to which the renewable fuels are compared. For example, there is no discussion of GHG and environmental impacts associated with ocean transport or international military and security measures required to maintain foreign oil supplies. Nor does it appear that EPA considered any upstream GHG emissions or indirect land use changes from current and future oil exploration, including those associated with the more environmentally intrusive production techniques and more remote, dispersed and difficult to mine oil resources that can be anticipated as readily accessible oil reserves are depleted.

Narrow Definition of Renewable Biomass

EISA generally defines "renewable biomass," the feedstocks for eligible "renewable fuels," as 1) planted crops and crop residue harvested from agricultural land cleared or cultivated at any time prior to [December 19, 2007] that is actively managed or fallow, and nonforested, 2) planted trees and tree residues from actively managed tree plantations on non-federal land, cleared at any time prior to [December 19, 2007], 3) animal waste material and byproducts, 4) slash and pre-commercial thinnings (from non-federal forestlands); 5) biomass cleared from the vicinity of buildings and other areas to reduce the risk of wildfire, 6) algae, and 7) separated yard waste or food waste. The EPA rule goes further, wading into the politically sensitive issue of what "planted crops," "planted trees" and "residue" qualify as "renewable biomass."

EPA proposes to narrowly interpret the statutory language and limit renewable fuels to crops and trees grown on land that was cleared for production prior to December 19, 2007 and continuously "actively managed" since that time. EPA also narrows the term "tree residue," by equating it with "slash" which is defined as "residue, including treetops, branches, and bark, left on the ground after logging or accumulating as a result of a storm, fire, delimbing, or other similar disturbance." This leaves unaddressed significant categories of wood processing waste, such as sawdust, chips, and bark, as well as construction wood waste - all of which are energy rich feedstocks.

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In another narrow interpretation, EPA is also proposing to exclude the broad category of Municipal Solid Waste (MSW) as an eligible feedstock based on the fact that EISA specifically references only "separated" yard and food waste. However, in this instance, EPA recognizes that the exclusion of MSW would eliminate a large and energy rich source of renewable fuels feedstock — 35% of MSW is paper waste and 6% is wood waste — and asks for public comment. EPA cautions that "A narrow reading of the statute to exclude MSW-derived renewable fuel would directionally reduce the options available for meeting the goal of EISA to reduce our dependence on foreign sources of energy."

These issues are already subject to a hot debate in Congress in the context of pending energy legislation and are a priority for many biofuel and biomass power producers. Thus, EPA's proposed definitions of these key terms are certain to be subject to extensive public comment and as well potential Congressional action.

Impact on Corn Ethanol

Under EPA's lifecycle analysis, corn ethanol is predicted to slightly exceed the GHG emissions of gasoline when considered over 30 years with a zero discount rate, but to produce 16 % less GHG than gasoline over 100 years with a 2% discount rate. EPA is proposing to use the 100 year accounting method with a 2% discount, but has specifically requested public comment on what accounting period to use. Even using the 100 year period, many types of corn ethanol plants will not meet the "renewable fuels" threshold of 20% below gasoline emissions. For example, including GHG associated with a number of indirect land use impacts, EPA finds that a corn ethanol plant must be fired by either natural gas or biomass and produce wet distiller's grain as a by-product or install additional costly equipment in order to achieve the 20% threshold. Drying the distiller's grain is energy intensive and therefore is assigned a higher GHG footprint. But, as EPA recognizes, wet distillers grain is highly perishable, therefore typical corn ethanol plants produce dry distillers grain which can be sold as a valuable animal feed and doesn't create the odor nuisance associated with wet distillers grain. With thin profit margins in the ethanol industry as a whole, this is a costly finding for the future of corn ethanol.

While EPA's proposed lifecycle analysis could be a significant barrier to the construction of new corn ethanol plants and to the growth of the ethanol industry as a whole, it will not affect renewable fuels produced at plants which "commenced construction" prior to the enactment of EISA (December 19, 2007). Those plants are "grandfathered" under EISA and thus exempt from the GHG reduction thresholds. EISA also states that "for calendar years 2008 and 2009, any ethanol plant that is fired with natural gas, biomass, or any combination thereof is deemed to be in compliance with the 20% threshold." EPA is proposing to interpret this latter category of plants as "grandfathered" permanently as long as they commence construction before December 31, 2009, complete construction in a reasonable time, and continue to burn only natural gas, biomass or a combination thereof. However, this interpretation arguably goes beyond the statutory language and may be subject to some "push back" from anti-corn ethanol constituencies.

EPA's finding on the controversial "food-for-fuel" issue is also likely to be debated in public comments and at hearing. EPA finds:

"While the increase in renewable fuel production has contributed to the increase in commodity prices, the magnitude of the contribution of the RFS has most likely been minor, as market conditions have continued to push renewable fuel use beyond the mandated levels..our modeling suggests that the impact of the RFS2 program on food prices will continue to be modest, particularly with the expansion of cellulosic biofuels."

The model predicts that, as of 2022, the renewable fuels mandate will have resulted in only a $0.15/ bushel increase in the cost of corn, a $0.29/bushel increase in the cost of soybeans, and a $0.93/hundred pounds in the cost of beef.

Status of the Rulemaking

The Bush EPA missed the statutory deadline for issuance of the proposed rule and handed the new administration this "hot potato." The many questions presented in the preamble and gaps in the analysis suggest that the new EPA may have been under pressure to issue this proposal before it was ready to do so. But the pressure is now coming from the other direction. Rep. Collin Peterson, Chair of the House Agriculture Committee, has not only roundly criticized the rule and EPA, he has also introduced a House Bill which would expressly exclude "indirect" greenhouse gas emissions from the EISA definition of "lifecycle." In an Agriculture Committee hearing on May 21, 2009, ethanol advocates pressed for a "low-carbon fuel standard" that would both eliminate the prediction of "indirect" impacts and apply the same lifecycle analysis to all transportation fuels, not just "renewable fuels."

EPA has scheduled a hearing in Washington D.C. on June 9th and is accepting comments on the proposed rule until July 27, 2009. EPA is also sponsoring a workshop on June 10-11, 2009 in Washington, D.C. to present the details of its lifecycle analysis.

Attorneys in McGuireWoods' Environmental, Energy and Climate Change groups regularly represent clients in the renewable fuels, energy and manufacturing sectors on environmental and greenhouse gas matters. We would be pleased to assist clients

in responding to this important rulemaking as well as communicating their concerns to Congress. Please contact the author, Patricia Sharkey, or any of the following McGuireWoods lawyers for more information.

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