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The Renewable Fuel Standard and Invasive Species: EPA's Initial Approach

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In a previous article, we outlined the feedstock pathway approval process under the Energy Independence and Security Act (EISA)[1] and the associated Renewable Fuel Standard. In short, under the RFS pathways process established by EISA, the US Environmental Protection Agency (EPA) assesses qualification of proposed biofuels based upon an energy balance equation with respect to greenhouse gas (GHG) emissions. For each new biofuel, the EPA specifically considers the feedstock (e.g., corn, miscanthus, sugar cane), production process (e.g., dry or wet mill; natural gas or coal powered plant), and type of fuel produced (e.g., ethanol, biodiesel, biobutanol).[2] EPA-approved fuel pathways are assigned a D-code that allows producers of the biofuel to generate Renewable Identification Numbers (RINs) for the purpose of tracking production, use, and trading.[3] Although the three-year anniversary of the new RFS pathway approval regulations was the first of this month, in many respects, substantial clarification to a somewhat opaque regulatory process is still needed. The case of EPA treatment of potentially invasive feedstock species under the RFS is one example.

EISA directs the EPA to evaluate the GHG energy balance equation for novel biofuel pathways. The statute–technically an amendment to the existing Clean Air Act–focused on the potential environmental benefits (along with rural development and energy security aspects) of increased biofuel use. Central to this analysis was the reduction of GHGs in relation to the baseline emissions from petroleum-based transport fuels. The statute also dedicated some attention to issues of land conversion[4] and potential indirect impacts of biofuels on food/feed prices.[5] A single reference, buried in the section 204 of EISA, mentions potential impacts resulting from the use of invasive plants for biofuel feedstocks–but only in the context of a triennial study on the implementation of RFS.[6] This issue of invasiveness, as a result, has not been part of the EPA's consideration for new biofuel pathway approvals, as it lies outside traditional linkages to GHG emissions such as land conversion. For example, how does the invasiveness of a plant species impact the lifecycle GHG emissions of a feedstock's cultivation, harvest, and processing into a biofuel?

In January 2012, EPA issued a final rule authorizing the use of *Arundo donax*(giant reed) and *Pennisetum purpureum*(napier grass) as feedstocks qualifying for RIN codes under the RFS.[7] Several environmental groups submitted comments to EPA questioning whether the agency should encourage the introduction of these two plant species–both of which have been identified as invasive species in certain areas of the county. EPA subsequently rescinded their approval and, on June 28, 2013, issued a revised rule that requires the fuel producer seeking qualification under the RFS for either of these species to "demonstrate no significant likelihood of spread beyond the planting area."[8]

Specifically, producers seeking registration of a renewable fuel made from giant reed or napier grass must submit a Risk Management Plan (RMP) to the agency that demonstrates measures taken to prevent the unintended spread of the species. The exception is in regions where these species are native and, therefore, cultivation for bioenergy purposes would not lead to additional spread of the plant. Accordingly, EPA either must approve the RMP or determine that no plan is needed in order for RFS qualification of fuels derived from either of these feedstocks. In addition, the agency has established registration, reporting and recordkeeping requirements.

The interesting legal issue is how did the EPA interpret its explicit authority to evaluate GHG emissions under the EISA RFS framework and create, with respect to giant reed and napier grass, additional requirements on the fuel producer relating to invasive species. This is especially tricky because it is the USDA's Animal and Plant Health Inspection Service (APHIS)–not EPA–that has the technical capacity and, more importantly, jurisdiction under the Plant Protection Act to regulate noxious (i.e., invasive) weeds.[9] Although a complete discussion is beyond the scope of this article, in sum, the agency finessed the jurisdictional hurdle by concluding that the potential for GHG emissions associated with remediation of any spread of giant reed and napier grass beyond the intended area of cultivation would fit within the overall lifecycle GHG assessment mandated by EISA.

Although initial reactions to this novel approach with respect to these two species appears to have done little to ease the concerns of some objectors, from a broader perspective this is one more example of the structural challenges embedded in EISA, and thus implementation of RFS, that can lead to consternation by a variety of stakeholders–conservationists concerned about the wide-spread planting of potentially invasive species; bioenergy producers facing supply chain uncertainly for desired feestocks that may delay investment; as well as the agency itself as it seeks to accomplish the important goals of the RFS while avoiding the pitfalls of negative indirect effects.

Although at this point the RMP invasive species rules apply only to giant reed and napier grass, going forward, one would expect the EPA to subject future feedstocks with invasive potential to similar rules. A critical question remains, however, regarding the ultimate enforceability and effectiveness of EPA's approach to hold the RIN-seeking fuel producer responsible for field-level farmer compliance with best management practices. In light of the distance (spatially, temporally and relationally) between fuel producer and farmer, incentives to employ specific practices at the field-level to prevent and control the escape and subsequent naturalization of invasive plants may be misaligned. One can look at the agency's mixed results in the biotechnology context for insight into potential challenges to this approach. For some genetically engineered (GE) seeds, the EPA imposed on the permit holder (i.e., the biotech seed developer), as a condition of registration, an obligation to have farmers plant refuges of non-GE seeds in an attempt to prevent/delay the development of insect resistance. In response, seed developers incorporated into their seed license agreements the refuge requirement. Despite this clear contractual link between seed developer and farmer, refuge compliance fell far short in practice. Perhaps some lessons

learned from the GE context will improve EPA oversight of the required best management practices for the cultivation of giant reed and napier grass. And perhaps farmers of giant reed and napier grass will have a stronger incentive to control potential invasions on their land relative to the incentives of farmers to plant GE refuges. Nonetheless, the EPA's new RMP rule is an important recognition by the agency of the need to protect sensitive ecosystems from the risks of cultivating large quantities of potentially invasive species.

References

[1] Pub. L. No. 110-140, § 202 121 Stat. 1492, 1521, (2007) (originally codified at 42 U.S.C. § 7545(o)(2)).

[2] Id.

[3] *Guidance on the Petition Process for Evaluation of New Renewable Fuels and Pathways under 40 CFR 80.1416*, EPA, http://www.epa.gov/otaq/fuels/renewablefuels/compliancehelp/lca-petition-instructions.htm.

[4] Clean Air Act § 211 (o)(1)(H) (defining scope of lifecycle greenhouse gas emissions).

[5] Clean Air Act § 211 (o)(2)(B)(ii)(VI) (requiring consideration of the price of agricultural commodities and food in determining annual biofuel volumes).

[6] Energy Independence and Security Act of 2007 § 204(a)(3).

[7] 77 Fed. Reg. 462 (Jan. 5, 2012).

[8] 78 Fed. Reg. 41703 (July 11, 2013) (with effective date of June 28, 2013).

[9] 7 CFR § 360.