Source: Biomass R&D Technical Advisory Committee

Advisory To: Biomass R&D Board

Report Date: 11/16/2018 (Q4 2018)

Issue: ***Identification of Regulatory Barriers to Advanced Biofuels***

The Biomass Research and Development Act of 2000, as amended, established a federal Biomass Research and Development Board, and an outside Technical Advisory Committee (TAC), in furtherance of a national initiative to produce sustainable advanced biofuels and industrial products from non-food feedstocks. Today, annual production of ethanol from corn starch exceeds 16 billion gallons and bio-diesel from oilseeds and conventional sources has grown to more than 2.7 billion gallons. While advanced and cellulosic biofuels production is growing, it remains less than 500 million gallons annually, in stark contrast to legislative intent. Several factors have contributed to the slower-than-expected growth of advanced biofuels, including legislative and regulatory barriers.

Confirming the potential economic, social, and environmental gains from expanding production and use of advanced biofuels, the TAC has focused on some of the regulatory barriers that are preventing or slowing expected growth. The TAC has particularly focused on barriers that can potentially be overcome within existing legislation, authorizations, and regulations, fully recognizing that this is a subset of a broader scope (which would include new or alternative policies or regulations). Priority was also given to addressable barriers with potential to result in sizable or scalable growth in sustainable, lower-carbon advanced biofuels that can help increase energy security and create jobs.

1 Near-Term Opportunities to Address Regulatory Barriers

There are opportunities for meaningful growth and acceleration of advanced biofuels that fit within existing statutes, regulations, rules, definitions, and programs. Many of these opportunities are tied to implementation of the Renewable Fuel Standard (RFS) program, including (i) clarifying interpretations, (ii) publishing rules that have completed the regulatory review process, (iii) applying uniformity across rules, and (iv) timeliness in conducting reviews and taking actions. The Committee highlighted several specific issues and opportunities,[1] particularly issues constraining availability and use of woody biomass.

- Co-processing & Bio-intermediates – Local supplies of cost-advantaged biomass could be aggregated and upgraded to an energy-dense intermediate (e.g., biocrude) then transported to existing/future refineries for co-processing, enabling near term large-scale advanced biofuels production. Regulatory constraints disincentivize this approach because current RIN[2] qualification requires processing at a single location and strict segregation of the final advanced fuel product.

  ⇒ ***EPA has already proposed a Renewables Enhancement and Growth Support (REGS) Rule, awaiting final publication for 2 years now. EPA could include the already-vetted rules related to co-processing of advanced biofuels using bio-intermediates produced at another site in the upcoming RFS "Reset" proposal.***

  ⇒ ***Even in advance of finalizing rules on co-processing and bio-intermediates, EPA should consider individual applications for co-processing (part-80, facility registration), evaluating using the same criteria proposed in the REGS Rule.***

[1] Note that several of the opportunities highlighted have been previously identified and recommended by the TAC; for example, see the Q3-2017 TAC Quarterly Report on "Biomass Integration with Existing Fossil Fuel Infrastructure".

[2] RIN refers to a Renewable Identification Number, credits used for compliance and the "currency" of the RFS program.

- Co-mingling of Biomass – There are currently two issues impacting feedstock availability: co-mingling of qualified biomass feedstocks, and co-mingling of qualified and non-qualified feedstocks.

  ⇒ ***Establish a more equitable method for ascribing RIN values to processes that co-mingle two or more qualifying feedstock sources. A similar approach is already applied for commodity crops.***

  ⇒ ***Allow co-mingling of qualified and non-qualified biomass, using apportioning and control methodology (e.g. mass balance paired with traceability of biomass) to determine the eligible volume of advanced biofuel or bio-intermediate.***

- Determination on Wastes – There are co-products of certain industrial processes and/or waste streams to be utilized as a feedstock that could be used to produce advanced biofuels, but opportunities are currently limited due to difficulty determining eligibility of wastes under the RFS.

  ⇒ ***Make a final determination on waste feedstocks to allow substances that are co-products of certain industrial processes to be utilized as feedstocks in the production of advanced biofuels.***

  ⇒ ***Clarify rules to ensure that the biogenic portion of waste streams qualifies for RINs.***

2 Intermediate-Term Opportunities

There are opportunities to address regulatory barriers that fall under existing authority, but likely require regulatory action to implement, which is more complex or takes longer. The upcoming "reset" of the RFS targets (as required by statute and triggered in 2018) is an opportunity to address.

- Pathway Approvals – Several pathway applications submitted to EPA are awaiting review and approval, where reviews are averaging nearly 3 years. There are projects that are fully developed but cannot move forward until pathways are approved.

  ⇒ ***Accelerate the pathway approval process under the RFS program. Work through the backlog of pending pathway applications to allow qualified investment-ready projects to proceed. An example is completion of the existing tree pathways proposed in the REGS Rule.***

  ⇒ ***Consider alternative approaches to pathway approvals: Create certainty in the pathway timeline and determination; consider using qualified, independent third-party resources to expedite the process.***

- De-risking Feedstock Production – There are other barriers outside of the RFS program limiting the expansion of energy crops. One example is the lack of crop insurance or other risk management tools that allow producers to make enterprise management decisions on equal footing (biomass vs. commodity crops).

  ⇒ ***Enable biomass crops to participate in risk management and conservation programs alongside conventional crops and management activities.***

- Biomass to Electricity – The EPA has issued an Advance Notice of Proposed Rulemaking (ANPR) that allows for the conversion of qualified renewable biomass into electricity that is used in transportation to generate a RIN under the RFS program, but the rulemaking process has not been completed.

  ⇒ ***Encourage EPA to evaluate and move to complete rulemaking.***

3 Long-Range Opportunities

The Committee purposely focused less on opportunities that would require statutory action or change, viewed as long-range opportunities. For perspective, a few examples are highlighted.

- Revisit equal treatment of both sustainable plantation and naturally-regenerated managed forests for qualification as allowable feedstocks under RFS. Focus more on meeting performance standards than prescription standards. This has potential to make available large quantities of sustainable biomass feedstock that are existing, available and accessible today but ineligible to qualify under existing feedstock designations.
- Establish a value for the renewable (non-petroleum) carbon in a final product, regardless of the product type (e.g., fuel vs. material vs. chemical).

4 Research Needs

In its review of opportunities to address regulatory barriers limiting advanced biofuels growth, the Committee identified research priorities that may be useful in addressing regulatory barriers.

- Identify and quantify the unintended consequences of the rules, definitions and regulations as they have been implemented over the last decade, a sort of third-party independent report card on RFS to date. We need to understand the causes-effects-impacts of the past to make improvements going forward.