

## Charge to Reviewers

### **Peer review of the report entitled: *Biofuels and the Environment: First Triennial Report to Congress***

**Background:** In December 2007, Congress enacted the Energy Independence and Security Act (Public Law 110-140) (EISA) to reduce U.S. energy consumption and dependence on foreign oil and to implement strategies for addressing climate change. Accordingly, EISA requires the U.S. Environmental Protection Agency (EPA) to revise the Renewable Fuel Standard (RFS) program, created under the 2005 Energy Policy Act. The revised statutory requirements (commonly known as the RFS2) establish new specific annual volume standards for cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel that must be used in transportation fuel. It is estimated that by 2022, biofuels will make up approximately 7 percent of fuels (by volume) used for transportation. This increase in the production and use of biofuels may have a variety of detrimental and beneficial environmental and resource conservation impacts.

**Purpose of the Report:** This is the first of the Agency's triennial reports on the current and potential future environmental impacts associated with the production and use of biofuels, as required by Section 211(o) of the Clean Air Act. This report reviews environmental and resource conservation impacts across the biofuel supply chain (i.e., feedstock production, biofuel production, and biofuel use). It serves as a starting point for future assessments and for taking action to achieve the goals of EISA in an environmentally sustainable manner.

**Composition of the Report:** After a brief introduction and some background, the report presents a comprehensive survey of environmental evaluations across the biofuel supply chain, including current and anticipated future feedstock production and logistics and biofuel production, distribution, and use. It summarizes much of the available information and identifies research needed to evaluate potential environmental impacts from a life cycle perspective and quantify them using more substantive and systematic assessment tools. As required under EISA, Section 204, the report describes the impacts of increased biofuel production in other countries as a result of U.S. policy. This first triennial report to Congress represents the best available information through July 2010 and reflects the current uncertainty about biofuel production and use.

Appendices include a statutory summary of the EPA, USDA, and DoE operative regulations addressing biofuel production, and conceptual models of the biomass production and biofuels production.

**Intended Audience:** This report is primarily directed to Congress.

## Charge Questions

Peer review is an important part of the development of this document to ensure the completeness and accuracy of its contents, the appropriateness of the interpretation of existing methodology, and garnering recommendations for future activities.

1. Based on your knowledge of the nature of biofuel feedstocks and the potential ecological impacts associated with their production and use, please comment on the report with respect to:
  - the composition and general readability of the material presented
  - the accuracy of the information included, and
  - any strengths and weaknesses of the report
2. Please comment on the appropriateness and completeness of citations and the utility of the text boxes and tables in the report.
3. Does the report adequately address the current and likely future impacts from increased biofuels production and use on environmental issues, including air quality, effects on hypoxia, pesticides, sediment, nutrient and pathogen levels in water, acreage and function of waters, and soil environmental quality?
4. Does the report adequately address the current and likely future impacts from increased biofuels production and use on resource conservation issues, including soil conservation, water availability, and ecosystem health and biodiversity, including impacts on forests, grasslands, and wetlands?
5. Does the report adequately address the current and likely future impacts from increased biofuels production and use on the growth and use of cultivated invasive or noxious plants and their impacts on the environment and agriculture?
6. Does the report adequately address the current and likely future impacts from increased biofuels and feedstock production and use outside the United States, and recommendations for actions to address any adverse impacts found?
7. Does the report adequately address impacts (plus any mitigation of the impacts) across major components of the biofuel supply chain: feedstock production, feedstock logistics, biofuel production, biofuels distribution, and biofuel use)? Did the level of detail adequately reflect the state of knowledge for each of the components of the supply chain?
8. Do the recommendations presented in the report give sufficient direction / point the way toward:
  - comprehensive environmental assessment (environmental life cycle assessment) of biofuels in future reports?
  - current and future environmental research needs associated with biofuel production?

- adequate / improved mitigation of negative environmental effects from biofuel production and use?
9. What monitoring data would be needed to better assess environmental impacts of biofuel production? Are these data and the analysis tools required for assessment currently available?
  10. Is the overview of the estimated range of domestic environmental and resource conservation impacts easily understood? Given the inability at this time to separate out the incremental impacts of feedstock production from current agricultural environmental impacts, what additional information would be required to do so in future reports?
  11. Are there important areas of information needs that have not been identified? To the best of your knowledge, are the identified gaps currently being address in ongoing research?
  12. With respect to biofuels risk assessment, how useful (very, somewhat or not at all) is the information provided in the Appendices?