

## EPA Issues Notice of Data Availability Concerning Renewable Fuels Produced from Palm Oil Under the RFS Program

The U.S. Environmental Protection Agency (EPA) is issuing a Notice of Data Availability (NODA) to release its lifecycle greenhouse gas (GHG) analysis of palm oil used as a feedstock to produce biodiesel and renewable diesel under the Renewable Fuel Standard (RFS) program. The release of the NODA provides the public an opportunity to comment on EPA's analysis.

EPA's analysis shows that biodiesel and renewable diesel produced from palm oil do not meet the minimum 20% lifecycle GHG reduction threshold needed to qualify as renewable fuel under the RFS program.

### Background

In the final RFS2 rule, published in March 2010, EPA assessed the lifecycle GHG emissions of multiple renewable fuel pathways (defined as feedstock, fuel type, and fuel production process). Assessment of lifecycle GHG emissions is necessary to determine which fuel pathways meet the GHG reduction thresholds for the four renewable fuel categories specified in Clean Air Act (CAA) Section 211(o), as amended by the Energy Independence and Security Act of 2007 (EISA). The CAA requires a 20% reduction in lifecycle GHG emissions for renewable fuel produced at new facilities (those constructed after EISA enactment), a 50% reduction for biomass-based diesel or advanced biofuel, and a 60% reduction for cellulosic biofuel.

Assessing whether a fuel pathway meets these thresholds requires a comprehensive evaluation of the lifecycle GHG emissions of the renewable fuel as compared to the

lifecycle GHG emissions of the gasoline or diesel fuel that it replaces. The CAA defines lifecycle GHG emissions as follows:

The term ‘lifecycle greenhouse gas emissions’ means the aggregate quantity of greenhouse gas emissions (including direct emissions and significant indirect emissions such as significant emissions from land use changes), as determined by the Administrator, related to the full fuel lifecycle, including all stages of fuel and feedstock production and distribution, from feedstock generation or extraction through the distribution and delivery and use of the finished fuel to the ultimate consumer, where the mass values for all greenhouse gases are adjusted to account for their relative global warming potential<sup>1</sup>.

In the final rule, EPA focused our lifecycle analysis on fuels that were anticipated to contribute relatively large volumes of renewable fuel by 2022, and thus did not cover all fuels that either are contributing or could potentially contribute to the program. In the preamble to the final rule, EPA indicated that we would continue to examine several additional pathways not analyzed for the final rule, including those from palm oil, and would complete this process through a supplemental rulemaking process. This NODA presents our analysis of potential pathways for biodiesel and renewable diesel produced from a palm oil feedstock.

## Lifecycle Analysis

In order to calculate lifecycle GHG emissions for the NODA regarding palm oil biofuel pathways, EPA utilized models developed for the final (RFS2) rule. These models take into account energy and emissions inputs for fuel and feedstock production, distribution, and use, as well as economic models that predict changes in agricultural markets.

EPA used the same general approach to estimate global land use change GHG emissions from using palm oil as a feedstock as we have used to analyze other biofuel pathways. Our analysis of palm oil biofuels, however, also considers new data for Indonesia and Malaysia, where close to 90% of world palm oil is currently produced. These data include higher resolution satellite imagery and maps of relevant geographic features, such as oil palm plantations, palm oil mills and protected conservation areas. EPA undertook a more detailed assessment of Malaysia and Indonesia based on a number of factors, including the scale of the palm oil industry in this region and the availability of new data on palm oil land use. The analysis considered past trends to determine likely areas of future palm expansion and classified these areas according to both their land cover and their soil type.

## Pathway Determinations

EPA’s analysis found that biodiesel and renewable diesel produced from palm oil have estimated lifecycle GHG emissions reductions of 17% and 11%, respectively, compared to the baseline petroleum diesel fuel they replace. These biofuels therefore fail to meet the minimum 20% GHG emissions reduction threshold required by EISA for renewable fuel made in facilities that commenced construction after December 19, 2007.

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<sup>1</sup> Clean Air Act Section 211(o)(1)

EPA's analysis highlights a number of key factors which contribute to the lifecycle emissions estimate for biofuels based on palm oil. For example, palm oil production produces wastewater effluent that eventually decomposes, creating methane, a GHG with a high global warming potential. Another key factor is the expected expansion of palm plantations onto land with carbon-rich peat soils which would lead to significant releases of GHGs to the atmosphere.

## **Administrative Process**

With this NODA, EPA is soliciting comments on our analysis of the pathways for biodiesel and renewable diesel produced from palm oil. We will consider all relevant comments received and will inform the public of any resulting revisions in our analyses. Public notification could be accomplished in one of several formats, such as a Federal Register notice, a rulemaking action or a guidance document. The appropriate form of public notification will depend on the outcome of any reanalysis we deem appropriate after consideration of public comments.

## **For More Information**

For more information, please visit the RFS website at:

[www.epa.gov/otaq/fuels/renewablefuels/index.htm](http://www.epa.gov/otaq/fuels/renewablefuels/index.htm)

To submit a question on the RFS program, and to view Frequently Asked Questions, please visit:

[www.epa.gov/otaq/fuels/renewablefuels/compliancehelp/index.htm](http://www.epa.gov/otaq/fuels/renewablefuels/compliancehelp/index.htm)