



Hello, my name is Chris Wilson, and I am a Renewable Energy Engineer at Electrochaea. Today I am commenting on the definition of “produced from renewable biomass.” Electrochaea strongly supports EPA broadly defining “produced from renewable biomass” so that RFS-eligible transportation fuels can contain either mass or energy from renewable biomass. This approach would be consistent with the language and intent of the Clean Air Act to encourage the production of clean transportation fuels that reduce greenhouse gas emissions.

Electrochaea has developed an innovative power-to-gas biomethanation technology that produces synthetic methane, an efuel, from renewable biomass. This renewable synthetic methane has reduced lifecycle GHG emissions compared to fossil natural gas and is a drop-in replacement transportation fuel. This efuel is synthesized from two feedstocks: biogenic carbon dioxide and renewable clean hydrogen, giving it lifecycle GHG emissions similar to other RNG transportation fuels currently allowed under the RFS regulations. The biogenic carbon dioxide can come from a variety of sources, such as raw biogas in landfills or anaerobic digesters as well as ethanol production facilities.

Currently, the CO₂ in raw biogas is vented to the atmosphere once the biogas is upgraded to make RNG. However, in Electrochaea’s biomethanation process, the CO₂ in the raw biogas is captured and converted into the finished fuel. The mass from the biogenic CO₂ is contained in the finished fuel, preventing the direct release of CO₂ into the environment and instead converting it into transportation fuel. The energy in the finished fuel is derived from renewable electricity, such as wind or solar, enabling it to meet the lifecycle GHG emissions reduction threshold established by the RFS.

The Clean Air Act intended to provide an incentive for the production of clean transportation fuels, preventing the release of greenhouse gas emissions from fossil fuels. Electrochaea’s efuel technology does just that. And it provides a means to nearly double the volume of renewable methane that can be used for transportation by taking advantage of the currently wasted CO₂ in biogas feedstocks. It’s also a means to store excess renewable electricity. Congress did not specify that RFS-eligible fuels must obtain their energy from renewable biomass. If EPA narrowly defined “produced from renewable biomass” to mean that the energy in the finished fuel must come from renewable biomass, it would conflict with the intention of Congress to support the production of renewable transportation fuels, such as efuels, which are produced from biomass using other sources of clean energy.

Electrochaea, therefore, supports a definition of “produced from renewable biomass” that accommodates technology where either the mass (i.e., molecules) or the energy in the finished transportation fuel comes from renewable biomass. This definition is consistent with the statutory language and supports the intent of Congress while also developing new transportation fuel technologies to help the US meet its climate goal.

We thank the EPA for the opportunity to comment on this proposed rule.