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IRS

Section 45V Credit for Production of Clean Hydrogen

Dear 45V committee,

W2e is a company located in Colorado that converts dairy manure into hydrogen at 70 kg H_2/tonne of manure through a thermal process, similar to gasification. We need to understand how our production will be accounted for under 45V before we can progress to final engineering and FID which we are very close to accomplishing at this stage. So, your help with this is very crucial to moving forward and our overall modeling and eventual success.

In reviewing the new 45VH2-GREET 2023 model, we are very excited about the possibility of our unique and innovative process qualifying for 45V subsidies to create renewable hydrogen that will be used to enable decarbonization in hard-to-abate industries. However, as we consider where we fit into the proposed regulations, we are not exactly sure where we are included in the categories as they are currently laid out and defined.

Our specific process is generally considered gasification utilizing biomass as the feedstock. However, although the specific feedstock of dairy manure for gasification is renewable and suitable, we don't see it specifically enumerated in the 45VH2-GREET 2023 model. Currently, the listed feedstocks of corn stover and forestry residues do not include waste dairy manure. So, considering the fact that the dairy cows ingest corn stover in their diet, we have used that to model our process and this model results in a qualifying negative CI score of -14.06 kg_{CO2e}/kg_{H2} (-117.2 g_{CO2e}/MJ_{H2}). This is very comparable to our W2e internal LCA, achieving a CI score of -10.76 kg_{CO2e}/kg_{H2} (-75.2 g_{CO2e}/MJ_{H2}).

The second issue has to do with the "three-pillar" requirements affecting "those that produce hydrogen using electricity". With that in mind, presumably these requirements don't apply to the W2e process as electricity is not used in the actual production of the hydrogen, but is used only in secondary and tertiary means such as conveyance, lighting of the facility, to run compressors, etc. At steady state, the main energy source for producing hydrogen is parasitic thermal energy originating from the dairy manure feedstock.

We look forward to your help with these matters so we can work together to achieve our goal of establishing hydrogen as a viable alternative to currently sourced fuels.

Sincere appreciation,

W2e Renewables

Chris Webb
President Co-Founder