



November 14th, 2022

RE: U.S. Department of Energy Clean Hydrogen Production Standard Draft Guidance

3c) Should renewable energy credits, power purchase agreements, or other market structures be allowable in characterizing the intensity of electricity emissions for hydrogen production? Should any requirements be placed on these instruments if they are allowed to be accounted for as a source of clean electricity (e.g. restrictions on time of generation, time of use, or regional considerations)? What are the pros and cons of allowing different schemes? How should these instruments be structured (e.g. time of generation, time of use, or regional considerations) if they are allowed for use?

In assessing whether a hydrogen production method using electrolyzers meets applicable lifecycle requirements for carbon intensity, DOE should allow the use of Renewable Energy Credits (RECs), Power Purchase Agreements (PPAs) and other market structures, so that power drawn from the grid can be used to produce green hydrogen. Doing so would align with the Congressional intent of the statute, as laid out in the Congressional Record on August 6th, in which it is indicated that the lifecycle analysis should incorporate “indirect book accounting factors” – known as a book and claim system that -- “reduces effective emissions.”¹ Although it is possible to site a source of renewable energy “behind the meter” and use such a source to produce hydrogen via electrolysis, the circumstances under which it will be economic and financially desirable to do so are relatively limited, particularly given the intermittent characteristics of renewable energy and the relatively high capital costs of entry into hydrogen production and renewable energy production. This is particularly so if any requirements are included that require such renewable generation be “additional” or “new.” If the primary goal of DOE programs and recently enacted tax credits is to create a substantial amount of new low or zero carbon hydrogen, as opposed to an increased build out of renewable energy, then significantly restricting the use of instruments like RECs and PPAs will pose a substantial barrier to substantially increased hydrogen production, especially if the cost of such restrictions approaches the value of the relevant subsidy. Indeed, done improperly, such a requirement might even lead to an economic preference to produce blue hydrogen via fossil fuels instead of green hydrogen. Whatever solution DOE chooses should ensure that grid power can be coupled with renewable power for the production of green hydrogen and that its lifecycle carbon intensity meets applicable statutory requirements.

Williams believes that if the main goal of the relevant programs is to develop the infrastructure and production capacity for low and zero carbon hydrogen, any restrictions on the use of RECS and PPAs should be as narrowly tailored as possible. To the extent that the use of such instruments can demonstrate a lifecycle carbon intensity that is equivalent to a “behind the meter” approach to green hydrogen production, they should be allowed. Although DOE may

¹ <https://www.govinfo.gov/content/pkg/CREC-2022-08-06/pdf/CREC-2022-08-06-pt1-PgS4165-3.pdf>

wish to consider limitations such as geographic, limitations on time of generation and time of use, doing so would significantly limit the economic feasibility of building a hydrogen economy . It would inhibit the desired intent of the programs to spur the production of low and zero carbon hydrogen using renewable power. The goal of the hydrogen program should not be to build additional renewable energy, but to increase low and zero carbon green hydrogen production from electrolysis, in addition to the production of blue hydrogen. As a result, Williams believes that the use of RECs and PPAs and other market instruments should be allowed freely, consistent with applicable statutory requirements for carbon intensity. Williams believes that such requirements can be determined using the GREET model as required by the statute and allowing for RECS and PPAs for specific Green hydrogen projects. The GREET model can be updated over time to ensure that green hydrogen production does not lead to increased emissions across the overall power grid.