EDP Renewables' Comments to NPRM IRS and REG–117631–23

Via Electronic Submission to: www.regulations.gov

Internal Revenue Service

REG–117631–23

EDP Renováveis, S.A (EDP Renewables or EDPR) is a global leader in wind and solar development and operations, having installed over 15 GW of renewables globally, and aiming to develop ~17 GW of renewables between 2023-2026. With a sound development pipeline, first class assets, and market-leading operating capacity, EDPR has undergone exceptional development in recent years and is present in around 30 international markets across Europe, Latin America, North America, and Asia (please check www.edpr.com). Based in Houston, EDP Renewables North America (EDPR NA) is a division of EDPR which has developed more than 8,800 megawatts (MW) and operates more than 8,200 MW of renewable energy projects in North America.

EDP, the main shareholder of EDPR, is a global energy company and a leader in value creation, innovation, and sustainability. EDP has been included in the Dow Jones Sustainability Index for 14 consecutive years and was recently recognized as the world's most sustainable electric utility in the Dow Jones index. To support the growth of the renewable hydrogen market, EDP has established a dedicated hydrogen business unit, H2BU, to concentrate all the efforts for developing renewable hydrogen projects along all the geographies where EDP is present. With a global target to develop 1.5 GW of electrolyzers by 2030, the H2BU is leveraging on EDP's more than 40 years of experience developing utility-scale energy infrastructure and proven success in meeting client needs through tailored pricing and technical solutions that allow for sustainable, competitive growth.

Since its inception, the H2BU has been gaining operational experience in the renewable hydrogen business, with one project currently operating in Brazil since December 2022, another under construction in Portugal that is expected to come online during Q2 2024 and >500 MW of projects under advanced stages of development in US, Europe and Brazil. In addition, EDP has been very active in the discussions surrounding the regulatory framework for the sector in Europe and the US, currently co-chairing a roundtable on hydrogen production in the European Clean Hydrogen Alliance.

EDPR acknowledges the effort made by DOE to implement 45V rules that best support the needs and interests of a diverse and growing set of industry, consumer, environmental, and community voices in the U.S., which is particularly important given the 45V tax credit is funded by U.S. taxpayers. These rules are not only an obligation derived from the Inflation Reduction Act but also a necessary step to promote the decarbonization of difficult-to-electrify sectors and introduce comparison and competition between the different methods of hydrogen production.

EDPR's MAIN COMMENTS

EDPR has a long track record in decarbonization efforts through the direct electrification of the economy with wind and solar technologies, and now we see the renewable hydrogen as the natural step to keep on decarbonizing where the use of electricity is not feasible.

We are in favour of strong, climate-aligned 45V guidance for electrolytic hydrogen and urge the administration to swiftly finalize it. We positively value the draft Guidance that was released in December 2023, and we take this opportunity to provide some comments of detail that we believe would guarantee the success of the clean hydrogen incentives system.

Strong proposed standards will be a sprint to success for the U.S. electrolytic hydrogen market, accelerating the build-out of domestic clean hydrogen infrastructure, ensuring effective decarbonization and enabling substantial industry growth. Weaker rules would result in highly subsidized hydrogen projects that drive greenhouse gas emissions increases and electricity price spikes that would engender public backlash and stymie our industry's growth. In addition, these rules have particular importance to EDPR as an international company: harmonizing with EU rules, would provide clarity and resulting market efficiencies for trans-Atlantic investment and trade, necessary to accelerate project deployment and turbocharge technology cost reductions. Global harmonization of strong standards will also activate a global race to the top, whereby other countries will likely match the U.S. and EU ambition such that the emerging global clean hydrogen industry will scale on solid climate foundations.

With all this in consideration, please see a summary of our primary proposed policy positions, also known as the "three pillars" approach:

Hourly time matching:

Hourly matching of new clean energy supply to electrolyzer load is key to minimizing emissions, a conclusion of all studies that have analyzed the long-term impacts of grid-based hydrogen production. For example, both the Princeton Zero Lab study and the recent study from MIT conclude that annual matching will lead to significant long-run system-level emissions, as it would not increase system-wide clean generation beyond business as usual. Moreover, these and other studies have shown that the additional cost of hourly matching is manageable. In sum, hourly matching is a need in the medium term.

There aren't significant technology barriers to fully implement hourly traceability of renewable supply. For instance, M-RETS has over 120 million hourly RECs in its system and PJM, the largest RTO in the country, began offering hourly RECs in March. RECs already include locational information and therefore it will not be difficult for project proponents seeking to qualify for 45V credits to demonstrate satisfaction of hourly and locational matching criteria to third-party PTC compliance auditors. However, as challenges to a widespread implementation of hourly REC across all regions still exist, a transitional period ending before 2030 would be appropriate, as suggested in the draft guidance. It is important to have a clear roadmap for the transition to hourly correlation so all stakeholders have visibility on the PTC requirements across the eligibility period.

We are opposed to any grandfathering in the hourly matching requirement. Every facility should comply with hourly matching before 2030 to avoid increasing emissions.

We acknowledge that there may be an exemption to hourly matching in cases where hourly locational marginal prices (LMP) are implemented and prices in a given hour are below certain thresholds. For example, in Europe, the threshold is 20 Eur/MWh.

Calculating the tax credit value when hourly matching is required:

The Guidance utilizes the GREET model to determine the carbon intensity (CI) on an hourly basis, which is the correct approach, but the yearly average CI will be used to determine the tax credit value for all hydrogen production in a given year. As written, a qualified project would need to be less than 0.45 kg CO2/kg H2 measured yearly to qualify for the maximum tax credit. Not qualifying for the 0.45 kg/CO2 threshold means a production tax credit of up to $3/kg would reduce to $1/kg (or less). That represents a risk of losing 2/3 (or more) of the tax credit for the entire year if the project cannot meet the threshold. A project of 100 MW of electrolysis may lose around $20 million in a year. **We suggest that, for legal certainty and higher predictability on future cashflows, penalties for noncompliance be gradual.** We propose a system similar to Europe's: if, during an hour, **the emissions are below 0.45 kg CO2/kg, then the H2 produced in this hour would qualify as eligible** for the best tax credit tier of up to $3/kg. Only the H2 produced in hours where the threshold is not achieved would risk losing the tax credit, as exemplified in Figure 1.

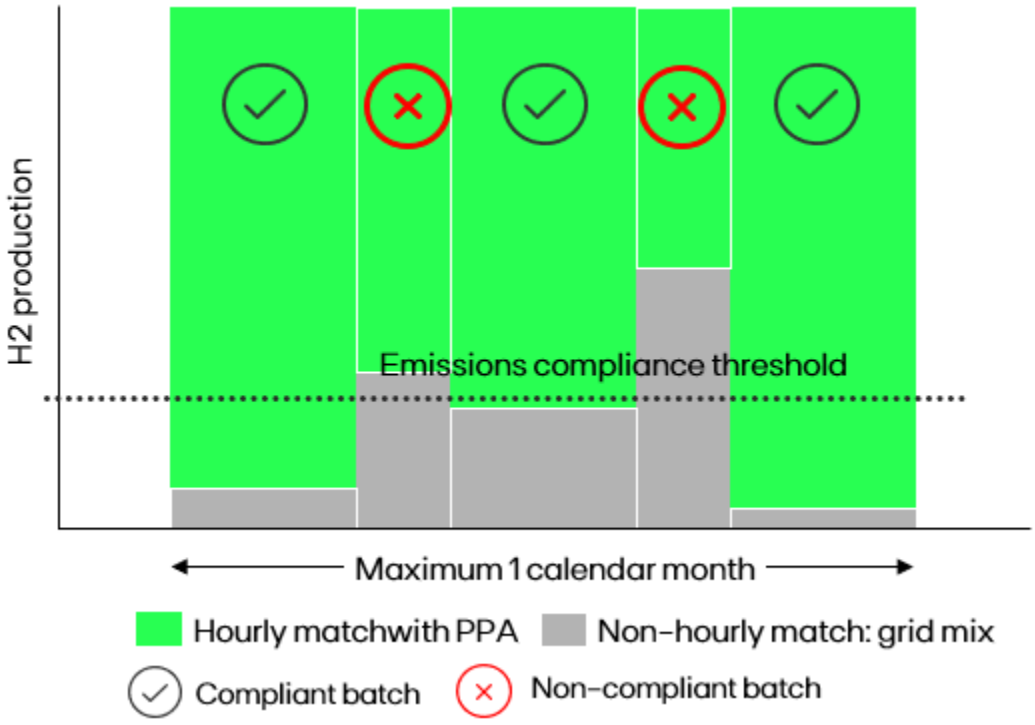

Figure 1: in Europe, CI is determined by batches of hours. If a batch is compliant with the emission threshold, then all the H2 that is produced in that hour qualifies.

According to the previously stated reasoning, EDPR supports the following approach to determine the CI:

1) Annual Averaging to Determine if a Facility Produces Qualified Clean Hydrogen

The threshold for "qualified clean hydrogen" in the Inflation Reduction Act is 4 kg CO2e/kg H2. We support that only facilities that meet this criteria over a given year are considered "qualified clean hydrogen" and therefore eligible for tax credit.

2) Hour by hour calculations to determine precise credit value:

Once a facility is deemed "qualifying" over a given year, the CI of every **hour of production could be calculated separately**, providing a strong financial incentive for projects to reach the highest tier of tax credit in every hour, but allowing project operators to account for other variables such as safety and hydrogen consumer requirements when optimizing the hourly operation of the facility.

To do this calculation, Treasury could make the following calculation for each hour:

Carbon intensity = (Total Electricity Consumption MWh – Volume of Hourly EACs MWh) * Grid Average Emissions Rate (GREET) + carbon intensity associated with EACs

EACs means Energy Attribute Certificates, that would include RECs (Renewable Energy Certificates).

The calculation could be sequenced as follows:

- The hydrogen producer submits the hourly energy consumption of the electrolyzer, along with receipt of the retirement of the associated hourly time stamped EACs. If any EACs have emissions associated with them (e.g. from a CCS facility), add the associated emissions.
- Any volume of consumed power that is not matched with EACs is multiplied by respective grid average emissions rate as defined in GREET.

For each hour, this calculation is repeated, and the associated credit value is assigned. Finally, the results of all hours of a given year are summed to calculate the total credit value for the year.

A facility that has enough zero carbon EACs to cover total electricity consumption would have an emissions value of 0 for that hour, while a facility that has partial coverage would multiply the remaining power by the grid average emissions rate in GREET. This calculation is very similar to the way EU is planning on handling hourly EACs.

Regarding the CI of the grid mix, the best data available for a yearly period should be used, always keeping the legal certainty avoiding retroactive changes of the CI used in the middle of the tax year.

See example in Figure 2.

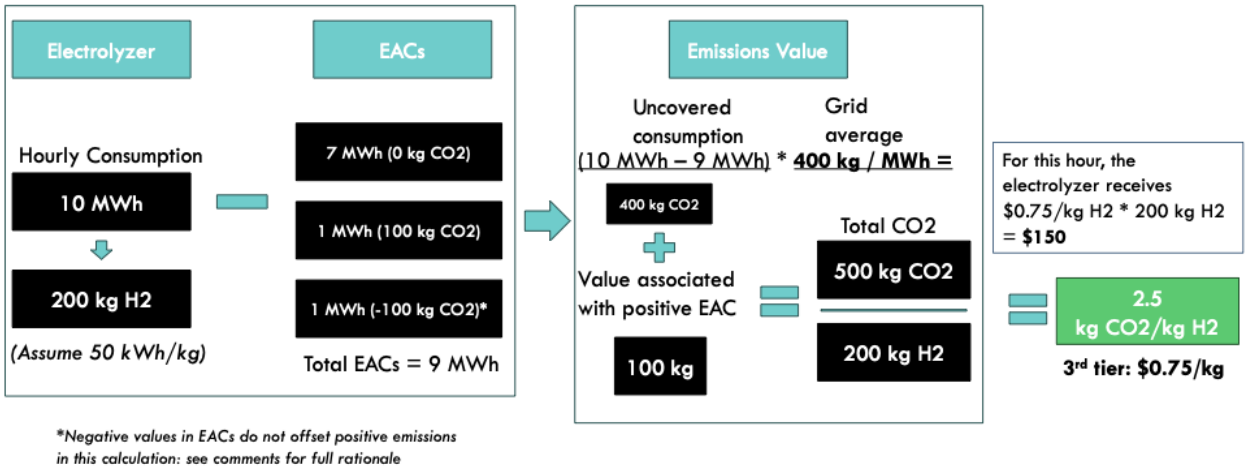

Figure 2: proposed methodology for determining CI.

We are opposed to the use of negative values associated to the EACs. This situation may typically come from one of two scenarios: biogenic carbon permanently sequestered or capturing methane pollution. Methane leaks and carbon sequestration are best tackled by other policy mechanisms in the Inflation Reduction Act and the Government – using a hydrogen subsidy for tangentially related emissions reductions activities opens a lot of doors for gaming, fraud, and unintended consequences. Inclusion of offsets would be entirely discordant with the intention of 45V, which is specifically designed to incentivize technology and process innovations to enable truly clean hydrogen production. Allowing project qualification via offsetting undermines that innovation while further entrenching polluting production project. So the minimum value of emissions associated with EACs should be zero.

With a similar approach (starting in 2030 hourly matching, emissions determined hourly) the first auction under the European Hydrogen Bank, for renewable hydrogen production in Europe, has attracted 132 bids from projects located in 17 European countries.

Regarding the use of storage (batteries) clarity is needed. It should be allowed that storage is used behind-the-meter with the electrolyzer, and it should be assessed the use of stand-alone storage as a way to help the hourly matching requirements.

Deliverability:

We are comfortable with the currently proposed rules around deliverability:

1. The clean electricity used to produce hydrogen represented by Energy Attribute Certificates (EACs) must come from the same region as the hydrogen production facility.
2. Regions are based on the Department of Energy's October 2023 National Transmission Needs Study.

We believe this encourages building new renewable energy projects near hydrogen production facilities and reduces reliance on long-distance power transmission. This improves grid stability, reduces losses and incentivizes hydrogen producers to use local clean energy sources. However, merging the regions defined in that Study should be analyzed.

Incrementality

We agree that hydrogen producers cannot claim the credit if their electricity comes from sources that existed 3 years before their production facility started operating. Only new assets should be dedicated to the production of hydrogen, as the use of existing assets would increase emissions by not ensuring the appropriate renewable build-out to compensate for the additional electricity demand, in addition to hydrogen being a less efficient way of using energy than direct electrification.

The proposed regulations seek feedback about situations in which existing assets can be considered incremental. These situations should be carefully assessed and defined in a strict and objective way to avoid loopholes. We consider the following situations acceptable:

a) "Uprating" or repowering (increasing capacity) of existing clean sources within the 3-year window, where the added capacity can be considered incremental
b) Curtailment: electricity that would have been wasted without the hydrogen production, in cases of assets that historically have been curtailed.
c) Regions with high renewable grid mix
    a. For example, in Europe they consider that threshold to be 90% RES share.
    b. In these cases, any electrolysis facility in the region can be considered compliant with the incrementality requirement.
d) Regions with low carbon intensity grid mix (in Europe they consider this threshold to be 18 gr CO2/MJ)
e) Refurbishment of the power plant is demonstrated with significant investment, (typically using the 80/20 rule for coherence with other tax credit rules), also applying the 36-month window rule.
f) EACs coming from renewable plants that were once considered as incremental during a certain period. These plants may have been built specifically for an electrolysis project, meeting the incrementality criterium at their COD. For legal certainty, they should remain as incremental. Otherwise, the number of qualifying EACs may decrease in time instead of remaining consistent.

Regardless, projects would need to present EACs, otherwise the average grid mix would be used.

We consider the following situations unacceptable to be considered incremental:

A) Avoiding retirement. demonstrating clean generation would not have been retired to power the hydrogen production is subjective and can be easily manipulated.
B) Renegotiating contracts or subsidies. The tax credit should not be an incentive to avoid renegotiating contracts or subsidies.
C) Co-location of an existing asset, as it would lead to increase the grid mix emissions.

Additionality ensures the credit drives new clean energy development and emission reductions. It also ensures ease of administrability, as it's difficult to trace individual electrons in the grid, so additionality offers a clear benchmark for eligibility.

Other relevant comments

- Grandfathering of the GREET model
    - Although EDPR is generally opposed to any grandfathering, for legal certainty, the GREET model used for taking the investment decision in a project should be used during the lifetime of the tax credit for that project.
- Grandfathering of the Guidance
    - It should be clarified what rules would be applicable to facilities that enter into operation before the final version of this Guidance is approved.
- Timing of direct pay refunds
    - Lack of certainty around the timing of the direct payment from the IRS will make financing more challenging and increase the risk profile of project cash flows, resulting in a higher cost of production.

DETAILED COMMENTS

Theme	Section of the Guidance	EDPR's comments
GREET model	Explanations of Provisions (II. Definitions) (C. Most recent GREET model) **Link**	There is uncertainty and risk introduced from taxpayers having to conduct a GREET lifecycle analysis each year using the updated model. Lack of certainty around regulatory support at the time the project takes an investment decision will make it more challenging to finance these transactions. In addition, the lack of certainty will increase the risk profile of project cash flows, resulting in a higher cost of production for green hydrogen, which is counter to the purpose of the 45V clean hydrogen production tax credit. More favorable language would allow the taxpayer to have the option to use either the version of the GREET model when it took FID or the most current GREET model for that taxable year
Filing deadline	Explanations of Provisions (III. Rules of General Applicability) Link	We suggest all possible flexibility, given that ease of filing will be dependent on the evolution of hourly RECS market.
GREET model	Explanations of Provisions (V. Procedures for Determining Lifecycle Greenhouse Gas Emissions Rates for Qualified Clean Hydrogen) (A. GREET Model) Link	Robust standardization of the parameters of the model would avoid low-carbon producers taking advantage of credits that a renewable producer cannot. In the case of electricity or gas coming from fossil fuels, leakages and losses of CO2 and natural gas should be assessed in the most conservative and standardized manner possible.
GREET model	Explanations of Provisions (V. Procedures for Determining Lifecycle Greenhouse Gas Emissions Rates for Qualified Clean Hydrogen) (A. GREET Model) Link	The methodology for allocating emissions to co-products or by-products should avoid that co-products or by-products are produced in a quantity artificially (and inefficiently) high. Independently of the actual quantity of co-products produced, there should be a threshold of emissions that can be allocated to co-products or by-products for each pathway.
T&D Losses	Explanations of Provisions (V. Procedures for Determining Lifecycle Greenhouse Gas	Transmission and distribution losses and leakages should be counted in the case of natural gas (methane) transport or CO2 due to its greenhouse effects.

	Emissions Rates for Qualified Clean Hydrogen) (C. Use of Energy Attribute Certificates) Link	
Incrementality	Explanations of Provisions (V. Procedures for Determining Lifecycle Greenhouse Gas Emissions Rates for Qualified Clean Hydrogen) (C. Use of Energy Attribute Certificates) (2. Eligible EAC Requirements) Link	We consider the following situations acceptable as incremental for an existing electricity generation facility: i. "Uprating" or repowering (increasing capacity) of existing clean sources within the 3-year window, where the added capacity can be considered incremental ii. Curtailment: electricity that would have been wasted without the hydrogen production, in cases of assets that historically have been curtailed. iii. Regions with high renewable grid mix a. For example, in Europe they consider that threshold to be 90% RES share. b. In these cases, any electrolysis facility in the region can be considered compliant with the incrementality requirement. iv. Regions with low carbon intensity grid mix v. Refurbishment of the power plant is demonstrated with significant investment, typically using the 80/20 rule for coherence with other tax credit rules), also applying the 36-month window rule. vi. EACs coming from renewable plants that were once considered as incremental during a certain period. These plants may have been built specifically for an electrolysis project, meeting the incrementality criterium at COD. For legal certainty, they should remain as incremental. Otherwise, the number of qualifying EACs may decrease in time instead of remaining consistent. Regardless, projects would need to present EACs, otherwise the average grid mix would be used. We consider the following situations unacceptable to be considered incremental: • Avoiding retirement. Demonstrating clean generation would not have been retired to power the hydrogen production is subjective and can be easily manipulated. • Renegotiating contracts or subsidies. The tax credit should not be an incentive to avoid renegotiating contracts or subsidies. • Co-location of an existing asset. This situation would increase grid mix emissions.
GHG emissions	Explanations of Provisions (V. Procedures for Determining	1. Fossil electricity with CCS: GREET model considers this pathway - the three pillars must be complied anyway – standardization of the parameters in the GREET model would be a

	Lifecycle Greenhouse Gas Emissions Rates for Qualified Clean Hydrogen) (C. Use of Energy Attribute Certificates) (2. Eligible EAC Requirements) Link	way to avoid fraud when counting emissions; 2. Biomass-powered electricity generation, with or without CCS, should only count as zero emissions if the biomass has a sustainable origin (otherwise, it may be an incentive to dedicate crops to hydrogen). Offsets should never lead to negative EAC emissions, it may conduct to gaming and undesired effects (it may incentive gray hydrogen over blue or green).
Incrementality	Explanations of Provisions (V. Procedures for Determining Lifecycle Greenhouse Gas Emissions Rates for Qualified Clean Hydrogen) (C. Use of Energy Attribute Certificates) (2. Eligible EAC Requirements) (a. Incrementality) Link	Adding CCS to an existing generator does not change the overall supply of electricity on the grid and should therefore not be considered incremental. If an existing fossil generator with CCS were to be considered incremental (and be used to qualify for 45V), the hydrogen demand would still need to be met by new load, and that new load has an indirect impact on emissions. Allowing these facilities to qualify will not address the capacity effect as intended by the incrementality requirement. Installing CCS while enabling new unabated fossil plants is neither emissions friendly nor a preferred outcome of this policy. CCS for existing facilities is largely covered by 45Q. If the Treasury does move forward with providing EACs to a generator that adds CCS, we recommend the following guardrails: 1. Calculate the emissions hourly with the plant as a whole, EACs should not have never 0 emissions because the efficiency of the CCS process will never be 100%. 2. Include upstream emissions: if the powerplant fuel has associated leakage emissions, consistency would require that those emissions would be included in a well-to-gate standard. For example, a gas powerplant should include the leakage of input methane. 3. Require continuous monitoring of CO2 captures and releases, or use conservative standardized parameters.
Incrementality	Explanations of Provisions (V. Procedures for Determining Lifecycle Greenhouse Gas Emissions Rates for Qualified Clean Hydrogen) (C. Use of Energy Attribute Certificates) (2. Eligible EAC Requirements) (a. Incrementality) Link	We consider the following situations acceptable as incremental for an existing electricity generation facility: i. "Uprating" or repowering (increasing capacity) of existing clean sources within the 3-year window, where the added capacity can be considered incremental ii. Curtailment: electricity that would have been wasted without the hydrogen production, in cases of assets that historically have been curtailed. iii. Regions with high renewable grid mix a. For example, in Europe they consider that threshold to be 90% RES share. b. In these cases, any electrolysis facility in the region can be considered compliant with the incrementality requirement.

		iv. Regions with low carbon intensity grid mix v. Refurbishment of the power plant is demonstrated with significant investment, typically using the 80/20 rule for coherence with other tax credit rules), also applying the 36-month window rule. vi. EACs coming from renewable plants that were once considered as incremental during a certain period. These plants may have been built specifically for an electrolysis project, meeting the incrementality criterium at COD. For legal certainty, they should remain as incremental. Otherwise, the number of qualifying EACs may decrease in time instead of remaining consistent. Regardless, projects would need to present EACs, otherwise the average grid mix would be used. We consider the following situations unacceptable to be considered incremental: • Avoiding retirement. Demonstrating clean generation would not have been retired to power the hydrogen production is subjective and can be easily manipulated. • Renegotiating contracts or subsidies. The tax credit should not be an incentive to avoid renegotiating contracts or subsidies. • Co-location of an existing asset. This situation would increase grid mix emissions.
Incrementality	Explanations of Provisions (V. Procedures for Determining Lifecycle Greenhouse Gas Emissions Rates for Qualified Clean Hydrogen) (C. Use of Energy Attribute Certificates) (2. Eligible EAC Requirements) (a. Incrementality) (i. Avoided Retirements Approach) Link	We are opposed to consider retirement risk as an incrementality case. Only significant investment can prove objectively that the useful life of the asset has ended. If we consider criteria like "financial loss", "finalization of PPAs or financial support" as criteria to consider that the facility is additional, we are creating incentives for a power plant going into losses. Same applies to "upcoming relicensing decisions", we would create incentives to not to manage relicensing in an efficient way, unless the relicensing goes with a significant investment. Co-location of an existing power plant increases emissions of the grid mix, so in any case, that increase of emissions should count in the lifetime emissions of the co-located electrolyzer (EACs should reflect that the power plant is an existing asset that moved to co-location, and the GREET model should consider the increase of emissions of the grid mix).
Incrementality	Explanations of Provisions (V. Procedures for Determining Lifecycle Greenhouse Gas Emissions Rates for Qualified	Regarding an opportunity to demonstrate zero or minimal induced grid emissions through modeling or other evidence under specific circumstances

	Clean Hydrogen) (C. Use of Energy Attribute Certificates) (2. Eligible EAC Requirements) (a. Incrementality) (ii. Zero or Minimal Induced Grid Emissions Through Modeling or Other Evidence) Link	There should not be any need to demonstrate EACs during a certain year if the % of renewables in the region is above a certain threshold (in Europe, it has been set in 90%) or during a certain hour if the hourly power market price in the region is below a certain threshold (in Europe 20 EUR/MWh), because that means that we are close to curtailment.
Incrementality	Explanations of Provisions (V. Procedures for Determining Lifecycle Greenhouse Gas Emissions Rates for Qualified Clean Hydrogen) (C. Use of Energy Attribute Certificates) (2. Eligible EAC Requirements) (a. Incrementality) (iii. Formulaic Approaches To Addressing Incrementality Form Existing Clean Generators) Link	Regarding the 5% allowance approach. If the 5%-allowance is going to be implemented, at least should take into account the specificities of the region (ej: regions with higher RES, or higher curtailments should have a higher allowance). However, this 5% approach would not be necessary if our suggestion for determining the CI to get the tax credit is accepted (see above in the section of our comments named "**Calculating the tax credit value when hourly matching is required")**
Incrementality	Explanations of Provisions (V. Procedures for Determining Lifecycle Greenhouse Gas Emissions Rates for Qualified Clean Hydrogen) (C. Use of Energy Attribute Certificates) (2. Eligible EAC Requirements) (a. Incrementality) (iii. Formulaic Approaches To Addressing Incrementality Form Existing Clean Generators)	We are opposed to consider retirement risk as an incrementality case. Only significant investment can prove objectively that the useful life of the asset has ended. If we consider criteria like "financial loss", "finalization of PPAs or financial support" as criteria to consider that the facility is additional, we are creating incentives for a power plant going into losses. Same applies to "upcoming relicensing decisions", we would create incentives to not to manage relicensing in an efficient way, unless the relicensing goes with a significant investment. Co-location of an existing power plant increases emissions of the grid mix, so in any case, that increase of emissions should count in the lifetime emissions of the co-located electrolyzer (EACs should reflect that the power plant is an existing asset that moved to

	Link	co-location, and the GREET model should consider the increase of emissions of the grid mix).
Temporal matching	Explanations of Provisions (V. Procedures for Determining Lifecycle Greenhouse Gas Emissions Rates for Qualified Clean Hydrogen) (C. Use of Energy Attribute Certificates) (2. Eligible EAC Requirements) (b. Temporal Matching) Link	We support hourly matching phase in from 2028 onwards, as long as enough systems to track hourly EACs exist.
Deliverability	Explanations of Provisions (V. Procedures for Determining Lifecycle Greenhouse Gas Emissions Rates for Qualified Clean Hydrogen) (C. Use of Energy Attribute Certificates) (2. Eligible EAC Requirements) (c. Deliverability) Link	It should be allowed to deliver energy between regions if transmission capacity is booked. If there is an hourly power market in both interconnected regions, it should be allowed that the RES source is in the region with highest market price by hour, or the highest carbon intensity. This way, it incentivizes that RES are installed in the region with the highest market price or the highest carbon intensity.
Hydrogen use	Explanations of Provisions (VI. Procedures for Verification of Qualified Green Hydrogen Production and Sale or Use) (C. Requirements for Sale or Use Attestation) Link	Circular arrangements. We agree that use of hydrogen to generate electricity that is then directly or indirectly used in the production of more hydrogen, or venting or flaring hydrogen, should not be eligible uses of the hydrogen. Authorities should have means to verify. However, small venting and flaring should be allowed since its required to keep the quality of the product.
Qualified verifiers	Explanations of Provisions (VI. Procedures for Verification of Qualified Green Hydrogen Production and Sale or Use)	To have a robust definition of qualified verifier, there should be clear certification procedures approved by authorities.

	(G. Definitions Related to Verifications) Link	
Investment Tax Credit	Explanations of Provisions (VIII. Election to Treat a Clean Hydrogen Production Facility as Energy Property for Purposes of the Section 48 Credit) (A. Overview) Link	We see no other option than to use the lifecycle emissions in the taxable year to determine the "energy percentage" for the ITC.
Investment Tax Credit	Explanations of Provisions (VIII. Election to Treat a Clean Hydrogen Production Facility as Energy Property for Purposes of the Section 48 Credit) (B. Election Procedures) (1. Time and manner of making election) Link	The proposed text implies that if a co-owner chooses the ITC, then all co-owners automatically must go to the ITC regime. This seems unfair.
RNG and Fugitive Methane	Explanations of Provisions (IX. Renewable Natural Gas and Fugitive Sources of Methane Link	Emissions associated to transport of RNG should be calculated by the GREET model, because it is dependent on distance. Leakages of RNG would have a powerful GHG effect.
RNG and Fugitive Methane	Explanations of Provisions (IX. Renewable Natural Gas and Fugitive Sources of Methane Link	Book and claim systems should be avoided when possible; they are not useful to prove effective decarbonization. Mass balance should also be used in the case of RNG and only if it is possible that the RNG can be physically delivered. Treasury must establish rigorous feedstock eligibility requirements to actualize pollution benefits while defending against perverse outcomes, including: • Prohibiting crediting of biomethane or fugitive methane that has previously been put to productive use—i.e., burned for energy or heat or used as a feedstock; • Prohibiting crediting biomethane or fugitive methane from sources that could have avoided creation of methane in the first place via alternative practices—such as diversion of organic waste from landfills, any methane arising from oil and gas

		operations, or alternative manure management strategies at concentrated animal farming operations; • Prohibiting crediting of biomethane or fugitive methane sources that are demonstrated to come from practices harmful to surrounding communities; and • Prohibiting crediting of biomethane or fugitive methane derived from feedstocks arising after the date of implementation of the IRA as a means of defending against an incentive to *increase* waste streams.