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# REA Response:

# A UK Low Carbon Hydrogen Certification Scheme

The Association for Renewable Energy & Clean Technologies (REA) is pleased to submit this response to the above call for evidence. The REA represents industry stakeholders from across the whole heat sector and includes dedicated member forums focused on green gas & hydrogen, biomass heat, biomass power, renewable transport fuels, thermal storage and energy from waste (including advanced conversion technologies). Our members include generators, project developers, heat suppliers, investors, equipment producers and service providers. Members range in size from major multinationals to sole traders. There are over 500 corporate members of the REA, making it the largest renewable energy trade association in the UK.

The REA wholly owns Renewable Energy Assurance Limited (REAL), which runs a number of schemes in the renewables, sustainability and consumer protection areas – including the Green Gas Certification Scheme (GGCS). Although GGCS is responding separately to this consultation, many of the points we make in this consultation reflect many years of experience working with the GGCS, energy department policymakers and our members.

1. **Do you agree with the design features set out in the introduction? Please explain your answer and suggest any alternative or additional features and how they should be prioritised.**

Yes, we agree with the primary and secondary design features on page 9 of the consultation document.

We agree that the primary priority design feature is of utmost importance - connecting producers and end-users, verifying and tracing the emissions of low carbon hydrogen use. This will provide end-users with the confidence that they are consuming low carbon hydrogen.

We agree that wide participation is key and that good user experience with limited administrative burdens and participation costs are important. This also reflects our experience of our members and their interaction with the GGCS.

We have also seen the importance of cross border trade in the biomethane market and support making this a priority with the Hydrogen Certification Scheme.

On the issue of participation, we note that only producers and end consumers are currently identified as participants. While this fits with the current conception of hydrogen transactions in the UK, in the future it is likely that intermediaries i.e. traders, will play a role in the market and this must be accounted for in the design even if such accounts/users are not active at the start of the Scheme. This role would expand further if DESNZ policy allows projects with Low Carbon Hydrogen Agreements to sell their hydrogen to third parties ('risk taking intermediaries'). We believe strongly that allowing such intermediaries is a vital part of a properly functioning hydrogen market. For the purposes of this consultation, the certification scheme should at least be future-proofed so that it would be able to include third parties if required.

Regarding the evolution of the scheme, we agree that the scheme should be designed with flexibility in mind to allow for future changes. This includes flexibility in the IT infrastructure that is built and the approach to mass balancing and labelling of different quality criteria, such as the UK Low Carbon Hydrogen Standard (LCHS).

Our colleagues in the GGCS have found the best way to build in flexibility is to have a set of Scheme Rules that can be updated from time to time, and which participants are obligated to follow via a contractual agreement which remains in place over a longer period without amendment.

Regarding the topic of interaction with the UK ETS, the Scheme should be integrated with the UK ETS to provide evidence of hydrogen use and to ensure that any hydrogen use has scope 3 emissions within the UK LCHS limits. This alignment would enable the UK ETS to source hydrogen via the natural gas grid, creating a new opportunity for sustainable energy production.

Regarding the interaction between the EU and the UK certification schemes there are several relevant schemes which should be considered, including;

- the EU's Union Database for biofuels
- the EUs framework on Guarantees of Origin (GoO), where it is clear that certificates should be issued in line with the EN 16325 standard
- the EU ETS, which currently allows for the grid supply for biomethane, which could include the use of hydrogen in the future

Considering that the rules of the above schemes may not be clear at the point the Hydrogen Certification Scheme is set up, or that they may change during the lifetime of the Scheme, the government should take care to build in flexibility into policy, processes and IT infrastructure to ensure the Scheme can adapt.

**2. Do you agree with the principles set out in the introduction? Please explain your answer and suggest any alternative or additional principles for the development of the scheme.**

We agree with the principles set out in the introduction. They are in line with the approach of the GGCS and we have found them to be important aspects for building a successful and trusted scheme.

**3. Do you agree that there should be a single certification scheme covering the UK? Please explain your answer**

Yes, a single government-led certification scheme is the best way to ensure clarity and build trust along the supply chain. Such a scheme would provide a standardised set of requirements and guidelines for hydrogen production, distribution, and use, reducing confusion and increasing transparency.

Moreover, a single scheme would also help to reduce the risk of inconsistent and potentially conflicting certification requirements being implemented by different organisations. This could lead to fragmentation within the industry, making it more difficult to achieve the UK's low-carbon hydrogen goals.

Furthermore, a government-led scheme would also help to build trust among consumers, investors, and other stakeholders, who would be reassured by a recognised certification process that ensures the environmental sustainability of hydrogen production and use.

While we strongly support having a single scheme it should be designed with flexibility in mind, in relation to its rules, processes and IT infrastructure, to ensure it is relevant to the different use cases of production, transportation and use of hydrogen.

**4. Do you agree that participation in the scheme should be voluntary initially? Please explain your answer.**

Yes, a voluntary approach to the scheme would be appropriate in the short term, but in the long term, the scheme should become mandatory.

We believe that mandatory participation is essential in the long term because it would lead to the greatest level of benefit for producers, off-takers, and society as a whole. It would maximise trust and confidence in certificates.

However, we also recognise the government's concern about the UK hydrogen market's growth and producers' differing needs and priorities. Therefore, a voluntary approach in the short term could avoid complex legal issues and any issues in holding up the overall roll out of more hydrogen production facilities in the UK.

One issue to consider when running the scheme on a voluntary basis is to identify how the scheme operator or operators e.g. scheme owner, certification bodies and any appointed issuing body, would recover costs from users considering the uncertainty they would have in income received from any transaction fees put in place.

**5. If LCHS changes through time, do you think the certification scheme should offer 'legacy' certificates based on compliance with previous versions of the LCHS?**

Yes. The scheme should be flexible in order to accommodate potential changes in the types of hydrogen for which certain certificates have been issued and changes in standards in place, such as the LCHS.

There may be voluntary markets that develop for hydrogen produced in different ways that meet different standards. Therefore, the Scheme should primarily be about LCHS hydrogen, but also be flexible enough to allow for the possibility of alternative hydrogen production methods that could emerge in the future.

In light of this, the Scheme should offer legacy certificates for producers who were previously compliant with the certification scheme. This will help manage investment risk for hydrogen producers while still maintaining the integrity of the scheme.

**6. How do you think 'legacy' certificates would impact the certification scheme and the market for certified hydrogen?**

We do not see any negative effects. All certificate markets operate with certificates of different vintages and labels.

**7. Do you agree that certificates should be issued based on MWhs of hydrogen? If you answered "no" to question 7, please state your concerns and suggest your preferred alternative.**

Yes, certificates should be issued based on MWh of hydrogen, as energy-based units will provide a standard metric for consumers to understand their energy use and will align with standard metering and reporting of hydrogen.

We note that the Renewable Energy Directive specifies that Guarantees of Origin are in MWh, which supports international alignment. While the hydrogen sector often refers to kg, certificate systems can provide standard conversion factors to kg as needed.

Furthermore, we agree with the consultation's position that an energy-based approach will make it simpler to tie the sale of hydrogen and a certificate together, as gas is usually priced on an energy basis, and metered on a volume basis before being converted to energy for charging.

We also note that emerging international schemes such as CertifHy and TÜV SÜD are being developed with energy-based units (MWh), and using a similar approach is likely to make future harmonisation more straightforward.

The units should be in MWh of Higher Heating Value as this is the standard for charging for consumers in the gas market.

We recognise that the convention is that GHG values are calculated against the lower heating value (LHV) and fully support that approach. It is also the case that the RTFO uses the LHV of a renewable fuel.

Inevitably there will be use cases where the LHV or HHV is the reference point for consumers or regulators. As it is standard practice in the gas market to use HHV that should be the unit in which the Certificates are issued, however the Scheme should record some standard conversion factors so different users can make the appropriate conversions to LHV where needed.

### 8. Do you agree with our indicative list of mandatory disclosure fields? Please explain your answer and suggest any additional mandatory disclosure fields.

Yes, we agree with the proposed list.

The five mandatory fields - actual emissions, input and electricity sustainability criteria, production method, government support, and traceability information - cover crucial aspects of hydrogen production that are essential for ensuring transparency and accountability in the industry. These fields will help consumers, investors, and policymakers make informed decisions about the hydrogen they use or support and encourage producers to adopt sustainable practices.

We recommend that the government explores the potential benefits of making the mandatory fields align with the EN 16325 standard (currently undergoing revision).

In addition, the suggestion to include other voluntary disclosure fields to harmonise with other markets or schemes is a constructive approach that could facilitate the import and export of UK hydrogen and its integration into other low-carbon initiatives.

This highlights the same point made throughout our reply that the scheme will need to be flexible in its rules, processes and IT infrastructure, in this case to be able to incorporate additional disclosure labels as needed, which will evolve as the hydrogen sector grows and develops.

### 9. Do you have any suggestions for potential voluntary fields that may be of use?

Full proof of sustainability information i.e. details of GHG values broken down by stages of production and distribution should be a top priority for any voluntary fields included in the Scheme.

This information would be useful for stakeholders looking to use hydrogen in the Renewable Transport Fuel Obligation (RTFO), the UK Emissions Trading Scheme (UK ETS) or the EU Emissions Trading System (EU ETS).

It is important to note that the information contained in any voluntary disclosure fields must be as credible as other information provided on a certificate. Otherwise, it could undermine the credibility of the entire Scheme. This means that any additional voluntary information provided must be subject to clear rules and guidelines to ensure that it is trustworthy.

As a result, a process should be put in place to assess and accept or reject new labels and standards that may form the basis of voluntary labels.

We have seen in the biomethane sector that over time new labels and schemes are created such as Naturemade (https://www.naturemade.ch/en/biogas-certification.html) or vegan society approved (https://www.ecotricity.co.uk/our-green-energy/vegan-energy). These labels are complementary to the LCHS and the system should have functionality to include them. An example we can envisage in the hydrogen space is a label around sustainable water use or if there were any biomass inputs into the hydrogen production process then some existing labels from the bioenergy sector could be used e.g. ISCC.

### 10. What markets or schemes would you like to use the voluntary disclosure field to demonstrate compliance with?

We have identified the following markets and schemes as potentially relevant to the Hydrogen Certification Scheme.

- Naturemade (used for biomethane),
- The Renewable Transport Fuel Obligation (RTFO)
- EU Emissions Trading System (EU ETS)
- UK Emissions Trading System (UK ETS)
- EU Guarantee of Origin framework inc. EN 16325
- ISCC EU and ISCC – PLUS

The exact nature of the voluntary fields needed within the system to ensure the certificates demonstrate compliance will need to be examined in more detail later in the design process. Aiming to be able to include the proof of sustainability information - as currently displayed in the ISCC documentation system - would be a good starting point.

### 11. Would you prefer a single label, or multiple tiers? Please explain your answer.

The Scheme should aim to show the highest granularity of information technically possible, with the GHG value for each production period as the starting point for providing transparency and accountability to consumers.

This GHG value could then be matched to a structured tiering of GHG bands, which could inform consumers of the level of GHG intensity that is considered to be ambitious. This would act in much the same way as a labelling scheme.

Tiering by itself, like the overall LCHS threshold approach can lead to unintended consequences, such as production “bunching” at the top of a tier’s range, and may not provide enough detailed information for consumers to make informed decisions.

The GGCS has seen in the biomethane sector a growing demand for actual GHG values which are of increasing importance to corporate consumers purchasing renewable energy.

**12. If stating a preference for multiple tiers to question 11, do you have any suggestions on how tiers should be structured?**

The top tier should represent zero or negative carbon hydrogen as this is the ultimate goal for low carbon hydrogen production.

In terms of accounting for CO2 capture and replacement, or CO2 capture and storage, the LCHS should make it clear how a hydrogen producer can account for this and what evidence is needed. It is important for the Scheme Rules to allow for reversal events, such as if the CCS system were to leak, as this would change the GHG emissions originally certified.

There should be consideration for the possibility of negative emissions, where the gCO2eq is less than zero. This could be achieved through alternative hydrogen production pathways with CCUS, such as gasification using biogenic feedstocks.

**13. Do you agree with a Mass Balance system of Chain of Custody? Please explain your answer and suggest the alternative you'd recommend if you disagree.**

Yes - a Mass Balance system of Chain of Custody is the best approach for the scheme.

Having said that, Mass Balance is an umbrella term and the exact nature of the chain of custody needs to be defined.

The focus of the Mass Balance approach should be the requirement for a physical connection between the producer and consumer of hydrogen. This ensures a credible connection which will avoid greenwashing claims and provide evidence of a real transition in energy use away from fossil fuels.

While sticking strictly to the physical connection requirement, flexibility should be given on the other aspects of the mass balance chain of custody. Furthermore, it should be recognised that mass balancing will look different between grid transported hydrogen and non-grid transported hydrogen e.g. by road, rail, ship. Clear guidelines must be developed for each situation to give stakeholder confidence and certainty in using the scheme

- Mass balance periods – one year is a reasonable period to balance across. We have seen in the biomethane sector the challenges of matching supply and demand which cannot be fully predicted in advance. A one-year period gives the market time to produce hydrogen and deliver it to consumers with the flexibility to manage gaps between supply and demand and unexpected changes. If the system is to be flexible and interact with the EU GoO system then a 12 month period would also match with the requirements of EN 16325.

- Connection to ownership of the physical commodity – the scheme should focus on ownership at the point hydrogen is placed into a physical supply chain and when it is removed, and not introduce impractical requirements on transfer of ownership within that system that do not improve credibility or generate any benefits. This is particularly important in relation to grid transported hydrogen. Any certificate will only be issued based on robust evidence that hydrogen owned by a producer is placed into the grid. No further requirement to secure gas shipper data showing flow nomination to the grid and

present it at a later point should be required. There should be no requirement for any party to show ownership of units of energy within the grid e.g. transfer of ownership at the National Balancing Point, which would add additional transaction costs for no benefit. After injection it should be allowed that a mass balance is achieved by withdrawing hydrogen from the same grid – and the scheme should assume that the grid has its own processes for ensuring that payment on withdrawal matches a flow nomination of gas leaving that grid. Within this concept, matching a certificate to evidence of payment for gas withdrawal is sufficient to achieve a mass balance. The evidence of withdrawal i.e. payment in our proposal, should be clearly defined and a light touch system e.g. provision of an invoice/gas bill should be considered sufficient with spot checks made annually at a more detailed level. Where the Scheme is used for purposes such as the RTFO then extra compliance can be layered on top by relevant regulators/administrators e.g. checks on fuel duty points/fuel duty payments.

- Different use cases may require a loss factor (e.g. the RTFO), or not, (e.g. EN 16325 compliant GoO). It should be left to the administrator of specific schemes to set out how to account for losses as they wish e.g. require the cancellation of 101% of the amount of hydrogen consumed, and the Scheme should limit itself to providing some standard loss factors within its rules and a statement that they should be applied where required.

**14. Do you agree that a Mass Balance system of Chain of Custody would provide the most consumer confidence over the credentials of the hydrogen? Please explain your answer.**

One aspect of a Mass Balance approach - the requirement for physical connection - will be a key aspect of maintaining consumer confidence.

However it is crucial to note that neither Mass Balance nor Book and Claim, or any variety of the two, have any inherent level of reliability or consumer confidence. We support a mass balance system (as per question 13) but the experience of our colleagues running the GGCS has shown that consumer confidence will largely come from the way the Scheme is designed, operated and communicated to consumers.

Firstly, clear guidance must be established outlining the criteria for achieving a mass balance. This guidance should be specific to different supply chains, as documentation of mass balance will differ between grid injection and non-grid transport. The nature of the mass balance can then be clearly communicated to all parties using the Scheme, including consumers.

In our view the lack of consumer confidence in the renewable power market has come less from the robustness of the REGO scheme and more from the way tariffs have been communicated e.g. telling consumers they are being supplied with a renewable source rather than matched to them, inappropriate matching periods for electricity, low prices of GoO and lack of additionality. Similarly, there are risks to a Mass Balance system where there is also no physical delivery and additionality is not clear.

Secondly, consumer confidence will come from ensuring that the issuing body is trusted, double counting is eliminated and certificates are retired once claims are made using them.

There are limited reductions in the risk of double counting from simply requiring Mass Balance over a Book and Claim system. Many Mass Balance systems currently operating carry a significant risk of double counting because of the large number of entities (both producers and

traders) that are able to generate Certificates themselves via their own systems e.g. completing an excel template to create a Proof of Sustainability.

Therefore, the scheme needs to have clear rules, government ownership of the key policy choices, and a robust IT system for issuing and verifying certificates, including cancellation and verification of cancellation.

The GGCS has built consumer confidence by operating a robust IT system, which is subject to an annual external audit. It supports this by participating fully in industry forums e.g. ERGaR, and involving scheme participants in development and decision making.

GGCS Certificates are retired at the point of allocation to an end consumer and those consumers can verify on the scheme website that they are genuine - Certificates - Green Gas Certification Scheme.

A final point is that consumer confidence is driven by understanding what they are contributing to in the production of the renewable fuel they have purchased and their role in the short, medium and long term development of more renewable production (commonly referred to as additionality). This is a separate issue to Mass Balance vs Book and Claim and can be addressed at a basic level by the mandatory label of what government support has been provided to the production process. Additionality is more complex than a simple yes or no answer to whether the government has provided a subsidy, however, with a mix of consumer and government support intended to drive future development (as recognised in the Green Gas Support Scheme Impact Assessment). A clear framework should be developed for communication to buyers of the certificates of their role in supporting more low carbon hydrogen production.

### 15. Do you have any thoughts on how our consignment approach should be structured?

The consignment approach is a good one, and it is important to have the potential to capture the different characteristics of hydrogen produced at different times in the Certificates.

We believe that different producers will want to adopt different approaches depending on the nature of their processes and their customers.

Allowing monthly averaging gives producers a good option where they are concerned about the level of resources needed to engage with the Scheme, as they would only need one calculation a month (based on metering that they will have to have in place for their business processes). They can then choose to go through the Certificate issuing process every month or wait until the end of a longer period, e.g. each quarter, to be issued with several monthly consignments of Certificates at the same time.

At the other end of the scale, producers who wish to capture more detail in their Certificates can (depending on the resources afforded to the issuing body) go through the issuing process more frequently and request consignments that break down their total production into more granular consignments e.g. daily or weekly.

With the right processes and IT at the issuing body level this can be relatively straightforward. We believe that the issuing body should seek to connect into primary metering data where possible, such as the GEMINI system for grid injection, which will allow for an efficient and robust issuing process.

### 16. Are you planning to import or export hydrogen? If yes, where to/from?

No

### 17. Do you have any suggestions on how the certification scheme can best enable imports of hydrogen, and ensure that imported hydrogen can be certified accurately?

The certification scheme should be aligned with the Renewable Energy Directive (RED) and the associated EN 16325 standard. Full integration would involve signing a mutual recognition agreement with the European Commission on Guarantees of Origin (GoO) under Article 19 of RED II and we recommend that the government signal its intent whether or not to explore this option at the earliest opportunity.

Full integration would provide a common framework for the certification of low carbon hydrogen and ensure that imported hydrogen that received GoO in an EU member state could be incorporated into the Scheme (and vice versa for exported hydrogen).

This is not to say that the Scheme should be exclusively a GoO scheme compliant with EN 16325 but that there should be the flexibility in the labelling of each Certificate so that those requirements can be met where needed. It is common among existing Schemes e.g. GGCS and DENA biogas register, that the producer applies for Certificates with different characteristics and labels at the point of issuing. Doing this within one overall scheme will reduce the risk of double counting and maximise efficiency.

We support the view that there is a double counting risk if the hydrogen receives a non-UK certificate and then a UK Certificate. To mitigate this risk, we recommend that the UK certification scheme be designed to import certificates via recognised schemes such as the AIB EECS hub or the ERGaR CoO Scheme.

The government should closely monitor the development of the European Union on Biofuels which could in the future be used as a registry that tracks GoO and PoS for hydrogen and could be used to track imports or exports of hydrogen between the UK and the EU.

The Hydrogen Certification Scheme should also be aligned with voluntary schemes that are recognised by the European Commission under existing bioenergy sustainability criteria. This will enable producers to demonstrate that their production meets multiple criteria, such as environmental, social and sustainability criteria. Examples of such schemes include the International Sustainability and Carbon Certification (ISCC).

### 18. Do you have any suggestions on how the certification scheme can best support exports of hydrogen from the UK?

As with imports of hydrogen to the UK, the certification scheme should be aligned with the Renewable Energy Directive (RED) and the associated EN 16325 standard. Full integration would involve signing a mutual recognition agreement with the European Commission on Guarantees of Origin (GoO) under Article 19 of RED II and we recommend that the government signal its intent whether or not to explore this option at the earliest opportunity.

Full integration would provide a common framework for the certification of low carbon hydrogen and ensure that EU states would accept the Certificates being used by the Scheme.

Providing full proof of sustainability information, as is done within schemes such as ISCC, would also enable exported hydrogen to enter relevant markets in the EU, such as transport and the EU ETS.

As mentioned in the context of other topics within this consultation, the scheme will need to be flexible in its rules, processes and IT infrastructure, in this case to be able to incorporate additional disclosure labels as needed, which will evolve as the hydrogen sector grows and develops.

**19. Are there any additional areas to consider in the midstream beyond those set out above?**

Firstly, the certification scheme should have the ability to include information on the midstream starting at a minimum with a label on the distribution method, as outlined in Annex E of the draft EN 16325 standard.

Default GHG emissions for different hydrogen transport routes should be published by the Scheme and referenced on the Certificate. The consumer can then identify the location of production and use the values shown to generate an actual value e.g. calculate distance travelled by ship using a standard value. The ability to enter actual calculated values should be explored and if full proof of sustainability information is required by the end customer then this functionality may be necessary.

This will ensure that the end user is aware of the GHG emissions associated with the transport and distribution of hydrogen and a Certificate will provide a consumer with information on both the well-to-gate GHG number and the gate-to-use GHG number, and consumers can use either or both as needed. They can then see the impact of different transportation methods and the market can place a value on those with lower GHG impacts.

This is particularly relevant for large organisations that may need to report incoming emissions for Corporate Social Responsibility (CSR) in line with schemes such as the Science Based Target Initiative.

Secondly, if there is a "midstream" conversion of hydrogen, to or from its gaseous or liquid form, or into a different energy carrier e.g. ammonia, then the Certificate needs to be cancelled and a new Certificate issued for the new energy carrier. This new Certificate can identify the process that has taken place and only the Certificates for MWh of the new energy carrier are issued, which would account for energy losses, direct or parasitic, and associated changes in GHG intensity, from the conversion process. A significant amount of discussion has taken place at the EU level about energy carrier conversion and the level of detail about the upstream inputs needed to be included in subsequent Certificates issued. This is captured in the draft EN 16325 standard on GoO.

Energy carrier conversion means that the government needs to consider if this scheme will cover hydrogen other than in its gaseous or liquid form. We suggest that it should, unless another scheme is already operating that is able to issue certificates for that energy carrier e.g. if hydrogen is converted into electricity then REGO can be issued by the Ofgem scheme or if synthetic methane is created then certificates can be issued by the Green Gas Certification Scheme.

**20. Do you agree that monthly self-reporting with light touch verification is the most appropriate reporting method? If answering yes to question 20 please state why. Or if answering no, what would you consider more appropriate?**

Yes, this approach is consistent with the reporting methods used by the Non-Domestic Renewable Heat Incentive, Green Gas Support Scheme and the GGCS. This approach has proven to be robust when matched with annual audits as proposed in this consultation.

### 21. Do you think there is anything else that should be assessed during annual audits?

We believe that the proposed audit framework is sensible and effective in assessing hydrogen production and issuance of certificates. Annual audits conducted by approved third parties should be the primary form of verification, including a visit to the facility and a review of the production method, metering points, certificates, and sustainability evidence.

As noted in the consultation, the audit should check the production and issuance of certificates, as well as ensuring that the sale of the physical commodity is accurately recorded.

We also agree that it is essential to verify the emissions of each consignment against the approved list of eligible pathways, as this will be essential for demonstrating that the LCHS is being met.

As far as possible the issuing body should seek to access independent robust metering data such as the GEMINI system, so that annual audits do not need to assess all data points in depth and can focus on other aspects of the production process e.g. the inputs.

The Scheme must recognise that audits of production sites will not be able to assess if mass balance has taken place and there must be a system of auditing traders, suppliers and consumers e.g. those who cancel Certificates, to ensure that mass balance rules have been followed. This will require careful consideration of the role of the issuing body and design of rules and contracts that ensure that traders and consumers are obliged to undergo such audits.

One other point regarding the annual audits is the type of certification being conducted. If the standard for the certification process becomes a formal ISO or PAS standard (or equivalent), then the UKAS accreditation framework will be needed. If not, we recommend using the ISAE3000 standard for non-financial reporting, as is already used for biomethane sustainability reporting under the Non-Domestic Renewable Heat Incentive and Green Gas Support Scheme.

### 22. Which would you prioritise, immediacy of certificates or the flexibility of averaging consignments across a month?

There is no one-size-fits-all answer to this question, as the optimal approach will depend on the specific circumstances and requirements of each individual producer, trader, and consumer.

Firstly, producers can be given a choice of whether they prefer to prioritise the immediacy of certificates or the flexibility of averaging consignments across a month. This will allow each producer to choose the approach that best suits their particular needs and circumstances.

In most cases, it is likely that the producer, trader, and consumer will enter into an agreement or series of linked agreements where hydrogen would be produced and delivered over the month, and at the end of the month, the certificates would be issued and transferred, as set out under the agreement(s). This would allow for greater flexibility in the averaging of consignments across the month, while also ensuring that the necessary certificates are issued in a timely manner.

It is important to note that mass balance does not require all certificates and documents to be available at the moment the hydrogen is produced or transported to the consumer. They will only ever be generated after production and will often be transferred much later than the

physical delivery is made. This is in line with how Certificate systems for power and biomethane operate, with certificates issued retrospectively to match physical production and market activities.

To reduce the number of transactions required it is essential to enable the bulk transition of certificates in line with the sale volume of hydrogen, rather than requiring a transfer for each MWh certificate. This is the standard approach used in every certificate IT system, where instructions are made to transfer a specific amount of MWh certificates as a consignment. Consignments can be broken into smaller parts but never combined, and it is unlikely that anyone would want to transfer only 1 MWh.

### 23. Do you have any suggestions for the approach to certificate retirement?

We strongly recommend that certificates are retired after the associated hydrogen is used. Retirement is a standard approach taken by Guarantee of Origin schemes, it is essential to prevent double counting and is needed if the certificates are to have any value to end consumers.

The lack of a robust retirement process in transactions involving proofs of sustainability is a key weakness of the mass balance systems currently operating, which is why the EU has introduced a digital database for biofuels.

### 24. Are you aware of any industry-led hydrogen certification schemes being developed? If yes, please give details.

Yes.

The Green Gas Certification Scheme (GGCS) already has scheme rules that allow for the issuing of Renewable Gas Guarantees of Origin (RGGOs) for renewable hydrogen and are in discussions with several potential hydrogen production projects regarding issuing of Certificates. As soon as these production projects commission and produce hydrogen then the first RGGOs will be issued (expected late in 2023)

Depending on the IT in place at the time, the RGGOs issued will either have the disclosure and labelling system currently used by the GGCS, including a label of whether the UK LCHS has been met, or it may have more characteristics of an EN 16325 scheme and more complete proof of sustainability information.

The aim of this initial run of RGGO issuing will be to test the practicality and effectiveness of the GGCS in the hydrogen sector, and to gather feedback from stakeholders in order to refine and improve the process. If successful, it is anticipated that this scheme could be scaled up and adopted more widely across the industry in the future and could inform the development of the government's hydrogen certification scheme.

GGCS is very interested in performing the role of issuing body for the UK Scheme and this is strongly supported by the REA and its members, given the many years of experience working closely with GGCS as the scheme has evolved.

### 25. How important is Government backing to provide confidence in the scheme?

Although Renewable Energy Assurance Ltd (REAL) has successfully operated the Green Gas Certification Scheme as a non-governmental scheme for over 10 years, it has had to work hard to

explain why this activity is not being done by the government and what it is doing to ensure it operates to the highest possible standards. We believe government support can provide a level of credibility and assurance that may be more difficult to achieve without it.

This point is particularly relevant when considering sustainability standards such as the LCHS. The GGCS would have been notably more difficult to establish without the government's role in setting the rulebook for what constitutes sustainability through the Non-Domestic Renewable Heat Incentive sustainability criteria – which themselves draw heavily on the original Renewable Energy Directive and subsequent EU policy development.

Furthermore, government backing from the Department for Energy Security and Net Zero can ensure buy-in from other UK government stakeholders, such as on green tariffs and with foreign governments in relation to international interoperability. This can be particularly important for facilitating international trade.

**26. What would you consider to be the main advantages of Government oversight of a certification scheme?**

Firstly, it would maximise trust. When a certification scheme is overseen by a government body, it gives consumers and stakeholders confidence that the scheme is credible and reliable. This is particularly important in industries where safety or environmental concerns are paramount.

Secondly, government oversight can provide greater certainty to those involved in the certification scheme. We have seen in the corporate reporting space how important clarity and certainty are to generating confidence and a willingness to put a value on certificates.

Thirdly, government oversight will ensure that the certification schemes can link to broader policies and play an enabling role within power, transport and heat policy goals.

**27. Noting that a decision has yet to be taken on whether to go out to external tender, do you have an interest in being considered as a delivery partner for the certification scheme, and if yes, in what role?**

The REA does not, but Renewable Energy Assurance Limited has an interest in taking on the issuing body role, which we strongly support.

REAL already has a large amount of experience in this area, having run the Green Gas Certification Scheme for over 10 years and issued certificates for over 18TWh of biomethane and biopropane. The GGCS delivers in the biomethane and biopropane sector the “user-friendly scheme with limited administrative burdens and participation costs” that the government wants to see in the hydrogen sector.

The GGCS has been recognised as an approved certification scheme under the Green Gas Levy framework and is well regarded by its membership and the broader green gas industry, with its membership including over 200 producers and traders of green gas.

From the consumer side the GGCS is already a trusted party whose certificates are used within greenhouse gas calculations that are approved by a range of auditors.

Renewable Energy Assurance Limited has shown that it understands the gas industry, can deliver a high level of customer service and has experience of developing and operating robust IT systems and being able to adapt as industry develops.

Renewable Energy Assurance Limited also delivers several other schemes e.g. Biofertiliser - Certification Scheme that enable and support government policy and are focused on delivery of quality and reliability rather than maximising profit.

With regard to the certification body function, we want to express our concern with the proposal to restrict the certification process to only one certification body. We agree that there should be a single body with ownership of the scheme itself i.e. government, and that there must be a single issuing body for certificates. Specifically for the certification body function, however, there should be more than one organisation able to offer certification against requirements set by the scheme. Limiting the certification process to only one organisation would be anti-competitive and there is a risk of bottlenecks in providing these services and potential increases in prices. As there are several technologies and feedstocks available for hydrogen, it is also essential to have multiple certification bodies to ensure that the scheme has the necessary expertise, capacity, and quality to maintain credibility.

28. **If you are a producer of hydrogen, would you sign up to a Government-led certification scheme? Please give your reasons.**

29. **If you are a purchaser of hydrogen, do you see the value in a Government-led certification scheme? Please give your reasons.**

30. **Would there be any significant costs of participating in the certification scheme that are not captured? Please provide details.**

31. **Are the assumptions about the time taken for, and the cost of, each activity reasonable? Please provide details.**

Our answer is related to the costs of running an issuing body and with scheme participants engaging with that body.

Legal costs: GGCS experience with the "familiarisation" process suggests that two days are enough from a process perspective. However, some companies may want or need to take legal advice, resulting in additional costs for them to read and consider the contract between them and the scheme.

On the scheme user side: We agree with the assumptions regarding the time required for familiarisation and auditing. However, the time per certificate issuing is too low. GGCS's experience shows that, if the production process is simple and replicated each time, then around 15 minutes are needed to log into the account in the registry and upload evidence. But if processes vary, and new staff are unfamiliar with the system, it can take a couple of hours each time.

On the cost for the government: The time required for processing applications is on the high end. Once a strong registration and know your customer process is in place, registration by the issuing body should take 0.5-1 FTE days. Regarding issuing certificates, we recommend that the issuing body checks data and evidence before issuance. Where the issuing body is dealing with a standard production period and a well-known production method, the time taken to assess evidence and issue certificates can be anywhere from 15-30 minutes. Where the issuing body

needs to request further information and assess complex calculations, up to 5 hours could be spent - but this is exceptional.

Annual Auditing: The issuing body will likely be responsible for ensuring that the annual audit is submitted and following up any errors identified, such as withdrawing certificates that the audit shows were mislabelled. Experience from GGCS is that these processes are as time-consuming as a complex certificate issuing process e.g. up to 5 hours.

In 2025, the consultation suggests around 180 total accounts on the system (90 producers and 90 traders across book and claim and mass balance) and costs of £26,000. This is not enough to cover even one FTE staff member, which will be needed to manage a membership of this size in terms of general inquiries.

In 2022, the GGCS employed approx. 2.5 FTE to manage a membership of 150 members and a total of approximately 360 certificate issuing processes/year. GGCS activities stretch beyond the role of the issuing body defined here (such as time spent engaging with policymakers) and this scheme will start with a lower number of participants. However, it is still likely that at least 1.5 FTE staff would be employed by the issuing body from the start of the Scheme, which would ensure that there is a full time staff member, some additional support on compliance and staff availability during all business hours/working days.

When including provisions for IT costs and overheads the annual operating costs of the issuing body would likely be circa £150,000 in year one. Overall we see that the de minimis assessment underestimated the fixed costs of running the scheme and overestimated the marginal costs incurred as the scheme grows over time.

**Table 9: nominal cost per incidence by activity for government**

| Activity | FTE equivalent hours | Explanation | Cost per incidence |
|---|---|---|---|
| Processing applications | 16 | 1 FTE for two days (8hrs per day). | £358.88 |
| Issuing certificates | 6 | 1 FTE for six hours. | £134.58 |

**32. Do you expect there to be a green premium associated with the certification of hydrogen? If so, please provide details, including indications – if possible – of how large you expect this green premium to be.**

Our experience suggests that over time, consumers will place a premium on green products, including green hydrogen.

However, it is difficult to determine the exact green premium at this stage as the consumption side of the market is still in its nascent stage and will take time to develop. A good comparison can be drawn with the biomethane in transport market, where consumers need to change their equipment from diesel to methane, thereby bringing value to the production side by providing a consumption market. In this case, it is unlikely that consumers will switch fuel type and be willing to pay a premium for a green fuel. Instead, they will switch because they have been guaranteed that a green fuel is available to them at a price that supports their overall business case.

However, over time, consumers may start to pay a premium for receiving particular types of hydrogen or consignments where the greenhouse gas savings are the greatest (inc negative GHG impact).

The market for biomethane has shown this clearly, with a premium paid for waste-based production and for production where actual GHG values are calculated and disclosed to consumers.

Regardless of whether or when a premium may be paid immediately, this scheme is an essential building block of a market for hydrogen, with a consumer premium being a long-term goal of the scheme and the surrounding policy package.

And even if no such premium is apparent or developed in the future, the scheme may serve as a streamlined compliance tool to access support schemes such as the Hydrogen Production Business Model that people will pay to be part of.

Experience in the biomethane sector has shown that to achieve a green premium complementary work is needed on the GHG Protocol, Streamlined Energy and Carbon Reporting (SECR) and green tariffs, which set the rules by which various consumers report their GHG.