**GOLD STANDARD CONSULTATION ON CONDITIONS FOR CONSENTING TO TOKENISATION OF GOLD STANDARD-ISSUED CREDITS – AIRCARBON RESPONSE, OCTOBER 27, 2022, 2:20 p.m. Eastern Time**

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| **No.** | **Question** | **Answer** |
| **General** | | |
| 1. | Do you agree that Gold Standard should explore and enable organisations to create digital tokens representing Gold Standard credits, using blockchain technology? Why? | Yes. Blockchain technology enables a high level of security and efficiency as well as potential new functionalities that traditional technology cannot provide. On chain records enhance transparency and confidence in the registrar. |
| 2. | Do you consider there to be potential advantages or disadvantages for your organisation if this were enabled? | The AirCarbon Exchange (ACX) utilizes blockchain technology and is demonstrating first-hand the benefits this technology can bring to the carbon markets. We are doing so within a fully permissioned environment; meaning that the participants are all vetted with strict KYC/AML regime. Our open-source and independently audited smart contract allows for immediate settlement of all transactions. |
| 3. | Would you like to share any additional comments not covered by questions included in this consultation? | When looking at tokenization, Gold Standard (GS) must be wary of any potential token issuer that has a “native coin” within their ecosystem (e.g.: Klima). The sponsor of the native coin has a perverse incentive to increase the value of their coin, many times at the expense of the underlying GS credit. |
| 4. | Do you consider there to be uses of blockchain technology that should be distinguished and treated differently from others? | Broadly speaking, we are of the view that permissioned blockchain environments should be differentiated from non-permissioned blockchain environments. A permissioned environment, such as AirCarbon, does not allow for the tokens to “live” outside of its ecosystem. In addition, the members of ACX are all fully KYC/AML checked and do not include any retail investors. |
| **2.1 Model** | | |
| 1. | Do you consider the custodial account model to be workable in the short-term while other solutions are explored? | Yes. AirCarbon currently holds all tokenised VERs in its GS account and would be happy to set up a custodial account into which the VERs would be transferred (or to simply convert its existing account into a custodial account). GS should consider awarding entities such as ACX with a sub-registry account in order to streamline the interaction with permissioned blockchain players. It is our understanding that VERRA is considering this framework. |
| 2. | Do you consider it appropriate for Gold Standard to explore ‘native tokenisation’ in the future? | Native tokenization should be allowed. If done, it should be done using the most widely used and de-facto industry standards for tokenization, these in our view being Ethereum and other fully EVM-compatible blockchains such as Polygon. Emphasis should be given to low carbon proof methods, notably Proof of Stake. EVM-compatible chains represent – by most reasonable metrics - the highest level of developer mindshare and activity in the blockchain technology space. As an example, using the CHIA network as currently envisioned by the Climate Warehouse is questionable given it has no real market penetration.  If native tokenization is pursued by GS this should not include a corresponding ban on tokenization by private firms such as ACX, providing digital representations of GS’s Native Tokens. Reasons to continue this practice include eliminating the risk of bridging GS native tokens to another chain that the private firm utilizes, in addition to allowing firms to continue using their existing exchange infrastructure. |
| 3. | Would you like to share any additional comments on this topic? | AirCarbon would be happy to work with GS on creating API connectivity across our systems. |
| **2.2 Holding, Retirement and Reporting** | | |
| 1. | Do you consider these proposals to be workable and proportionate? | Yes. Items 1 to 3 are very much aligned with AirCarbon’s current practice / processes. On item 4, we note that separate reporting may not actually be required under a custodial account structure as all tokenisation and retirement would already be reflected within the custodial account (i.e., as VER deposits or retirements); in any case, we would be happy to provide the quarterly reporting if required by GS. |
| 2. | What do you consider to be an appropriate timeframe in which retirements must be made on the Gold Standard Registry, following their retirement on a third-party platform? | In our view, the concept of “no undue delay” is an appropriate / reasonable one. Setting a fixed time period may be unduly rigid and not accommodate extenuating circumstances. |
| 3. | We are aware that some organisations may wish to create and market tokens that represent fractional portions of one carbon credit. Do you have experience or ideas for how requirements may need to vary in such cases, for instance related to retirement in the Gold Standard Impact Registry? | Fractionalized credits allow for greater alignment with economic activities. For example, a car ride offset by an Uber Rider would benefit from fractions of tons. Using NFTs to evidence retired credits and allowing fractionalization of those NFTs would potentially allow smaller offset buyers to hold a digital record of their retirement. |
| 4. | Would you like to share any additional comments on this topic? | No additional comments. |
| **2.3 Pooling** | | |
| 1. | Do you think that Gold Standard should consider restrictions on the ability of organisations to pool its issued credits with credits from other standards. Why? | In our view, restrictions on pooling would not be beneficial to the carbon markets and therefore we suggest that GS refrain from imposing such restrictions.  The ability to pool carbon credits of similar type / category (including from different carbon registries) is an important enabler of the creation of pricing benchmarks. These pricing benchmarks, in turn, create transparency and drive increased liquidity in the carbon markets.  We believe the carbon markets / market participants will be able to naturally address or influence any unsatisfactory pooling – i.e., those pooled contracts will naturally attract fewer buyers and sellers and ultimately lead to a re-evaluation / reconstruction of those pools.  In addition, pooling does not harm GS since the market will always trade the lowest priced offset in any pooled contract. For example, even though GS credits are CORSIA eligible, they rarely (never) are tendered under a CORSIA pooled credit. The reason is that GS credits on their own trade at a premium to CORSIA. |
| 2. | If the answer to the above question is yes, do you have views on how any restrictions could operate? | N.A. |
| 3. | Would you like to share any additional comments on this topic? | No additional comments. |
| **2.4 Due Diligence** | | |
| 1. | Is it sufficient for organisations intending to create original on-chain representations of Gold Standard credits to undergo our existing KYC checks, or should further due diligence requirements be introduced? If so, for whom? | We believe KYC checks should also be conducted by organisations tokenising GS credits on the initial and subsequent owners of those tokens (i.e., who would be the beneficial owners of the underlying Gold Standard credits). This would align with GS’s existing practice whereby holders of VERs are required to open GS accounts and therefore would have to undergo GS’s KYC checks.  For completeness, we would add that where a token holder seeks to retire the underlying GS credits in the name of a third party, we do not think it necessary (or feasible) for KYC checks to be done on such third party as such third party would not have had any ownership or other rights in respect of the token or the underlying GS credits other than the ability only to claim the environmental benefit of the retirement. We believe this aligns with current practice whereby GS allows account holders to retire VERs in the name of third parties and does not conduct KYC checks on such third parties. |
| 2. | Do you think that Gold Standard should introduce requirements related to the due diligence checks that organisations creating digital tokens representing Gold Standard credits apply for their own users? | Yes – see our response to 2.4.1 above. |
| 3. | Are there examples from other sectors that you believe could be learned from? | Commodities trade on traditional exchanges through the transfer of warehouse receipts. Tokenized GS credits can be considered a warehouse receipt in digital form allowing for the quick and efficient transfer of ownership. |
| 4. | Would you like to share any additional comments on this topic? | No additional comments. |
| **2.5 Sustainability** | | |
| 1. | Do you agree that Gold Standard should apply restrictions related to the emissions footprint of blockchain technologies? | Yes – this would align with GS’s vision of achieving climate security and sustainable development. Care should be taken to allow mainstream smart-contract capable and EVM-compatible blockchains such as Polygon. Using small unproven networks such as CHIA is counterproductive. |
| 2. | Do you consider these proposals to be workable and, if not, why? | Yes. |
| 3. | Do you consider these proposals to be sufficient and, if not, why? | No additional comments*.* |
| 4. | Are you aware of, or would you recommend, a benchmark that Gold Standard could use to determine whether blockchain technologies have a sufficiently low emissions footprint for consent to be granted? | Proof of Stake has emerged as an industry-standard and well analyzed and researched benchmark for a low-energy distributed consensus mechanism. We recommend this standard as opposed to more exotic solutions for consensus; we believe that PoS’s energy-cost/utility ratio is extremely favorable.  We recommend that GS consider adopting blockchain agnostic stance and build its infrastructure on an Ethereum Virtual Machine compatible chain – thereby providing GS flexibility to migrate to another chain as and when needed. DLT is a fast-moving space, taking an agnostic stance to its host blockchain will provide GS the ability to migrate to other chains which may offer greater speed, security, or environmental benefits. |
| **2.6 Data Security** | | |
| 1. | Do you agree that Gold Standard should either introduce conditions or require information related to the IT security measures that an organisation is taking to protect data against breaches? | We are of the view that GS should engage with partners to understand their Information Security posture, and that this engagement should take the form of discussion and review of architecture, standards, and practices as well as confidential sharing of partners’ internal policy and procedure documents. |
| 2. | If so, do you have views or recommendations on what Gold Standard should require? | Information Security is a complex and wide-ranging topic, and we believe that GS should assess and consider partners’ security readiness in the round, holistically and on the basis of iterated discussion and review processes. We do not believe that a single security standard (or standards) is/are a the most suitable metric for determining risk. |
| 3. | What are the primary risks that you believe Gold Standard should consider when writing its requirements on this topic? | In our view, a primary requirement – as a leading indicator of competence and suitability – should be sight of, and detailed verbal review of, partners’ internal InfoSec policies. We believe that collaborative review and discussion of these policies is the mechanism most likely to promote high quality partner engagement and minimize overall risk. |
| 4. | Are there benchmarks, good practice codes or similar reference points for IT security requirements that you would recommend Gold Standard following or taking into account? | As mentioned, the topic is wide-ranging, but some indicators that we believe are strongly indicative of a sound security posture include: use of encryption at all stages of data transmission and storage (i.e. at rest and in transit), current and actively enforced encryption protocols & standards (e.g. HSTS, TLS 1.2, AES 256 and above), use of multi-factor authentication (MFA / 2FA) on all systems (end-user and internal) utilizing current and robust MFA channels (i.e. avoiding use of SMS), use of current password policy best practices (e.g. NIST 2022 800-63B: do not mandate password changes or algorithmic complexity requirements), systematic and measurable automated test coverage and associated TDD, understanding of and robust application of the principle of least privilege, and identification and special handling of customer-sensitive data.  We believe that customized review by qualified GS technical individuals, in conjunction and dialog with similar individuals from partners, is the most effective and adaptive way for GS to assess partners’ Information Security readiness and competence to interact with GS on tokenization and/or on API integration. |
| **2.7 Permitted Units** | | |
| 1. | Do you agree with the proposal not to initially permit the tokenisation of these categories of credit, until tailored safeguards are developed? | We believe that tokenisation of Planned Emission Reductions (PERs) should be permitted. The ability to sell PERs will provide project developers with an important mechanism to obtain early funding for their projects – allowing the sale of tokenised PERs will further support their ability to obtain such funding. |
| 2. | Do you believe there are other types of carbon credits that Gold Standard should consider creating tailored safeguards for? If so, why? | No additional comments |
| 3. | Would you like to share any additional comments on this topic? | No additional comments |
| **2.8 Reputational Harm** | | |
| 1. | Do you consider Gold Standard’s existing conditions related to reputational harm to be suitable for the act of creating digital tokens representing Gold Standard credits? | We believe GS’s existing conditions related to reputational harm are broad enough to cover the act of creating digital tokens representing GS credits. |
| 2. | If not, what amendments or additions do you believe are needed? | N.A. |
| 3. | Would you like to share any additional comments on this topic? | No additional comments. |