Token Carbon Roundtable Notes

Friday, 22nd July, 2022

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This roundtable followed Chatham House Rule: we are sharing the information, but we will not reveal the identity of who said it.

General Framing:

- The overarching aim of this conversation is to build off the Carbon Token Working Group Conversations and Carbon Credits Panel Discussion.

- Web3 has a unique opportunity to innovate beyond the existing Voluntary Carbon Market structures and processes.
    - How can we address the limitations of existing VCM structures and systems, and innovate on them to increase the level of transparency, interoperability, verifiability, and other crucial metrics that are key to the success of Emissions mitigation projects and the VCM as a whole?

- Let's seek to address some of the challenges of traditional registries:
    - How do we know if a project is real, how do we know its additional, how do we ensure that it is measurable & verifiable, how can protocols and methodologies assess these attributes?

    - How do we address the distinction between fungibility of carbon tokens and interoperability between platforms where unique qualities of tokens are preserved?

    - Carbon tonne accounting needs an overhaul - quantity and time unit could transform the industry.

    - Address the need to ensure significant differentiation and solve the problems of the existing VCM.

    - Address the bottleneck of approving new methodologies - tension between quality and speed.

- Discuss the ability to certify a methodology across multiple tokenization systems and the potential to define a common set of attributes for tokenized carbon credits.

Key Takeaways:

- The role and position of Legacy Institutions:
    - Many of the people involved in this conversation are stakeholders in the VCM and come from legacy institutions. They acknowledged that registries have done a good job setting standards but they are extremely bottlenecked and inadequate, which is where Web3 and crypto innovation has a role to play.
    - The group also acknowledged that getting legacy institutions and polic-ymakers involved in these conversations is challenging and there are still questions surrounding legitimacy and trust in Web3 and cryptos role in this space.
- Web3/Crypto Must Lead the Way (Together):
    - Web3 has more talent, attention, and money than ever before. With transparency, openness, and decentralization built into this space, we are well equipped to arrive at consensus faster, to continue innovating, and creating new incentive structures that move beyond legacy models.
    - There is a pressing need to build the voluntary carbon markets (both removal and avoidance projects) in a transparent manner that addresses the issues associated with legacy market systems and processes to ensure that mitigation actions are real, measurable, quantifiable, and verifiable.
    - Most importantly, and above all else, we need to do this together. We value immutability, composability, and interoperability in the technical layer, but these features are just as important in the human layer.
- Coordinated Regeneration is the Key:
    - Key components of the conversation included the concept of carbon quantitative easing (CQE), and the transformation of value in human society to be focused on regeneration. Everything we do must intrinsically focus on regeneration and must include grassroots communities, local actors, and those who are directly impacted by climate change.
    - Web3/crypto has the opportunity to empower people beyond tokenization. This can be achieved by elevating transparency for those on the ground, through emphasizing and improving MRV, and through valuing impact in the same way we do liquidity, perceived value, and additional criteria.

Discussion Notes:

- *Speaker 1:*
  - *Fundamentally this isn't a question of tokenization but rather the information infrastructure we need to coordinate and govern transparently. Tokenization is a tool, regeneration must be intrinsic in what we're doing.*
  - *What are the right places to commodify?*
  - *Who is making the choices on these things?*
  - *Can we evolve new mechanisms for price discovery beyond supply and demand?*
  - *What, if any, is the role of legacy industries and registries?*

- *Speaker 2:*
  - *Would argue regulation is required.*
  - *Is the voluntary carbon market actually voluntary? Corporations have no place to hide from carbon markets-the narrative is changing regarding these issues (Fridays for Future as an example of being influential).*
  - *How do we transition projects and methodologies?*
  - *What is the role of removals? With legacies, both markets can exist.*

- *Speaker 3:*
  - *Compliance markets aren't doing anything to reduce emissions, they're trading certificates so companies can continue to emit.ETS and cap & trade are artificial and do absolutely nothing.*

- *Speaker 4:*
  - *As someone who participates in Cal Cap and trade, there is money flowing through the systems for actual reduction.*
  - *Cal market acts as an artificial price ceiling and has been reducing cap over time.*

- *Speaker 5:*
  - *Emissions reductions from cap and trade are negligibly small. LCFS is more effective.*

- *Speaker 6:*
  - *It's not the mechanism that's broken, it's just not implemented in a good way.*

- *Speaker 7:*
  - *Climate change is a policy problem and governments cannot touch all businesses.*
  - *Voluntary market is the social pressure.*
    - *It should be called the removal market.*
    - *We are trying to build a removal market with blockchain/crypto.*
  - *Europe having ETS is powerful.*

- *Speaker 8:*
    - *Carbon credits are defined as project-based: There's a price premium that provides additional financing for the project to happen and that's additionality.*
    - *A project-based mechanism outside of direct supplier relationships or direct geography is valuable to get financing where decarbonization happens in order to decarbonize those technologies.*
        - *The challenge in implementing these markets and looking at mechanisms is that those numbers may change over time (I.e. When you initially invest in a project with a contract term length and halfway through that contract there is a change in prices in renewables).*
        - *What is the transition point from "We need project based financing from everyone to get this off the ground, we need project based financing for those who need it most (E.g. land use offsets should be valued first by the agriculture sector who has a lot of land use emissions)" to this is common sense, the cheapest thing to do and it's not particularly necessary for a whole market to surround it?*
    - *When looking at carbon credits, we're in a 1+1=2 scenario (referenced Alan's keynote).*

- *Speaker 9:*
    - *We are on track for a 2.7 degree world single summer and carbon credits are a tiny part of the solution.*
        - *If you look at science-based targets, net zero isn't actually zero.*
        - *Carbon credits are now used in a greenwashing way.*
            - *The trust in nature based solution/nature based projects has never been lower than now (because of the immense scammy suppliers coming into the market).*
        - *Industrial sector/fossil fuel companies need to reduce emissions by 90% and only 10% has to come from really high quality carbon credit offsets in order to be aligned with the Paris Agreement.*
        - *How does this panel feel about over-supplying this carbon credit offset market with credits that are potentially not high-quality?*
        - *How does this community feel about potentially having backwards compatibility of their methodologies?*

- *Speaker 10:*
    - *We need to be careful about how we frame the problem.*
        - *Net zero is not zero but it also doesn't draw down anything that's been emitted historically.*
    - *IPCC has been very clear that there is no path to 1.5 degree C that doesn't involve large-scale carbon dioxide removal.*
    - *How can we truly reduce emissions without the market?*
        - *Without something like an offset market, I don't see how you're going to get trillions of tons of carbon dioxide drawn down from the atmosphere.*

        - *Perfect cannot be the enemy of the good.*

- *Speaker 11:*
    - *Land for trees is always in competition with land for food.*
    - *We have a problem with our accounting systems and there's not enough conversation on that.*
    - *Every single organization's Scope 3 emissions are someone else's Scope 1.*
        - *It was initially set up this way because there were only a handful of organizations that were trying to do a full lifecycle analysis…But we're quickly moving into a world where everyone is going to be doing this, and we don't necessarily need it that way.*
    - *We should be using this ReFi/crypto space to create new incentive structures that are not based off of the old, legacy ways of doing stuff with old carbon accounting and registries.*

- *Speaker 12:*
    - *A carbon offset is a positive externality packed into a PDF certificate; The only use-case currently is matching positive externalities with negative externalities, which is basically greenwashing.*
    - *Klima as a different use case-new incentive to take carbon and store it in a black hole and never let it go out again.*
    - *We need to start thinking about what value has been created-much closer to a tax than net zero.*
        - *There's so much money in the world that if we were to direct even a slight percentage of everything towards regeneration of projects that are actually creating positive externalities, we wouldn't have this debate.*
        - *With DeFi and ReFi-We can put that tax/portion of value that is directed towards redemption practices into the protocol itself, so that the economic system on which it is run automatically has these things baked into it.*
    - *We really need to fund projects that don't exist yet.*

- *Speaker 13:*
    - *The focus should be on cleaning up the Scope 1+2 emissions and offsets for Scope 3.*
    - *An ideal market is moving away from avoidance based credits and just having enough removal based credits and we need the right funding for that.*
        - *Tokenization provides one option for funding.*
    - *The registries have done a good job of setting standards however they are super bottlenecked, such as having methodologies that haven't been approved since 2018 which is a problem.*

- *Speaker 14:*
    - *Many people in attendance here are stakeholders in legacy institutions that are looking to innovate in web3.*
    - *Getting Legacy registry leadership in these conversations has been difficult.*
    - *It is easy to blame registries…but how are we acting? Are we speaking in one voice? Are we trying to create common models?*

- *Speaker 15:*
    - *Who's bags are you carrying? Why? And how transparent are you in talking about that?*
        - *One of the biggest issues right now is the reality distortion field that takes place when we have systems based on price discovery and liquidity and defense of perceived value that is abstracted and disconnected from the primary value which we're trying to create which is impact (E.g. on soil in the U.S. or for a farmer in Wales or a power plant, etc.).*
            - *Until we can really point to that and say there's a clean, linear direction and it is more efficient, more effective, and you have better incentive alignment in that, we're going to struggle to build trust.*

- *Speaker 16:*
    - *(E.g. I'm a farmer, someone who knows nothing about the carbon side of the market)*
        - *How much will that end credit constitute of my income? What percentage of my income? And maybe tied to this question of how come and why…Is there a difference between on chain carbon price and off chain carbon price? And how do people get incentivized? Are they really getting incentivized or is it like 5% of my income?*

- *Speaker 17:*
    - *Agriculture carbon: What is the price being paid?*
        - *Work by Dr. Rattan Lal, soil scientist estimated that the price point at which the changes needed for annual agriculture to become regenerative and to become a net sequestration/sink, to be about $144 to make it all work per ton.*
        - *Nori is going for $20/ton.*
        - *First we have to talk about origination, legitimacy, data and governance because until we have those conversations and get the origination cycle right, depending on liquidity for a price discovery is premature and will result in the same thing that just happened, which is a collapse. You have to have legitimacy before the market, otherwise we won't build the right mechanism.*

- *Speaker 18:*
    - *What can DeFi do for this market?*
    - *How can carbon become the most valuable asset?*

- *Speaker 19:*
    - *Our goal shouldn't be to bring carbon prices up; We should be focusing on how we can make this as cheap as possible.*
    - *If we mitigate global warming, using ~2% of world GDP, there's a lot of poor people that are going to be a lot happier than if we use 10% of the GDP. We want a whole lot of entrepreneurs to compete for who can mitigate climate change the cheapest.*

- *Speaker 20:*
    - *We have spent 20 years building these markets and they barely work-we can barely measure things today.*
    - *In traditional markets, focus is on building the really hard, academically rigorous thing first. There could be a lot of value in just going more quickly, building systems that we know have a certain amount of fluctuation and are not perfect and not refined, but we can pump 45 X the volume into and this could be the way we compete with governments/NGOs.*

- *Speaker 21:*
    - *We have to quantify uncertainty, choose units of account where there's a plausible mechanism for doing that and generating liquidity.*
    - *Would argue no one in these spaces is doing rigorous work (including government, NGOs)*
        - *In these circles, there is a level of pure graft and social capital exchange that makes the crypto industry look like an angels*
        - *What's happening is not an improvement in the science and the technology of monitoring carbon separation or creating efficiency or creating new governance mechanisms. What's happening is big corporations are putting people in those places to do long business development cycles so that it ends up that they get to capture it under the balance sheet. It's a moral hazard. So if you don't have a GitHub that has something that you're talking about, you shouldn't be talking about it in this space.*
        - *There should be open public repos about the standards and the processes. And if you don't have that, you shouldn't be in a conversation about standard, period. That's where we (Defi/Refi community) need to be aggressive.*
        - *Legitimacy doesn't come from graft, legitimacy comes from reality. And we have the ability as a community to bring a consensus protocol closer to reality faster, we have the ability to sense stake better, and we should not give away the sovereignty of how to define legitimacy in the marketplace to institutions that are just giant bureaucratic organizations.*

- *Speaker 22:*
    - *We need to continue increasing capital in the DeFi space.*

- *Speaker 23:*
    - *We can iterate quickly in web3 and are in a really good spot; There has never been more attention, money, and talent flowing into this space.*
    - *We might have slightly different sequences on how we're doing that but we are all trying to do the same thing.*
    - *We need innovation in DeFi. We need forward financing. We need rigorous MRV.*
    - *We need open source data. Let's make the data public. Let's make sure that when you make a claim, you back it up with your data and effort and everyone can check it out. This is the future that we need to build.*

- *Speaker 24:*
    - *We're in a very unique position and moving fast and breaking shit, is a great approach-It allows for continuous innovation, very quick cycles, rather than waiting for the collective action of large organizations.*
    - *But we also don't have the time to fuck up…If we mess up too many times, then we risk losing the legitimacy of our organizations.*

- *Speaker 25:*
    - *There's no legitimacy in crypto and climate change, fundamentally.*
    - *If we think about this from a system design perspective, what we need to build with everyone here are systems that allow us to route trillions of dollars a year into things that actually fix people's lives (I.e. Climate adaptation for people that need it).*
    - *Other side of the financial mechanism is taking money from people that have it and giving it to people who are going to suffer and die from climate change.*

- *Speaker 26:*
    - *We need an open and decentralized system to do this.*
    - *The key idea of Ministry of the Future is a fundamental rephrasing of how we value things as a society through CQE (Carbon quantitative easing).*

- *Speaker 27:*
    - *CCQE-Going to central banks of the crypto world.*
        - *We should be going to anyone who's running a layer one and saying you could become the bootstrapping mechanism for CQE.. if you believe that you're going to build a fundamental new architecture of the money system or The Internet, take responsibility for this.*

- *Speaker 28:*
    - *Carbon should be the most senior asset on their balance sheets.*
        - *This should be programmatically stored on balance sheets, making newer coins and stable coin issues where they can create vaults for carbon assets, put floor prices in there and basically only sell above the floor price. And otherwise they*

cannot sell except in the case of a catastrophic failure.

- *Speaker 29:*
    - *These are the things we need to do for CQE (or) for the transformation of value in human society to be representative of regeneration/ReFi. Carbon is only one dimension.*
        - *Crypto needs to do it first-DeFi needs to grow up and we need to use our influence to start putting these things on our balance sheets and start innovating to actually put the right form of collateral on the balance sheet.*
            - *We should build indexes. We should stop player versus player dynamics here. We should focus on business development cycles where all the major treasuries are buying this up and locking it up and using it for collateral and doing those things.*
        - *Not just thinking about central banks- we can also all have business development cycles in which we're focusing on high collateral, getting into credit unions and local banks and all of the amazing opportunities there. Then we should be getting central bank business owners and if you get all three of those moving in parallel it will become inevitable that society will make the shift because it will be about legitimacy…we will be competing to have the most regenerative assets on our balance sheet that will become what money is represented.*

- *Speaker 30:*
    - *Certain groups of people have always been exploited and this sounds like re-exploitation.*
    - *There is an opportunity for carbon trading but there's also an opportunity for crypto to really empower people from the transparency aspect of it and for them to be able to fund their own public goods.*
        - *How do the people themselves lead it?*
        - *How do the people engaged at that level where they are leading it versus people at the top?*

- *Speaker 31:*
    - *The stuff that we struggle with the most right now is on the ground verification… measurement and verification. This is the bottleneck that everyone is facing right now and we're not spending any time talking about that here today because that's the hard part.*
    - *Liquidity side is the easy part…We have the tools. We have had this stuff for a long time.*
    - *But the real challenge is how do you make this work for people from a user experience perspective? How do you do it in a way that's independent? How do you create reliable, credible numbers on these things?*
- *Speaker 32:*
    - *Offsets are a one-off solution: How do we shift from carbon offsets to continuous funding of people on the ground that are impacting the land and have ideas on how to mitigate?*

- *Speaker 33:*
    - *This is a measurement problem in that we massively over index measurements and massively under index on impact.*

- *Speaker 34:*
    - *Indigenous people who have lost their land, are threatened with violence…how do I keep my promise to those grassroots communities, work with frustration of the UN while also engaging with DeFi people?*
    - *I care about moving beyond a carbon narrow tunnel vision and understanding the complexity of temperature that includes social and cultural dimensions, institutions, spirituality, etc…let's index all of our efforts and maybe even compete against each other.*

- *Speaker 35:*
    - *This is all about legitimacy. In order for these markets or other mechanisms to coordinate around regeneration, to be legitimate, they have to come from the grassroots, involve local actors, and be culturally relevant. We have to get beyond our machine brain quantified, market-focused minds and recognize that there are real people in real places that have real quality of life transformations that are possible.*

- *Speaker 36:*
    - *We need to take a close look at ourselves and figure out what we do and don't do well so we can move quickly.*
    - *We tolerate a lot of BS and this is undermining our legitimacy, getting people rich, and is the dark side of openness.*
    - *We work together quite well and composability allows for very deep specializations and immutability means that we can rely on each other and form interdependencies that we can count on. And that's the technical layer. But we also need to make sure to buy into it on the human and organizational layer.*
        - *We're very values-driven and everyone is here for the right reasons. However, sometimes we let our values trip us up and we need to think about the bigger picture.*
        - *Pragmatic neutrality: We need to be flexible and recognize sometimes our bigger goal might require something in a local moment that may be counterintuitive to what we thought.*
    - *We have to recognize that we're sitting at the kids table.*
    - *How can we accelerate these ideas being palatable to the world's key decision makers?*

- *Speaker 37:*
    - *We need to focus on real people on the ground; people directly impacted by climate change need to be the center of everything we do.*