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Sent: Friday, 16 June, 2023 16:27
To: Supervisory-Body <Supervisory-Body@unfccc.int>
Subject: Structured Public Consultation - Removal Activities

Zurich, June 16, 2023

Dear Supervisory Body,

CarbonPool has noted your call for input on removal activities under the article 6.4 mechanism, and this brief note serves to provide our recommendations for your consideration. CarbonPool is a recently founded carbon insurance company in Switzerland, with a combination of former board members from Allianz as investors and a staff comprised of insurance executives, economists, climate scientists and weather modelers.

We refer specifically to questions in section 2E on addressing reversals, but also cover sections 2C, D and F. We posit that mandatory, in-kind liability insurance for reversals (referred to here as '***in-kind reversal insurance***') is by far the strongest mechanism available to manage reversals because it will ensure that (i) reversals are *immediately* compensated for with replacement carbon removals and (ii) there will be an entity that remains responsible for ensuring that the removals remain sequestered, while also creating several additional benefits. We note that ***mandatory liability insurance has historically been the solution*** of regulators and governments for all insurable 3rd party liability ***problems that involve externality costs*** to others and society, from motor liability insurance to marine pollution liability insurance. Buffer pools by contrast are inadequate to compensate for reversals. They fall far short of compensating for the actual, measured impact of reversals compounded by no risk capital mechanism to bear the risk of unexpected outcomes.

Indefinite removal crediting is required to avoid unintended consequences of incorrect assumptions as well as to manage the reality of a wide distribution of outcomes. The final distributions of removal time horizons are unknown, extremely wide, and even the mid-point discussions are contentious, as this call for input demonstrates. This results in scenarios where almost every specific removal ends up with an incorrect crediting period. In-kind reversal insurance comprehensively resolves the crediting time component of any measurable removal, with higher reversal risks incurring higher insurance charges.

By supporting the development of an in-kind reversal insurance and helping to make it mandatory for end users of carbon removals, the UN and other stakeholders can solve the bulk of the challenges of reversals, allowing all stakeholders to focus on creating removals and reducing net emissions to drive towards net zero and beyond. Below is a set of five (5) key points on how in-kind reversal liability insurance will be extremely effective in mitigating reversals:

- ***In-kind reversal insurance is feasible***. Reversal risk meets all the standard definitions of insurability – losses are measurable, losses are accidental, large losses are possible, and premiums are affordable.
- ***In-kind*** *reversal insurance is the only way to ensure that any* ***reversals are immediately made good and that removals remain indefinite,*** allowing the world to maintain net zero trajectory by compensating reversals with a new removal from the insurance pool.
    - For removals to contribute to permanently reducing CO_2 in the atmosphere, they must stay sequestered indefinitely - even after the corresponding removal has been credited. In-kind reversal insurance ***allows a removal to be credited indefinitely***, and thus simplifies the regulatory framework around removals by eliminating the

need to regulate permanence. If a credited removal meets the criteria to be considered a genuine removal, and if that removal is insured for reversal risk, that will be sufficient for the removal to be indefinite - because should a reversal occur, it is immediately made good in-kind, maintaining the status quo.

o If a reversal occurs, a claim payment in cash will not be useful as it will not compensate for the CO2 emission which occurs as an externality result of the reversal. Therefore, ***in-kind payments, with removals from the insurance pool, must be required*** in order to ensure our collective trajectory to net zero***.*** There is ample precedent for in-kind payouts, for example in roadside assistance insurance, where a client with a car that has broken down receives not a cash payment, but a tow-truck service, as that is what is needed to solve their problem.

- ***Annual*** *in-kind reversal* ***insurance is affordable****.*

  o The affordability of in-kind reversal insurance will allow owners of credited removals to remain responsible for ensuring that the underlying CO2 remains sequestered indefinitely. We strongly believe that reversal insurance is affordable for all good quality removal projects and that fairness demands that those who receive credit for removals remain liable for their permanence. For example, for nature-based solutions, global forest fire rates are 0.25% (include man-made) burn areas. Cumulatively, if we credit 150GT of removals between now and 2050, then the insurance cost in 2050 would illustratively be a 1% chance of reversal * 150GT insured * $100 for a new replacement removal = $150billion global insurance premium. This ***represents 2% of the global insurance*** market today (ca. $7trillion). The cost of maintaining annual reversal liability insurance will be modest and ensures that the owners of credited removals remain liable for the reversals until such a time that future generations decide that reversal insurance is no longer required. One way to think about this is that the ongoing reversal insurance cost is the price for centuries of cost-free emissions – and the only equitable solution to ensure permanence.

  o While in-kind reversal insurance contracts could theoretically have a longer duration than one year (we believe that up to five-year contracts would be possible), ***annual contracts suffice*** to cover reversal risk and are in line with most stakeholders' accounting/budgeting cycles. It is impossible to provide insurance for very long periods, as it does not consider significant trends (as an analogy, business liability insurance in 1923 could not foresee the creation of the internet and cyber-attacks). Furthermore, short duration contracts are necessary for new learnings and environmental changes to be incorporated into risk modeling and pricing for insurance products. The insurance industry has experience in creating long term insurance products based on future assumptions that do not square with changing realities resulting in broken systems - for example, defined benefit pension schemes – this must be avoided in order not to further burden future generations with incorrect assumptions.

- *In-kind reversal* ***insurance will drive transparency in the pricing of removals*** with several additional benefits:

  o Aside from safeguarding reversals, ***insurance provides the cost information required for the different reversal risks*** of different project types which is unavailable today. Buyers of removals will have upfront views on the cost of reversal, and it makes regulating or ranking methodologies significantly more straightforward. In-kind reversal insurance that results in *indefinite* removal allows all removals projects to compete and move forward without worry about crediting periods, managing reversals, and accounting for removals, as insurance covers all three of these issues. Higher reversal risk removals may have lower up-front costs, but would have higher ongoing insurance costs, and vice-versa, but it would all be priced and transparent

- *In-kind reversal* ***insurance will itself invest in further carbon removals*** through the build-up of the insurance pool of removals from which annual reversals (client claims) are made good. This pool will be continuously, scientifically, and actuarially maintained based on the bottom-up analysis per removal, just like how insurance reserves are calculated for any other risk type.
- ***Insurance requirements will drive improvements in protecting removals***. As with any other insured project, mandatory in-kind reversal insurance would drive improvements in removal projects aimed at ensuring that removals are sequestered as well as possible with minimized reversal risks. In-kind reversal insurance would not be feasible for removal methods that are ambiguous, for projects which do not provide for adequate protection of removals, or for removals that cannot be reasonably measured over time. If a typical, normally regulated insurance company provides in-kind reversal insurance to ensure that a removal is indefinite, then legislators need not focus on legislating removal methods, as poor removal methods will be either uninsurable or too costly to insure.

- *Existing* ***risk-based insurance regulation, with slight modification, can enable in-kind reversal insurance***. In-kind reversal insurance could be enabled with only modest changes to existing insurance regulations. CarbonPool is already in advanced discussions with an insurance regulator about this matter, and would welcome further support from the UN and other stakeholders in enabling such adjustments.

Thank you for giving CarbonPool the opportunity to opine on this critical matter. We are happy to provide more detailed input. With kind regards,

Coenraad Vrolijk and the CarbonPool team.