of tasks needed if emission targets are more stringent or the individual projects are more correlated or less individually reliable).

In some implementations, the permanence action can support a set of liabilities (e.g., a set of two or more GHG tasks), where the permanence action is supportive to reduce failure probabilities and/or reduce the impact of the set of GHG mitigation tasks, e.g., replacing concrete and steel with less GHG-intensive materials. A set of GHG tasks can be grouped together and a permanence action is generated to support the grouped set of GHG mitigation tasks. For example, the permanence action can be storing fully-grown trees from a forest in a mass timber building so that the growth gains are kept stable and the land where the trees were cut can be used to grow new trees. As other examples, the permanence action can include risk diversification or an insurance policy specialized for key failure modes in the set of tasks.

In some implementations, the permanence action is supportive of one or more GHG mitigation tasks for a period of time. For example, the permanence action can support a failure or impermanence of one or more GHG mitigation tasks for a period of 5 years, 10 years, 15 years, or more. In another example, a permanence action can be supportive of short-term failures/impermanence, e.g., less than 5 years, less than 2 years, less than 1 year, or less.

In some implementations, a permanence action can be pre-arranged (e.g., pre-purchased) and held in reserve to counteract an impermanence and/or failure of one or more GHG mitigation tasks. The permanence action can be applied as needed, e.g., in case of a determined or anticipated failure, to mitigate an observed or expected loss. At times, the need for permanence actions can be evaluated to recoup failing GHG offsets on a periodic basis, where the need for permanence actions can be evaluated periodically (e.g., a year, 2 years, etc.) where if these GHG offsets appear to be failing, that permanence actions are implemented to correct for losses.

The details of one or more embodiments of the subject matter of this specification are set forth in the accompanying drawings and the description below. Other features, aspects, and advantages of the subject matter will become apparent from the description, the drawings, and the claims.

In a first aspect of the present disclosure, there is provided a method including: generating a greenhouse gas (GHG) mitigation credit; receiving, from a second entity, a request for a GHG credit acquisition for the GHG mitigation credit; in response to

receiving the request, executing the request for the GHG credit acquisition and providing the GHG mitigation credit to the second

entity; and providing, to at least one of the set of first entities, instructions to cause the at least one of the set of first entities to execute a respective task of the set of tasks. Generating a GHG mitigation credit can include identifying a set of tasks to be completed by a respective set of first entities that collectively generate a GHG mitigation having a set of GHG mitigation parameters.

In an embodiment of the above aspect, generating the set of tasks includes determining that the set of tasks will result in GHG mitigation with a confidence level of 99.

In an embodiment of the above aspect, the method further includes: after executing the request for the GHG credit acquisition, receiving data indicative of the set of tasks; and determining, based on the data, whether the set of tasks will still result in the GHG mitigation with a confidence level of 99%.

In an embodiment of the above aspect, in response to determining that set of the tasks will no longer result in the GHG mitigation with the confidence level of 99%, one task in the set of tasks.

In an embodiment of the above aspect, each task includes an offset potential and one or more failure mechanisms, and the set includes a metric. Identifying a set of tasks can include: determining, by a model and based on multiple data types from a plurality of sources, that an overall risk score of the set exceeds a first failure threshold due to a risk score of a task exceeding a second threshold; selecting, by the model, a replacement task for the task including: receiving, a plurality of replacement candidates, each replacement candidate including a candidate offset potential and one or more candidate failure mechanisms; assigning, to each of the plurality of replacement candidates, a replacement score for the replacement candidate based on a failure correlation of the replacement candidate with respect to each other sets of the set of tasks; ranking the plurality of replacement candidates based on the replacement scores; and selecting, based on the ranking, the replacement task; and generating, an updated set of tasks including the replacement task.

In an embodiment of the above aspect, the GHG mitigation includes a mitigation value, a timeframe for completion, and a permanence timeframe.

In an embodiment of the above aspect, the method further includes determining a value of the GHG credit acquisition request based on at least one of the mitigation value, the timeframe for completion, and the permanence timeframe.

In an embodiment of the above aspect, the set of tasks include at least one of historical tasks, on-going tasks, and future scheduled tasks.

In an embodiment of the above aspect, determining an adjustment to a particular task of the set of tasks that results in an increase in the GHG mitigation; and providing, based on the adjustment, a message to the at least one of the set of the first entities.

In an embodiment of the above aspect, the method further includes: receiving, from a third entity, a request to modify the set of tasks; and in response to receiving the request, determining to modify the set of tasks according to the request.

In an embodiment of the above aspect, the method further includes: receiving, from a third entity, a request to evaluate an accuracy of a GHG mitigation claim; and in response to the request to evaluate the accuracy of the GHG mitigation claim, determining whether the GHG mitigation claim of the third entity is accurate within an accuracy threshold.

In an embodiment of the above aspect, the set includes an associated threshold corresponding to costs for updating the set, and further including determining a value for the associated threshold.

In an embodiment of the above aspect, the method further includes: receiving, from a third entity, a request to resell the GHG mitigation; and in response to receiving the request, determining to repurchase the GHG mitigation.

In an embodiment of the above aspect, the method further includes: receiving, from a third entity, a request to resell the GHG mitigation; and in response to receiving the request, determining to not repurchase the GHG mitigation.

In an embodiment of the above aspect, the method further includes: reselling the GHG mitigation to a fourth entity.

In an embodiment of the above aspect, generating the set of tasks includes using an algorithm. The method can further include: receiving new data indicating a status of the set of tasks; and in response to receiving the new data, updating the algorithm using the new data.

In an embodiment of the above aspect, the set of tasks includes at least one of nature-based carbon capture, artificial carbon capture, carbon sequestration, and avoidance of carbon emissions.

In a second aspect of the present disclosure, there is provided a system including one or more computers and one or more storage devices on which are stored instructions that are operable, when executed by the one or more computers, to cause the one or more computers to perform operations including: generating a GHG mitigation credit including identifying a set of tasks to be completed by a respective set of first entities that

collectively generate a greenhouse gas (GHG) mitigation having a set of GHG mitigation parameters; receiving, from a second entity, a request for a GHG credit acquisition for the GHG mitigation credit; in response to receiving the request, executing the request for the GHG credit acquisition and providing the GHG mitigation credit to the second entity; and providing, to at least one of the set of first entities, instructions to cause the at least one of the set of first entities to execute a respective task of the set of tasks.

In a third aspect of the present disclosure, there is provided a non-transitory computer storage medium encoded with instructions that, when executed by one or more computers, cause the one or more computers to perform the following operations: generating a GHG mitigation credit including identifying a set of tasks to be completed by a respective set of first entities that collectively generate a greenhouse gas (GHG) mitigation having a set of GHG mitigation parameters; receiving, from a second entity, a request for a GHG credit acquisition for the GHG mitigation credit; in response to receiving the request, executing the request for the GHG credit acquisition and providing the GHG mitigation credit to the second entity; and providing, to at least one of the set of first entities, instructions to cause the at least one of the set of first entities to execute a respective task of the set of tasks.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1A shows a system for generating a set of tasks.

FIG. 1B depicts an example of the ML model that is trained to generate and manage a set of tasks.

FIG. 1C depicts a training system for specialized models within the ML model of FIG. 1A.