



## A board game for biomass-based CO<sub>2</sub> extraction

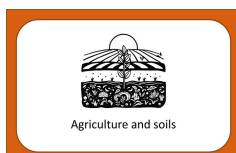
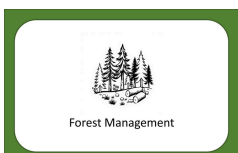
Climate change is already underway and emissions are still rising. Many international climate activists see an urgent need for CO<sub>2</sub> extraction procedures to be carried out in order to avert the worst. Farmers, foresters, thermal power plant operators, biochar start-ups, CO<sub>2</sub> storage operators and many others are working together to establish the most effective, cost-effective, long term and sustainable processes possible to remove CO<sub>2</sub> from the air using plants and to bind it in the long term. Only if everyone works together can such biomass-based CDR measures also function as cascades, i.e. a series of extraction processes. The players cooperatively search for the best cascades.

### Goal of the Game

The purpose of the game is to learn more about cascades of biomass-based CDR measures (BioCDR). The aim of the game is to create the most efficient, long-term, cost-effective and sustainable cascades possible, which may also have positive side effects, so-called co-benefits, such as energy production or the preservation of biodiversity..

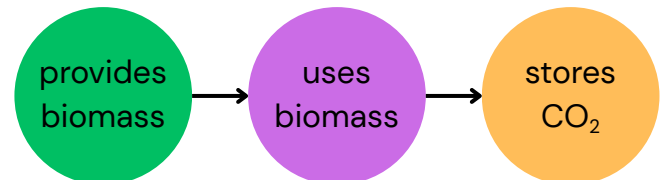
### Preparation

Form small groups of different actors and take the starting cards that provide biomass. Start cards are silvicultural measures, agriculture and soils and moor. They only serve to mark the beginning of the cascade. Additionally you will need arrows, the rest of the cards, markers and a suitable surface. It may be helpful to have post-its and a pen at hand. Now you can begin to build cascades.



### Game Phase

A corresponding card is placed on the start card. As the cascade progresses, several cards can be placed together that use biomass or CO<sub>2</sub>. To do this, the investment options must be taken into account, which are indicated by the circles next to the card name:

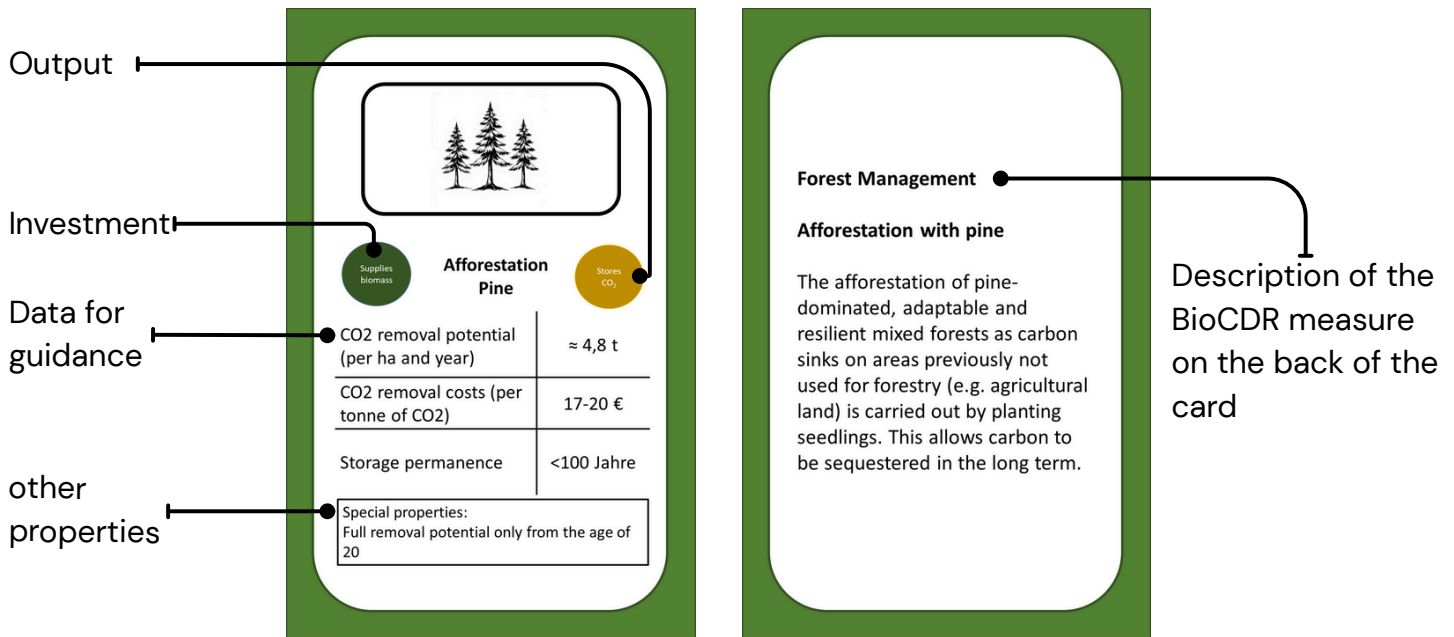


The number of cards placed is not limited by the rules of the game. Nevertheless, the cascades should remain technically and socially plausible.

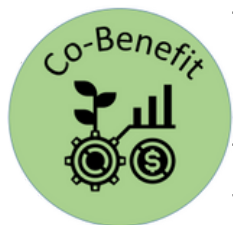
Players can add additional markers as the cascade progresses:

- Opportunities and challenges: green and red markers can be created for opportunities and challenges in the areas of environment, technology, social, politics, economics and regulation.
- Co-benefits: Positive side effects occur with a card or connection.
- Dissent: If the players cannot agree on a card or connection, marked.

## Cards



## Marker



The co-benefit marker can be added to any card. This shows that the measure has

additional benefits beyond those already listed. When evaluating the cascade, it serves as a useful reminder and quickly reveals which measures have a particularly large number of additional positive effects. These benefits can affect every sphere of human activity, from increased biodiversity to issues of competition for space.



The dissent marker can be used at any stage of the process. As bio-CDR

measures have not been fully researched, different scientific studies have come up with different solutions. You may encounter dissent in your cascade, which is important to tolerate. To avoid jeopardising the progress of your cascade, you can use the dissent marker to flag the issue for discussion in the plenary session.



Different actors have different approaches and expert knowledge. CDR has not been

fully researched, and there are gaps and uncertainties. These uncertainties should be embraced, as they can advance both practice and science. If you encounter any ambiguities or gaps in your knowledge, note these with a marker on the relevant card. Some of these questions may be answered during the plenary session.

## Evaluation

To discuss the cascades, all players from the small groups come together in plenary. The cascades are explained in turn. Questions of understanding are clarified. The cascades can be discussed according to the following criteria:

- o Amount of storage
- o Storage permanence
- o Amount of costs
- o Number of co-benefits
- o environmental sustainability
- o Regionality of the Cascade

**You can reach us via Instagram, LinkedIn, or our website.**



cabon-cascadia-games



Carbon Cascadia Games



<https://carboncascadia.org/>



to see an example of a cascade

# Possible Cascade

