



DR. HANNES JUNGINGER, CEO, NEP WEBINAR 27 APRIL 2021

FINANCING CARBON SINKS ...

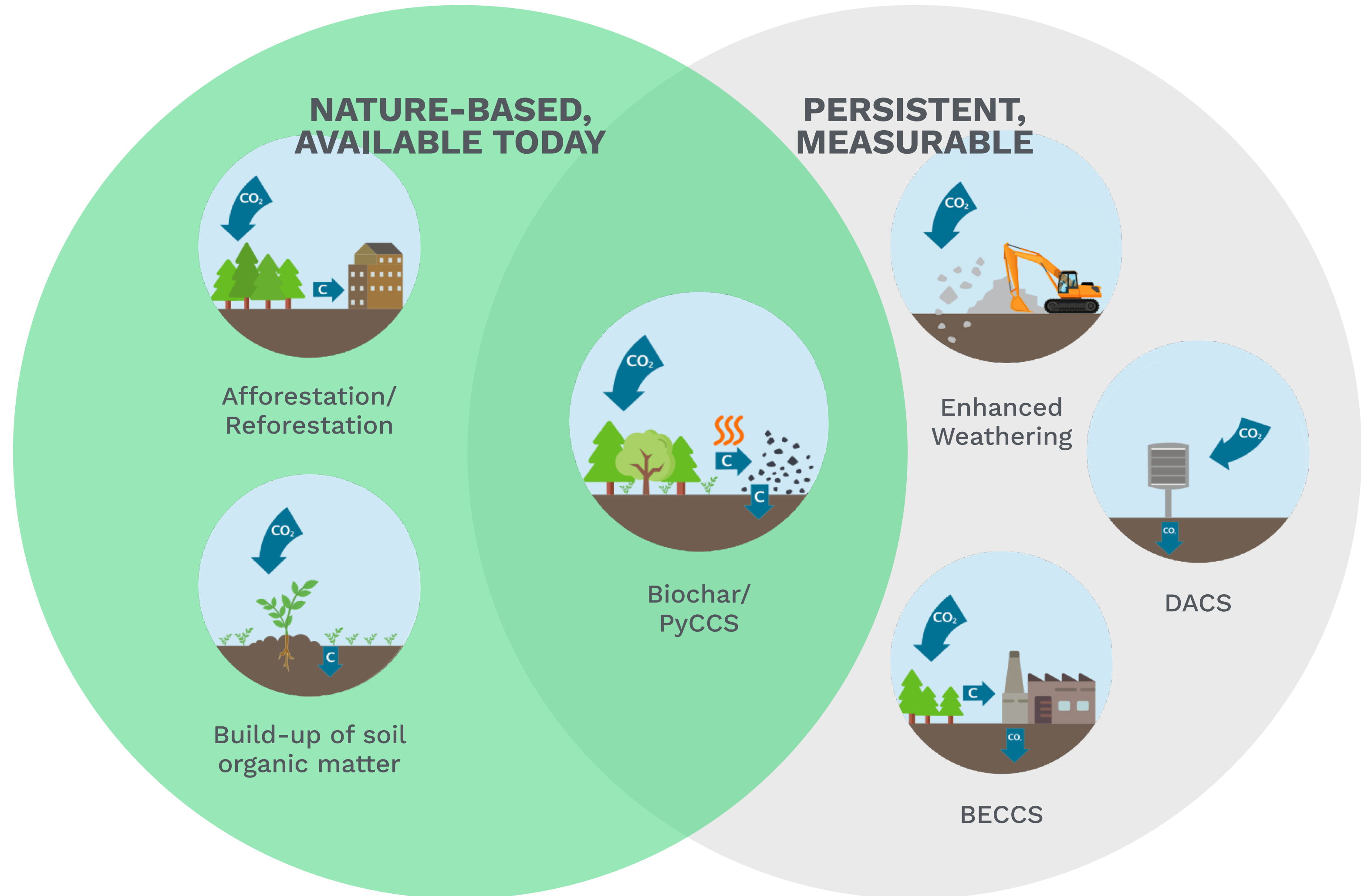
... and bringing trust into the carbon sink value chains

BIOCHAR AS C-SINK

RECAP THE DEFINITION OF C-SINKS

C-sinks* require

- Removal of atmospheric CO₂
- Storage of the respective carbon over time



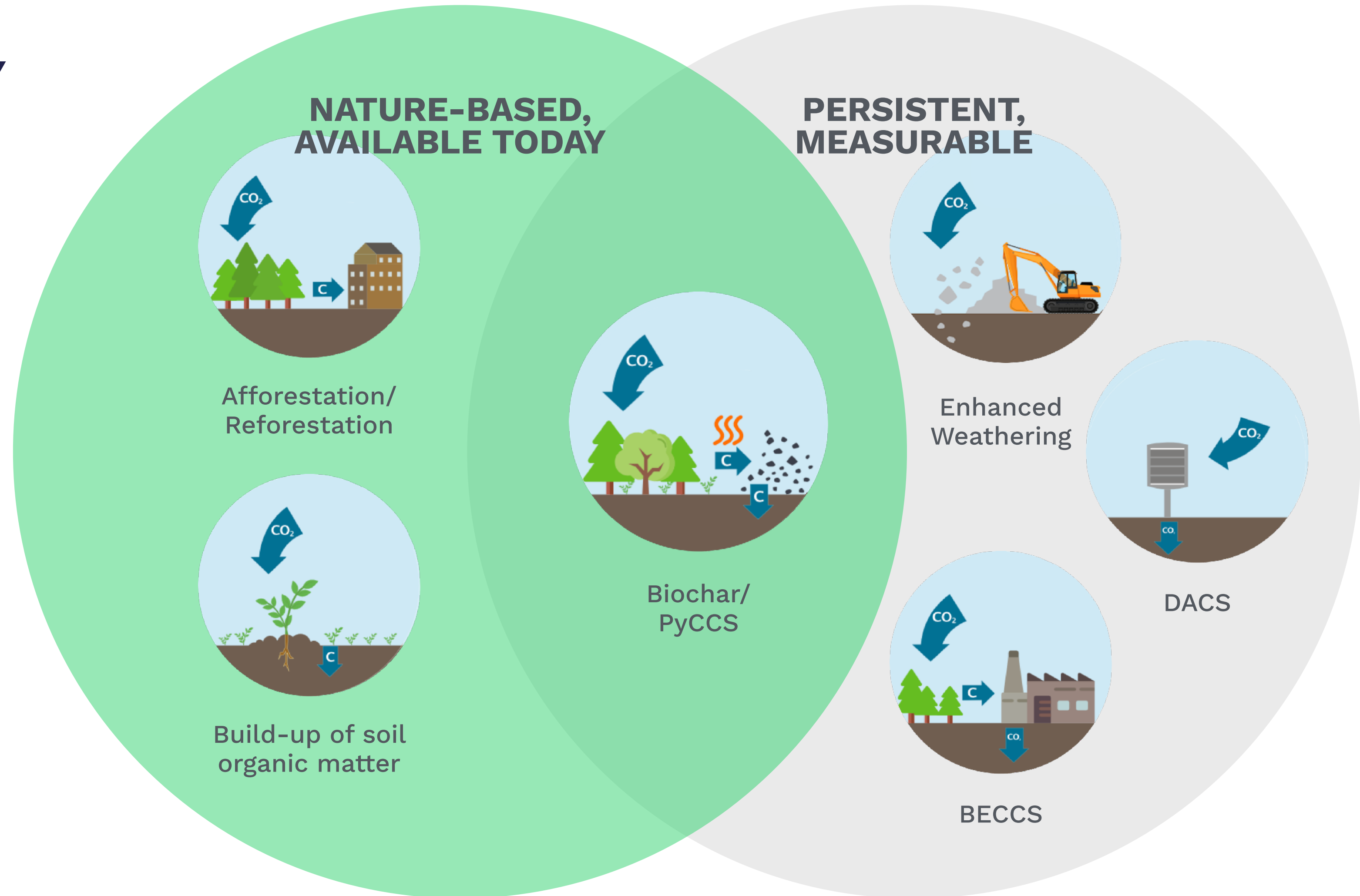
* Carbon sinks, C-sinks, negative emissions and carbon dioxide removals are synonyms

BIOCHAR AS C-SINK

MARKET-READY NO-REGRET SOLUTION

Biochar is

- persistent and measurable
- easy in handling and transport
- beneficial in soil and material applications
- scaling massively to deliver sinks over the decisive coming two decades

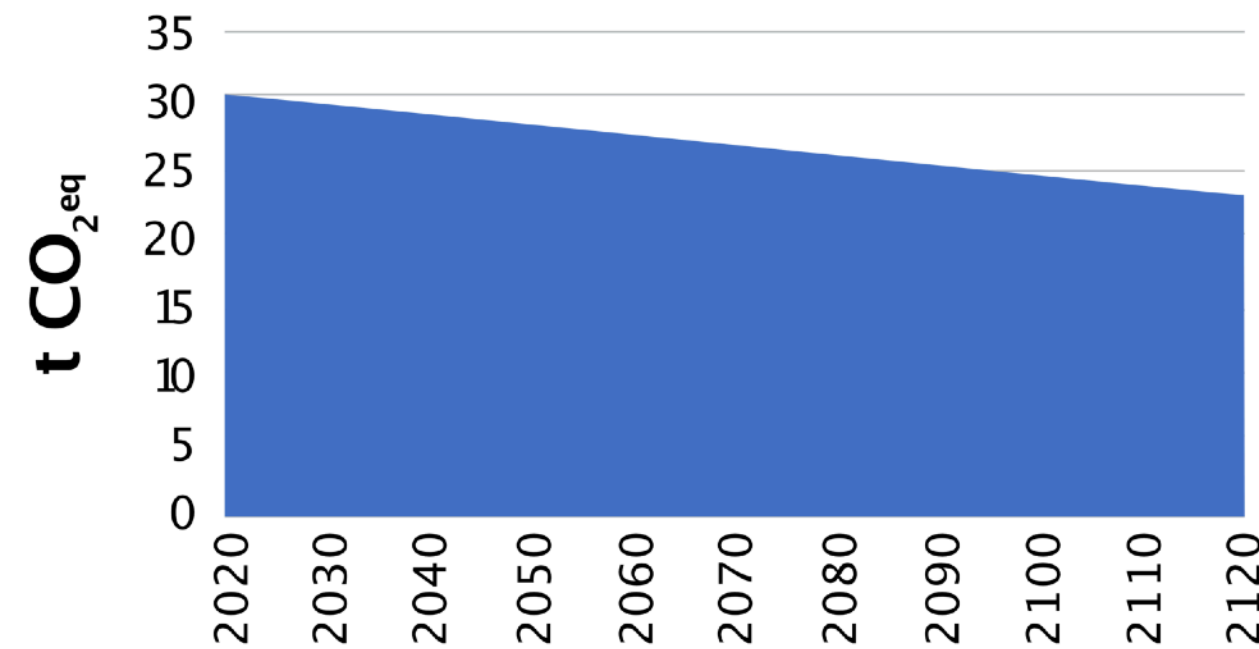


BIOCHAR AS C-SINK

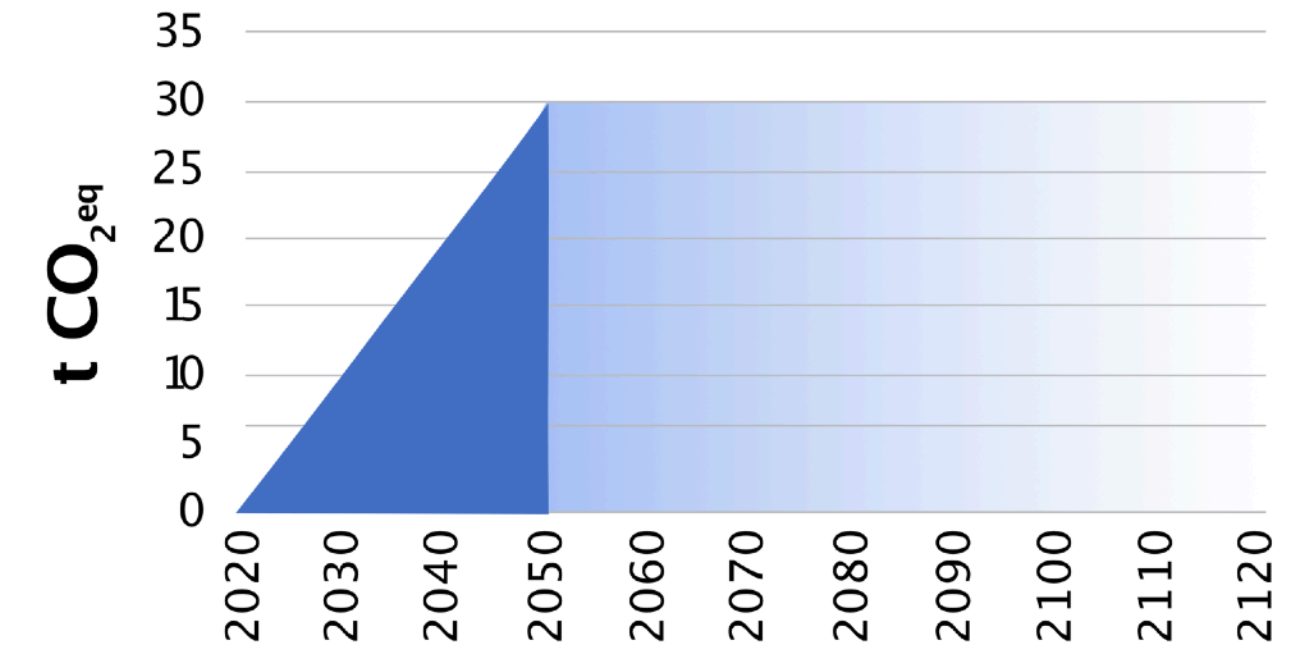
PERSISTENCE DETERMINES THE CLIMATE BENEFIT

- The persistence of C-sinks **varies significantly**
- Persistence is a key indicator to quantify the climate benefit
- The time for cherry-picking is over, **all sinks are needed**

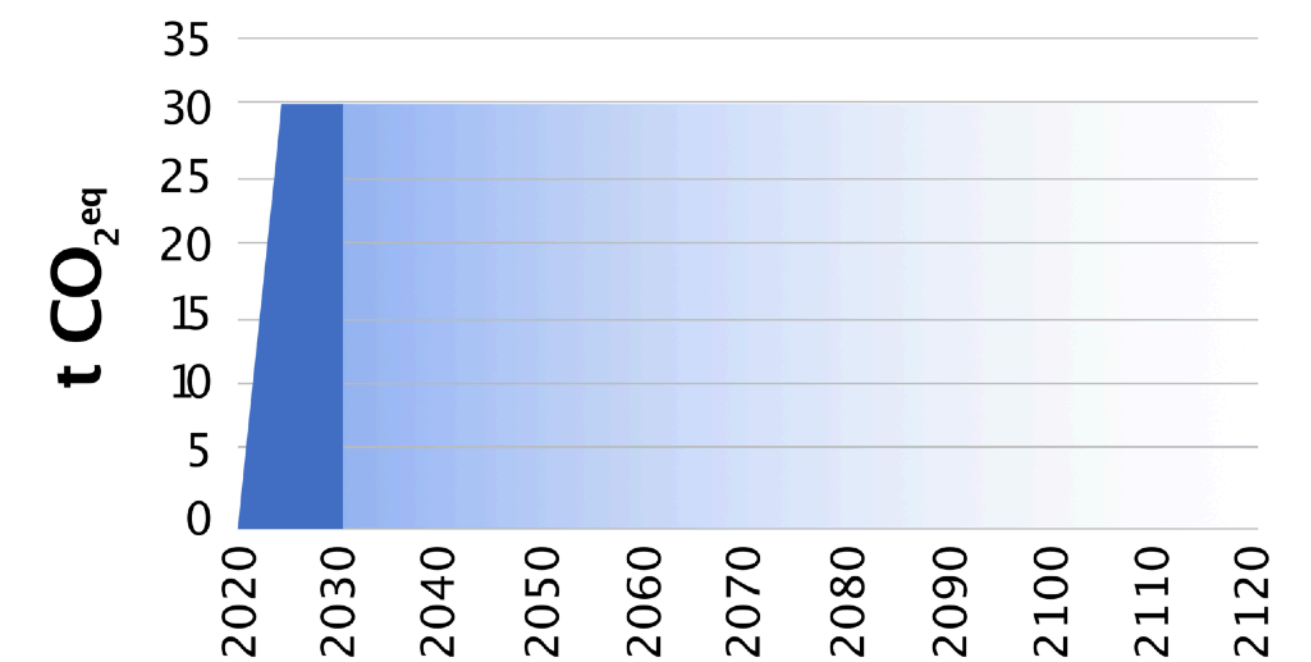
Biochar soil application, 30 t



Afforestation, 30 t over 30 yrs



Humus formation, 30 t over 5 yrs, 5 yrs control period



BIOCHAR IN THE VOLUNTARY MARKET

SCIENCE IS CLEAR, METHODOLOGY EXISTS

- **IPCC & scientific community:** Persistence confirmed, volume potential in the gigatonnes annually
- **EBC:** Renowned biochar certificate, trailblazing carbon methodology, ICROA approval pending
- **VCS:** Methodology under development, leveraging EBC
- **Carbonfuture:** Blockchain-based tracking of biochar to provide highest assurance
- **Leading companies:** Purchases of biochar-based credits



BIOCHAR IN THE VOLUNTARY MARKET

HIGHEST QUALITY CREDITS TRADED IN THE MARKET

- **Real & measurable:** Issued ex-post for individual C-preserving applications
- **Persistent:** Full accounting, recognising type of application
- **Additional:** Credits are key in biochar economics; baseline: combustion
- **Independently verified:** Audited according to the EBC guidelines
- **No double counting:** Contracts and controls in the real world and on the blockchain

The screenshot shows a web browser window with the Carbonfuture logo and navigation links. The main content area displays the 'Biochar Q2 2021' portfolio page. It features a photograph of a red tractor with a trailer carrying a large pile of dark biochar. Below the photo is a progress bar indicating that the portfolio is 'Sold out!' with a value of 1,007.27/1,007.27 tCO₂e. A synopsis text describes the portfolio's basis on biochar applications in agriculture and landscaping across several European countries. To the right, a 'Sequestration Curve' chart shows a constant gross amount of approximately 1,000 tCO₂e from 2020 to 2065. Below the chart is a map of Europe with a green highlight over Germany, indicating the portfolio location.

Carbonfuture

How it Works Partic

Portfolios

Biochar Q2 2021

Photo: Verora AG

Biochar applications in landscaping and agriculture

Sold out!

1,007.27/1,007.27 tCO₂e

Synopsis

Synopsis_Biochar_Q2_2021.pdf

Sequestration Curve

Gross Amount (tCO₂e)

Available

2000

1000

0

2020 2035 2050 2065

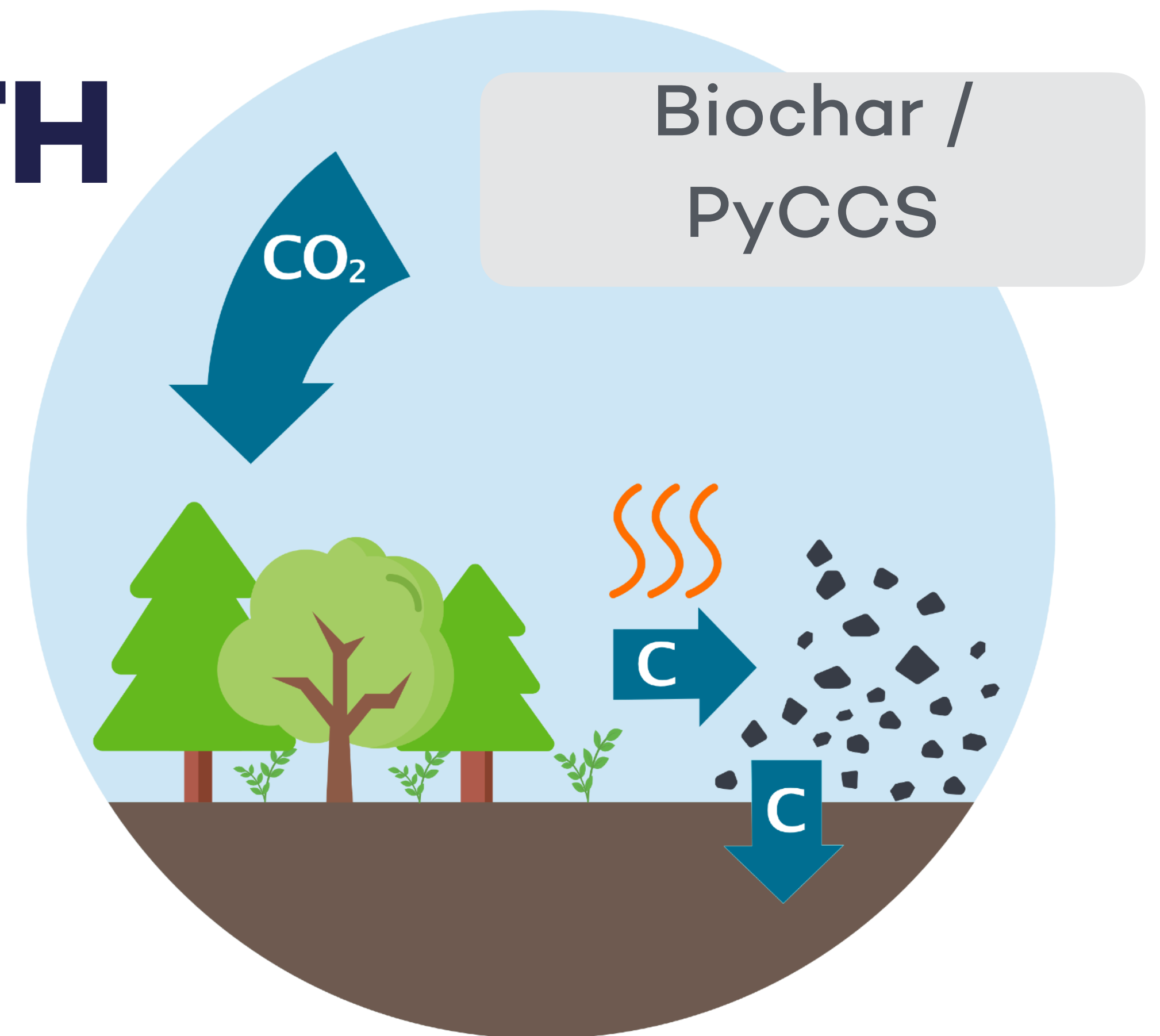
Cf Certificates

Portfolio Location

CHALLENGE

KEY TAKEAWAYS TO INCENTIVISE GROWTH

- **Targeted remuneration:** Pay to individual sink creators (e.g. farmer) for specific services
- **Modularity for fast scaling:** Biomass is local, similar to photovoltaics
- **Separate sinks and emissions:** targets for both are required
- **Biochar applications generate long-term sinks:** don't confuse with soil organic carbon



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APPENDIX

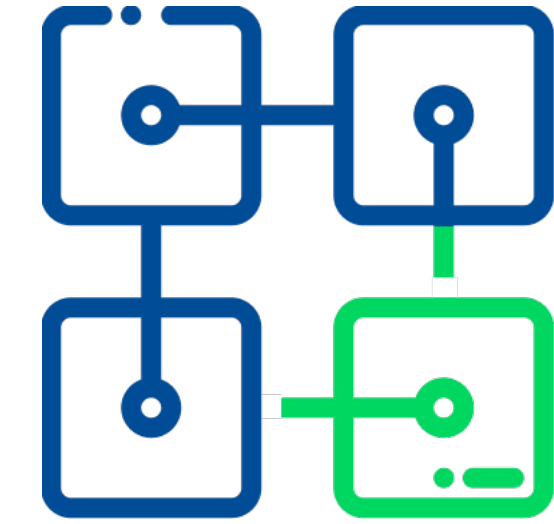
OUR APPROACH

WE BRING TRUST TO THE C-SINK ECONOMY

- Uncompromisingly science-based
- Best-in-class C-sink tracking cradle to grave
- Full and explicit reflection of C-sink permanence
- IBM Hyperledger distributed ledger technology
- Full interoperability to support ecosystem



Full live cycle tracking



Built on blockchain



Platform economy approach

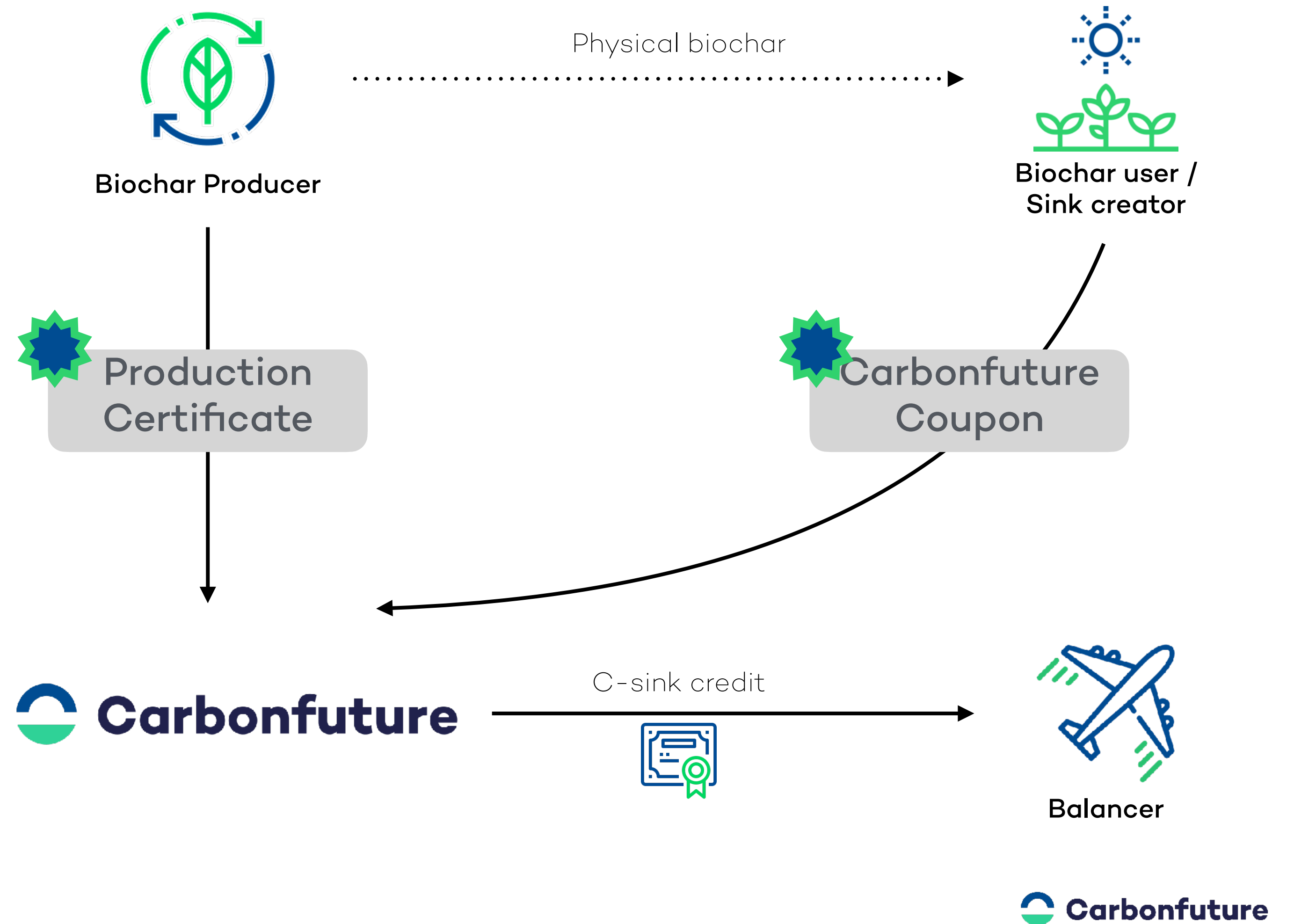


Independent, science-based verification

OUR APPROACH

C-SINK CREDITS - WHERE'S THE DIFFERENCE?

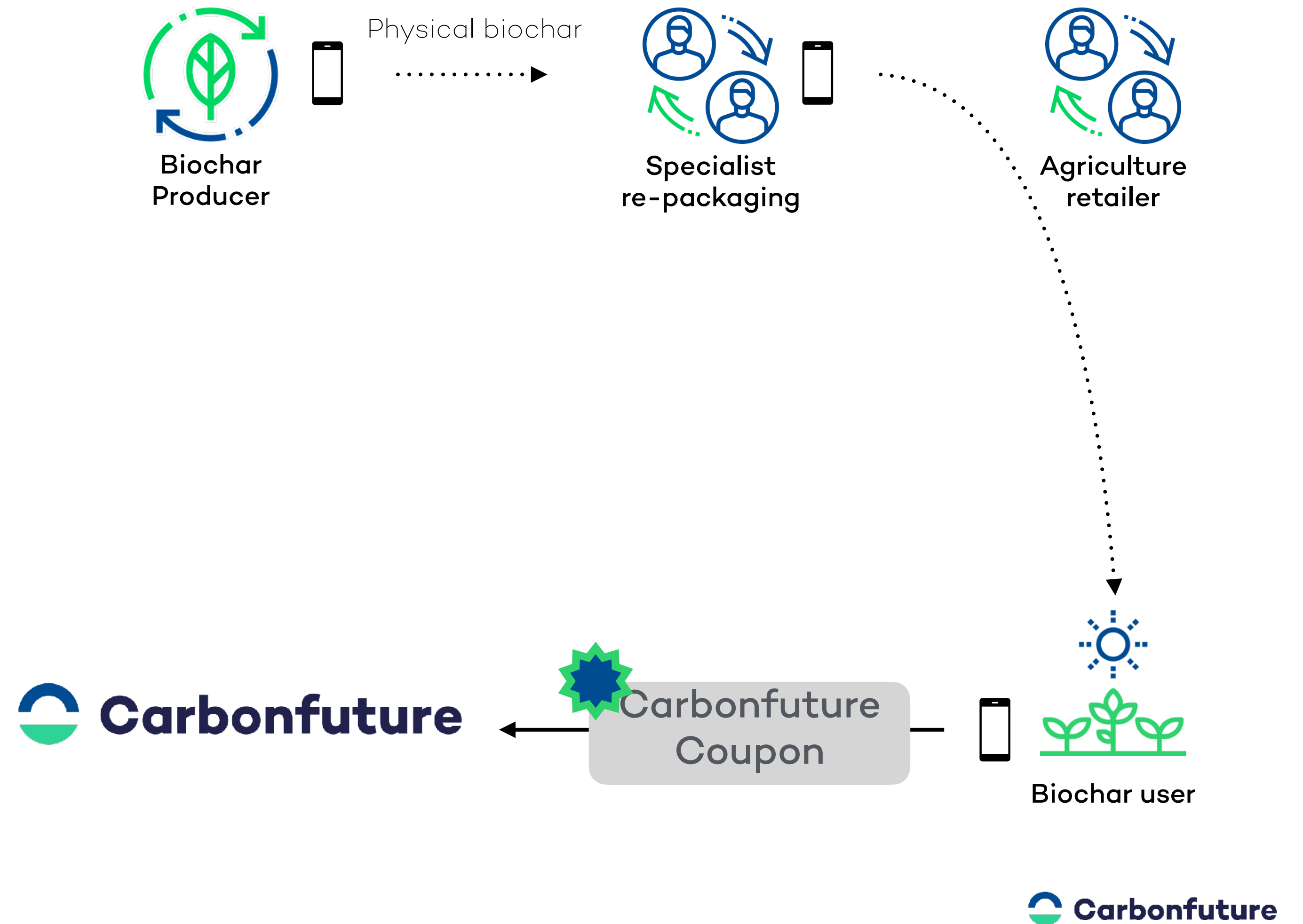
- Tracking of end-use, contracts with all participants, lowest risk of double counting
- End-to-end representation on one system
- Full flexibility for tailored products
- Strictest standards in the market, endorsed by leading biochar scientists



OUR APPROACH

TRACKING OF BIOCHAR MADE SIMPLE

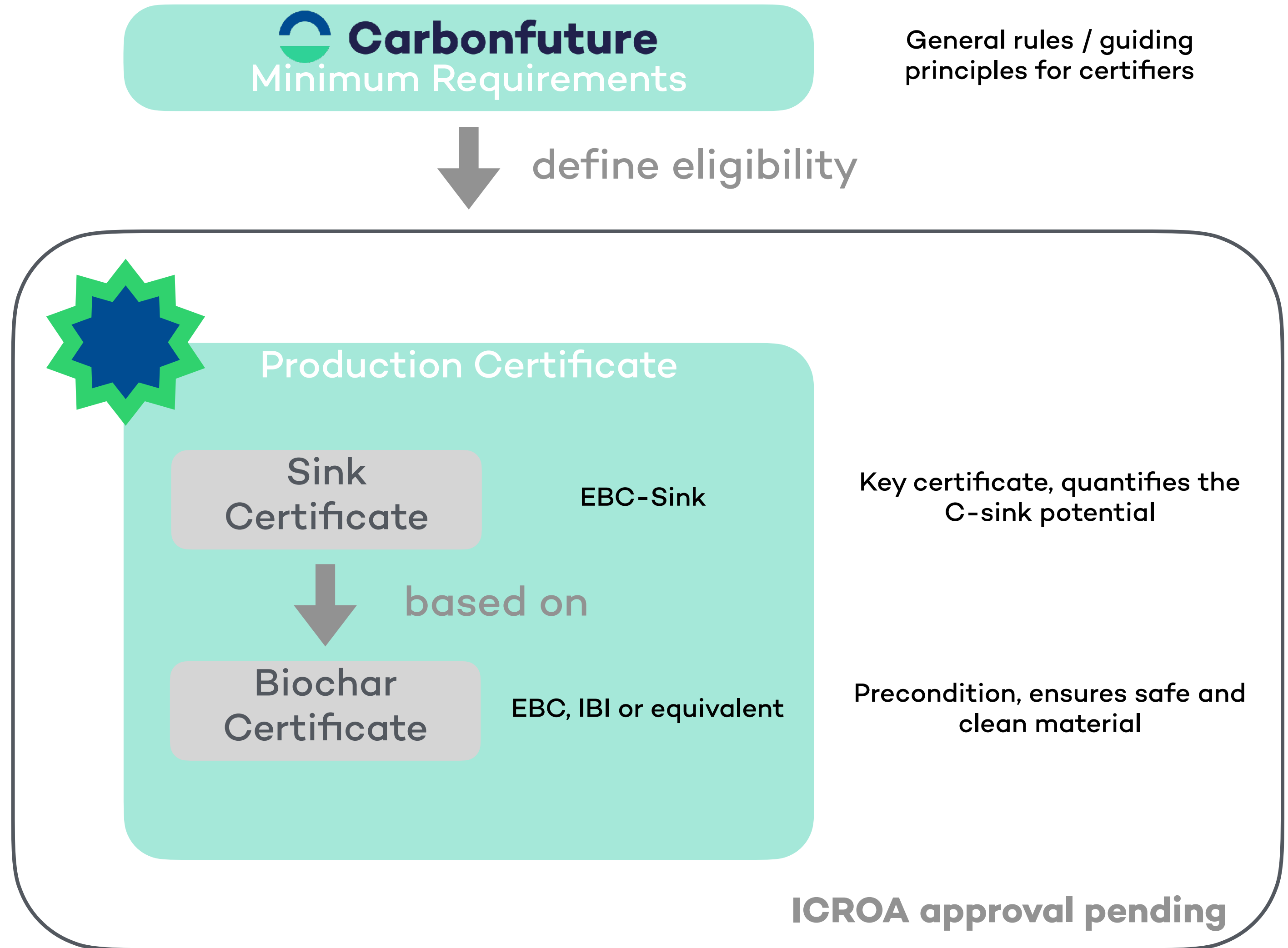
- **App-based** identification and confirmation of use
- **Re-packaging** must be registered on the platform (mandatory)
- **Trading** without re-packaging can be registered on the platform (optional)



OUR APPROACH

CERTIFICATION GOVERNANCE

- The C-sink quantification is based on the independent EBC methodology
- Both producers as well as Carbonfuture are audited independently under the EBC
- Carbonfuture may accept also other methodologies going forward, subject to adherence to its minimum requirements



OUR APPROACH

CALCULATION STEP BY STEP

- C-neutrality of feedstock provision is a precondition set by EBC
- CF calculations are always relying on scientific parameters approved by EBC
- CF calculations aim to be exact, any necessary approximations are to the conservative side
- The exemplary figures in the graph are realistic

