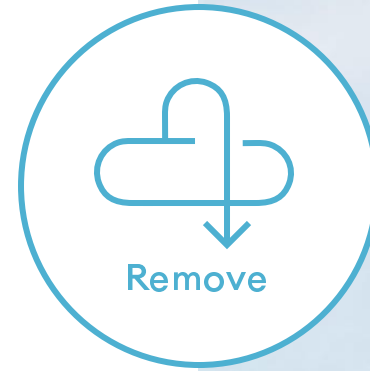




Novocarbo

# **We rethink carbon for a net zero future.**

Through sustainable and meaningful  
products based on biochar production.





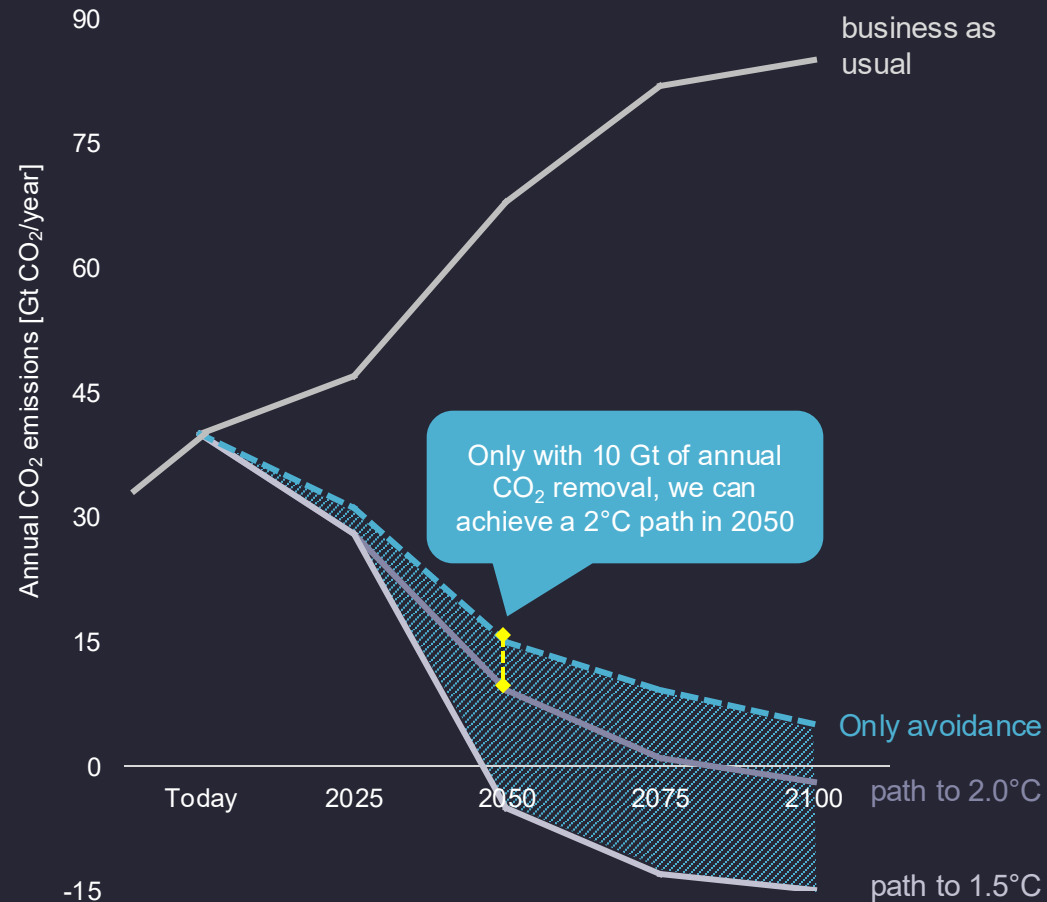
# The challenge: We must reduce 10 Gt of CO<sub>2</sub> per year by 2050 to limit global warming to 2.0°C

## Avoidance Carbon Credits

$$\begin{array}{c} \text{cloud} \\ 1\text{t CO}_2 \uparrow \end{array} + \begin{array}{c} \text{cloud} \\ \text{CO}_2 \end{array} = 1\text{t CO}_2 \text{ still emitted}$$

## Removal Carbon Credits

$$\begin{array}{c} \text{cloud} \\ 1\text{t CO}_2 \uparrow \end{array} + \begin{array}{c} \text{cloud} \\ 1\text{t CO}_2 \downarrow \end{array} = \begin{array}{c} \text{cloud} \\ \text{CO}_2 \end{array} = \text{Net-zero emissions}$$



Solely avoidance technologies

With carbon removal

# Novocarbo's projects tackle today's biggest issues ...



Unnecessary burning of biomass



Depleted soils



Heavy rainfall



Unsustainable concrete



Burning fossil fuels



Water shortage

# ... with sustainable solutions from captured carbon





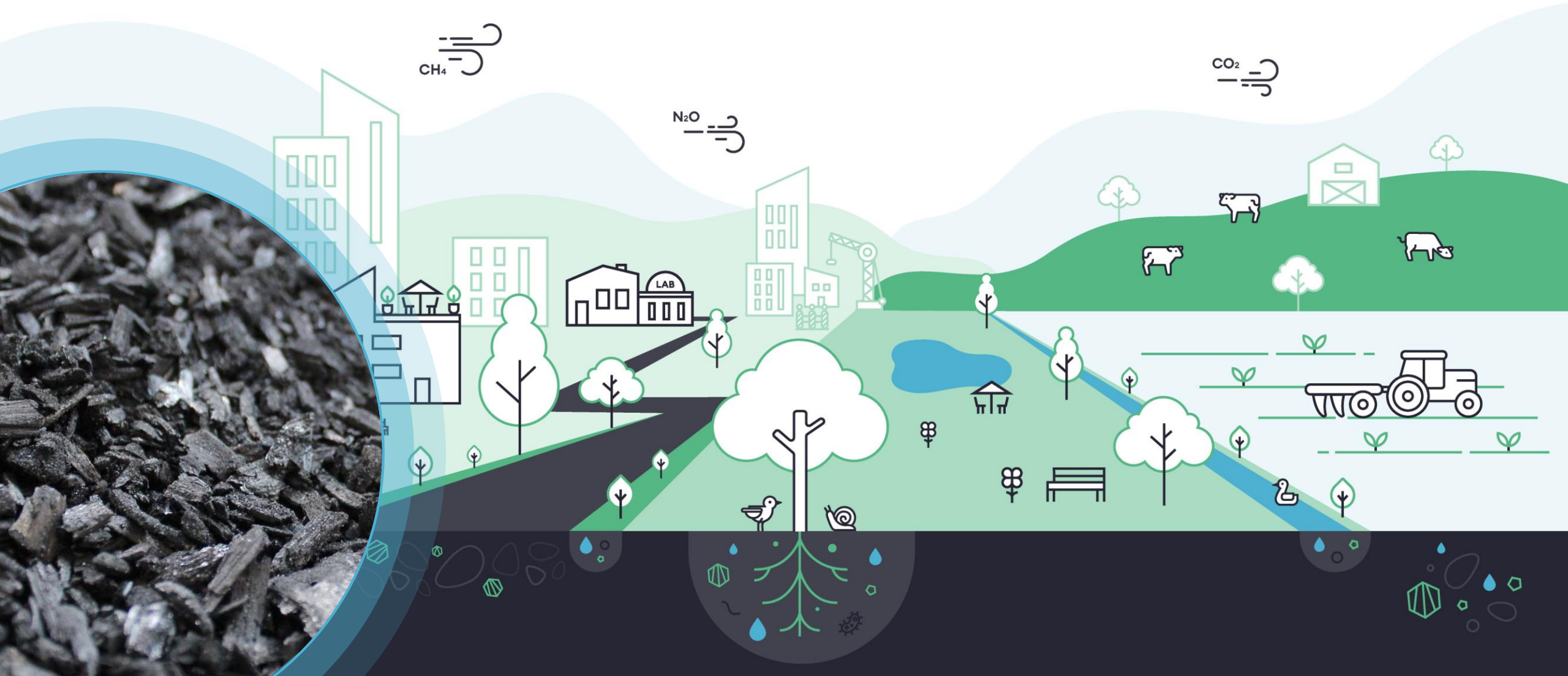
# How do we capture carbon?

By pyrolyzing organic residues to biochar in our Carbon Removal Parks

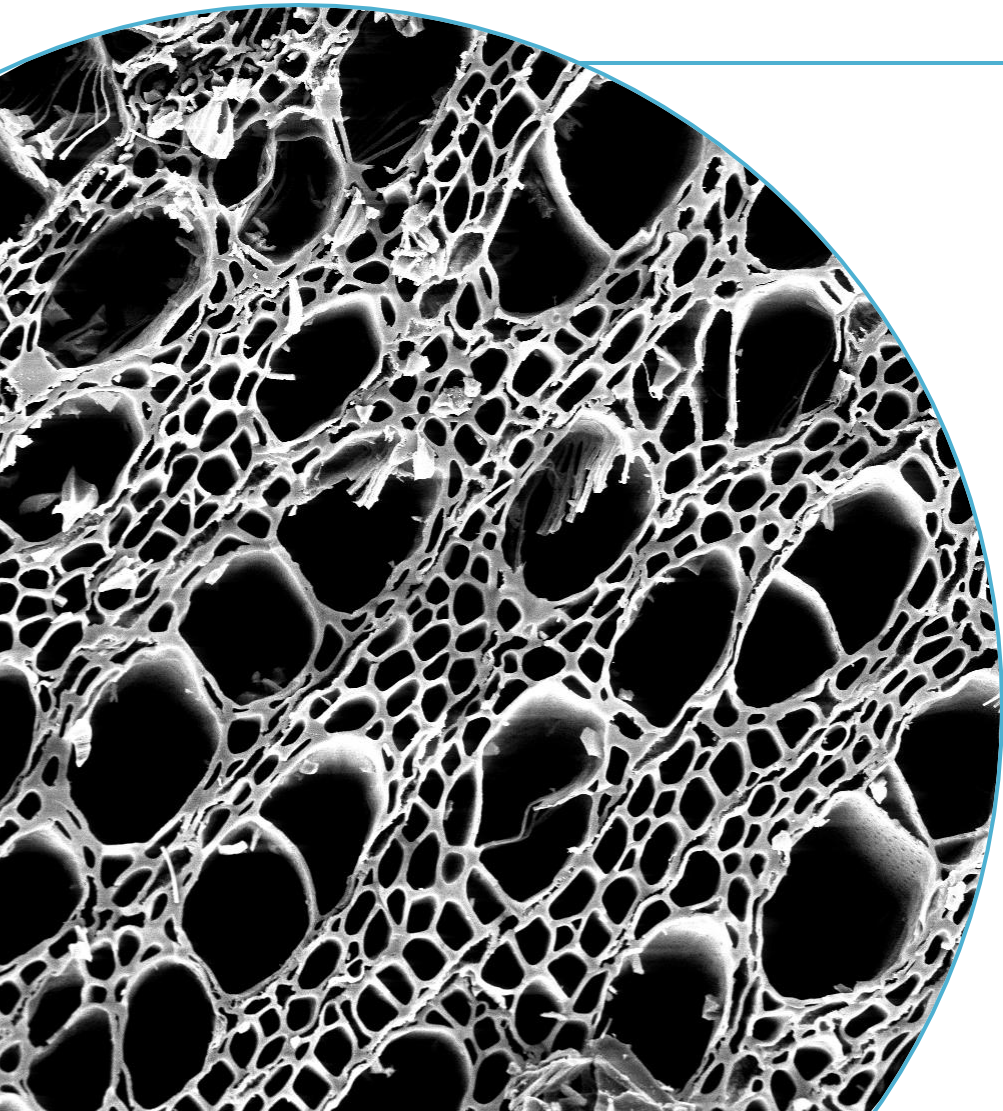




# Biochar – which contains the captured carbon – transforms the world around us



# What properties of biochar make it so unique?



Biochar has a porous structure with a surface area of 500 m<sup>2</sup> per gram and contains 85-90 % carbon (heartwood):

- Increases water holding capacity (biochar can absorb 2-3 times its own weight)
- Prevents nitrate leaching
- Fosters microbial diversity
- Absorbs toxins and pollutants
- Is an exceptionally lightweight material

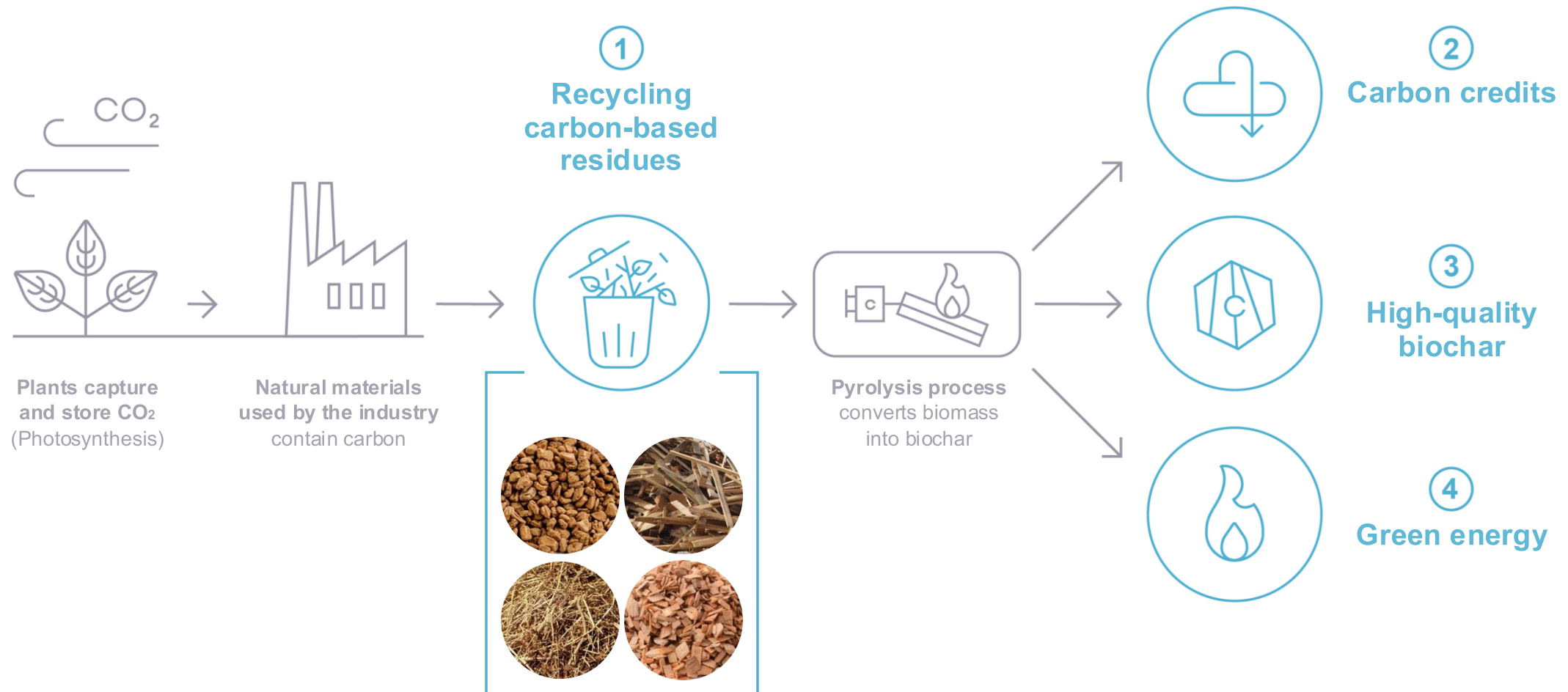


1 ton of biochar can store 2.9 tons of CO<sub>2</sub>

Scanning Electron Microscope: 200x magnification;  
Depending on feedstock, 1 ton of our biochar contains usually between 2.5-3.3 tons of CO<sub>2</sub>  
(without deducting emissions from transportation, etc.)



# Our Carbon Removal Parks integrate four revenue streams





# Biochar for better soil health and water management

## Agriculture and Soil

- Biochar is used in **blue / green infrastructure, agriculture, horticulture, viticulture** etc.
- Enriched with compost, biochar makes a nutritious soil substrate
- Our biochar is certified by the European Biochar Certification
- It **acts like a sponge** for nutrients, microorganisms, and water

## Examples of application:



Sponge city concepts



Corn cultivation



Greenhouse cultivation

## Our products:

We offer high-quality **pure biochar** either based on wood chips or on biogas digestate which already contains nutrients.







# Biochar for greener industrial products & processes

## Industrial Materials

- Industrial materials like concrete, screed, and asphalt **qualify as a permanent CO<sub>2</sub> sink**
- Biochar can be a **partial substitute for cement, sand, fillers**, and other environmentally harmful substances
- It has **advantageous properties** such as
  - improved electrical conductivity
  - increased packing density
  - thermal insulation

## Examples of application:



Asphalt



Concrete



Graphite

## Research cooperations:

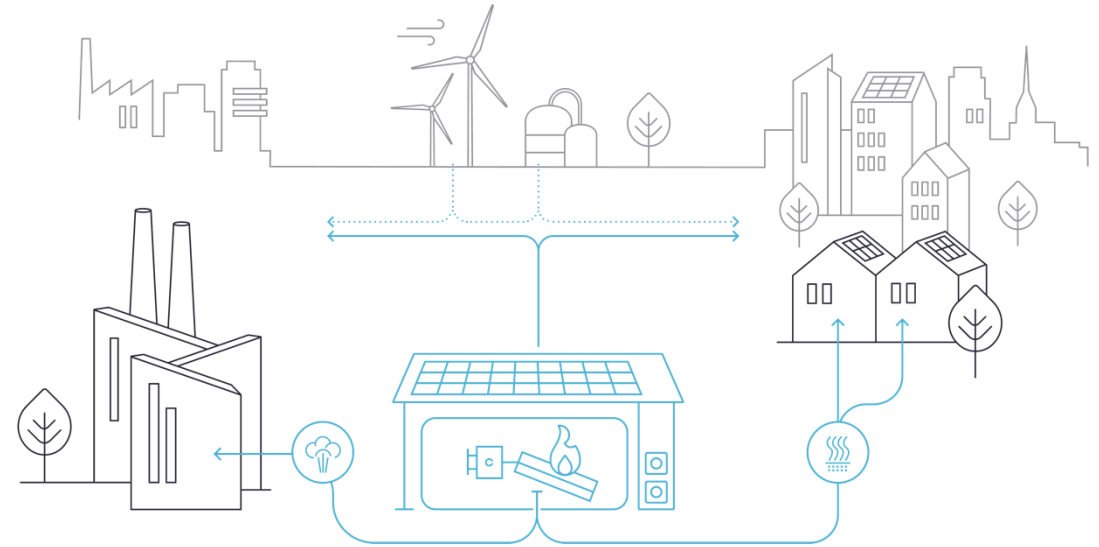




# Renewable energies to transform heating networks

## Energy-as-a-Service (EaaS)

- We develop **individual decarbonized heat concepts** that we fully finance
- We offer a **decentralized energy production** according to customers' needs
- Our production is nearly 24/7



## Our energy products:



**Option 1:**  
Warm or hot water



**Option 2:**  
Process steam



**Option 3:**  
Electricity

“By using the exhaust heat of Novocarbo, we can turn off a natural gas CHP plant which we’re currently operating, thus, **saving natural gas as an energy source and making district heating greener.**”

– Jens Wilms, municipal utility in Grevesmühlen



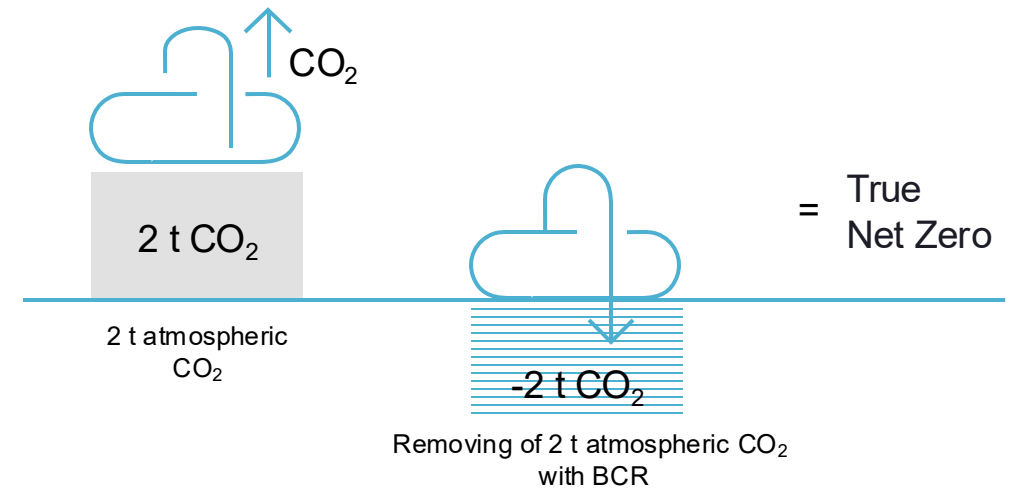


# Carbon credits to support decarbonization efforts

## Carbon Removal Credits

- Carbon credits are generated when **biochar is safely stored away** into applications
- **Industries can buy our carbon credits** to support their decarbonization journey and create a portfolio of high-permanence and quality credits
- **Third-party audits** and registration processes **guarantee alignment with carbon registries and standards** for high quality and credibility

## Net-zero contributions through carbon removal credits



## Some of our credit partners and clients:



# A fully integrated ecosystem: from residues to carbon credits

## Novocarbo gives Biochar Carbon Removal a closed system:

- We build, finance & operate Carbon Removal Parks
- Local biomass sourcing & input material database
- Green heat integration into local energy networks
- Biochar production & refinement
- Certified carbon credit generation & sales



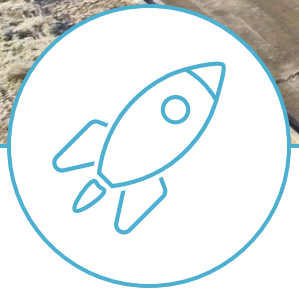


# How we advance 10 of 17 Sustainable Development Goals



- **Removing CO<sub>2</sub> permanently from the atmosphere:**  
Contributing to effective, certified climate action and global decarbonization
- **Enabling circular and sustainable resource use:**  
Converts organic waste into valuable carbon sinks and green energy
- **Strengthening soil, water, and food systems:**  
Enhances soil fertility, water quality, and agricultural resilience
- **Driving green innovation and local job creation:**  
Fosters climate tech, rural development, and sustainable industry growth
- **Building partnerships for systemic change:**  
Connecting sectors—from agriculture to industry—to scale environmental and social impact.

# We accelerate the economy's transition to net zero with biochar



**Founded in 2017**



**Leading company in  
Biochar Carbon  
Removal**



**Enabler of biomass-  
based Carbon  
Removal Parks**



**~ 20 team** of experts



**Sites in Germany  
and trading activities  
throughout Europe**





# Novocarbo operates own Carbon Removal Parks and cooperates with production partners throughout Europe

## CDR Park Baltic Sea 2023 – Present

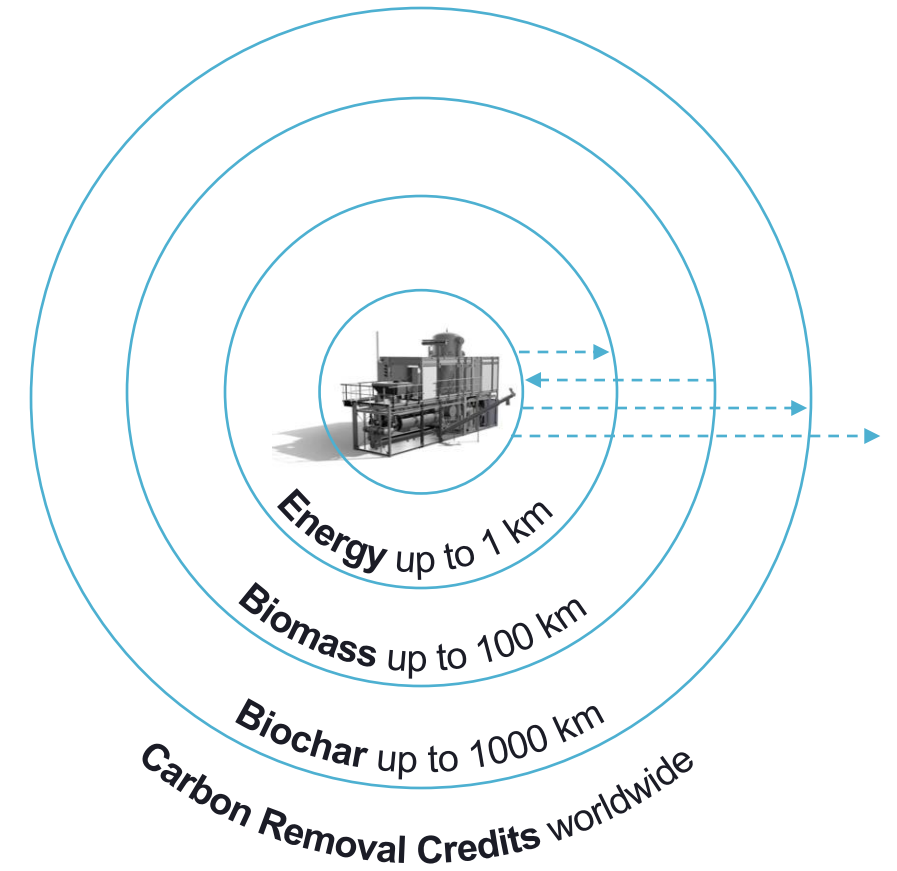
- 6,600 MWh heat p.a.
- 1,005 MWh electricity p.a.
- 3,200 t CO<sub>2</sub> p.a.
- 1,700 t biochar p.a.

*First district heating network installation*



**We are planning three new  
production sites by 2027**

New project locations are  
closely linked to energy demand





# Thank you!

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