Biochar due diligence checklist

Supercritical

01 What's the feedstock, pyrolysis process, and application plan?

These details make or break your carbon removal project—and the credibility of the credits you buy. They also determine whether the project delivers real climate impact (permanence and additionality) and tangible local benefits (co-benefits).

What to ask

- ☐ Feedstock: Is it genuinely waste biomass? Certified sustainable? Is feedstock supply abundant enough to meet your contract volume for years to come? (Tip: FSC certification for forestry residue is a green flag.)
- ☐ Pyrolysis process: What temperature is the pyrolysis reactor running at (ideally above 550°C)? Is the H/Corg ratio independently tested and below 0.4? Higher temperatures and lower H/Corg ratios mean more stable biochar and more durable carbon storage. *Check that analysis follows approved DIN norms or accredited lab standards.*
- ☐ Application: How will the biochar be used or stored? Is it being mixed into soil, or other approved application, where carbon removal reversal is unlikely? The application mechanism should prevent biochar from being combusted later, releasing your carbon back into the atmosphere.
- ☐ Additionality: Would this project have happened without carbon finance? What's the counterfactual? (e.g. Would this biomass still be processed this way to produce biochar without my investment? Or would it have been burned or left to rot, releasing CO_2 or methane?) Are there any regulations or policies that mandate biochar activity, or make biochar common practice? If so, the project would not be additional.
- ☐ Co-benefits: Does the project deliver verified social or environmental benefits, like improved soil health, increased crop yields, or community employment?

Red flags

- ⚑ Vague answers about feedstock sourcing
- ⚑ No lab data on H/Corg ratio
- ⚑ No clear plan for MRV of the project or how and where the biochar will be applied
- ⚑ No justification for why carbon finance is necessary
- ⚑ Vague, unsubstantiated or exaggerated claims about local or environmental benefits

If your supplier can't explain *exactly* what they're turning into biochar, how they're producing it, and where it's going after, find a new supplier.

02 How permanent is the removal, and who verifies it?

Anyone can say their biochar locks away carbon for 100+ years. Proving it is another story. Permanence is non-negotiable for true carbon removal.

What to ask

- ☐ Permanence claim: How many years do they claim the carbon stays stored? Is that backed by reliable lab tests (by accredited laboratories) and scientific literature (or just a marketing slide?)
- ☐ Monitoring and reporting: How is biochar production performance tracked over time (e.g., continuous monitoring of pyrolysis conditions)? Do they regularly sample biochar batches and verify soil application with third-party checks? Has their MRV plan been verified by a third-party? Are they using a trusted MRV provider?
- ☐ Verification: Which registry or standard are they using? Does it cover permanence properly? (Puro.earth and Isometric are considered solid minimum standards; anything that deviates from the scientific consensus, dig deeper.)
- ☐ Buffers and guarantees: What happens if actual performance falls short? Is there an insurance buffer or reserve to protect buyers from under-delivery?

Red flags

- ⚑ Claims of ultra-long permanence (beyond 200+ years) without lab data
- ⚑ No registry listing
- ⚑ One-off monitoring
- ⚑ No clear plan for carbon removal reversals

Permanence is the foundation of biochar's climate value. If your supplier can't prove it and protect it, walk away.

03 Can the supplier deliver— at scale, on time, every time?

Sustainable feedstock and lab-verified permanence mean nothing if the supplier can't reliably produce biochar and deliver carbon removal when you need it. Delivery risk is the hidden pitfall that trips up even the most mature buyers.

What to ask

- ☐ **Operational status:** Is the facility up and running now, a pilot, or still a blueprint? How many tonnes have they delivered to paying customers to date? If it's a new project that is not yet operational, does the team have relevant experience managing industrial-scale processes or equipment?
- ☐ **Production capacity:** Can they meet your required volume for spot or offtake contracts, today and in future years? Based on their current operation status, are their anticipated delivery timelines feasible or unrealistic?
- ☐ **Pyrolysis equipment:** What do they use (e.g., commercially available or bespoke machines)? Is it proven, maintainable, and scalable? If your supplier relies on uncertain, untested or unfinanceable equipment, the risk of production delays or shortfalls rises fast.
- ☐ **Feedstock security:** Is there sufficient biomass supply secured for the life of your deal, or is it at risk of disruption? The project may have developed their own feedstock supply chain or established contracts with biomass feedstock suppliers.
- ☐ **Exclusivity:** Are these credits being sold on multiple marketplaces at the same time? (This can lead to double-selling risk and disputes.) Or have the credits been reserved for your deal?
- ☐ **Governance and local risks:** Are there any political, regulatory, or community issues that could halt operations or delivery?

Red flags

- ⚑ Big promises from a pilot plant using unproven pyrolysis technology
- ⚑ No delivery history (or industrial track record)
- ⚑ Feedstock supply that might run out
- ⚑ Credits offered in too many places at once

In carbon removal, timely delivery is almost synonymous with credibility. If a supplier can't show proof of performance, don't bet your climate targets on their promises.