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A Dangerous Gamble:

Carbon farming in the proposed EU Carbon Removal Certification Framework





Carbon Farming:

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In November 2022, the European Commission presented a [proposal for a Carbon Removal Certification Framework \(CRCF\)](#). It is founded on a dangerous gamble: that carbon-farming activities, trees, wood products and as-yet-unproven technological approaches ([RZE Briefing 1](#)) can be relied on to remove carbon from the atmosphere and “permanently” store it. Misleadingly titled the carbon removal certification framework,¹ the proposal also allows agricultural activities that purport to reduce methane and nitrous oxide [emissions from the agriculture industry](#) to be used to balance out fossil carbon released into the atmosphere.

This approach risks accelerating climate breakdown. Efforts to phase out fossil fuels and overhaul climate-damaging industrial agricultural practices in the EU will likely move to the back burner should carbon (removal) credits, generated by a quantification process outlined in the CRCF proposal, become available. Companies and governments would be able to claim that the climate impact of adding more carbon to the atmosphere has been balanced out. But purported additional reductions in carbon dioxide, methane and nitrous oxide emissions do not remove any carbon from the atmosphere and thus cannot credibly justify more fossil carbon releases. Storing carbon in soils, trees and wood products is only temporary; [fossil carbon, once burned, will interfere with the climate for thousands of years, and longer](#).

Betting, as the proposed CRCF does, on carbon farming offsets puts EU climate mitigation efforts at risk. It would allow the EU to claim “net-zero emissions by 2050,” even as the release of fossil carbon from burning oil, gas and coal continues, and industrial agriculture operations keep churning out large quantities of climate-damaging methane and nitrous oxide. Future generations will not thank us for recklessly gambling on the protection of corporate profits at the cost of climate collapse.

¹ Amendments discussed in the European Parliament are suggest changing the title of the proposed law to reflect that activities that remove carbon as well as activities that reduce emissions might be eligible to generate carbon credits.

What is carbon farming?

For decades, agroindustry and governments have sidelined ways of farming that do not deplete soils. “Carbon farming” has emerged in this context. The concept refers primarily to agricultural practices intended to reverse the historic loss of carbon from soils degraded by intensive agriculture. Plants absorb carbon dioxide (CO₂) via photosynthesis; as they decompose, microbes convert the carbon stored by plants into soil carbon. This microbial activity releases CO₂ unevenly and is one reason why soil carbon levels fluctuate naturally, as well as between sites and management practices. Increases in measured soil carbon content thus may be due to the timing of the measurement rather than actual changes in soil carbon management.

Carbon farming commonly refers to no-till farming, agroforestry and cover cropping. Counterintuitively, in the CRCF, carbon farming also refers to forestry practices. Forests currently represent the EU’s largest, but rapidly deteriorating carbon sink, as wood harvesting rates have increased in recent years. Carbon stored in trees, other vegetation and soils shares a common vulnerability to human and natural disturbances: Carbon storage in biotic systems, and soils in particular, is volatile and temporary – closer to short-term parking than permanent lock-up.

Expanding the mixed bag of carbon farming activities even further, the framework could also include activities such as peatland rewetting, manure management on farms, changes in fertiliser application or other industrial farming practices that purport to reduce emissions of the potent greenhouse gases methane and nitrous oxide. Lumping these greenhouse gases into a “carbon removals” certification framework requires their conversion into the accounting unit used in greenhouse gas inventories: carbon dioxide equivalents (CO₂-eq). Such conversions are anything but exact science; different approaches exist, yielding significantly different results. Bundling these different greenhouse gases together is unlikely to yield the “robust and accurate” carbon measurements on which the European Commission’s CRCF proposal is premised.

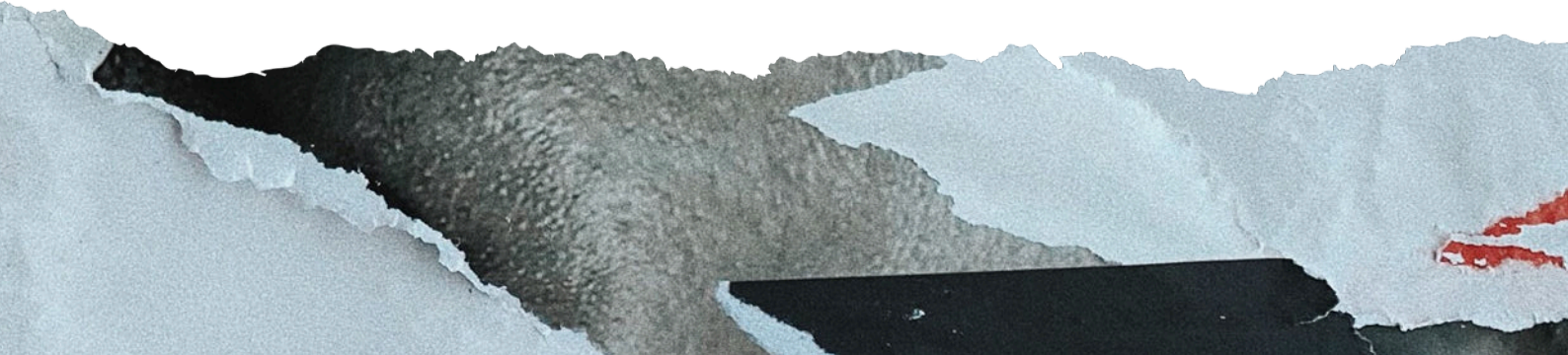


What's wrong with carbon farming?

Carbon farming raises many concerns. Where a [holistic approach](#) to [land restoration](#) is needed, carbon farming – especially when used to generate offsets – narrows the focus and ties financial incentives to carbon counting. This combination tends to promote a certain type of agricultural practices (such as [no-till farming](#), precision fertiliser management, manure management in the form of biogas and the use of corporate digital technologies) that do little to transform the EU's highly polluting agroindustries.

In Canada, based on farmers' experience with carbon farming programmes, the National Farmers Union [notes](#) that “two fields right next to each other may have carbon balances moving in opposite directions. Whether a field gains or loses carbon and the rate of loss or gain depend upon temperature and rainfall, the history of the field, the crop grown, insect or disease pressures, and many other factors. Purported soil carbon gains are modelled and often notional – far less certain and consistent than the emissions they are said to offset.” The Union also [warned](#) that “[s]oil-based offset protocols are unworkable; offset payments cannot form a primary means of incentivising soil protection and restoration. Similarly, offset credits and emission trading systems should not be a primary or first-line strategy for reducing emissions.”

The focus on carbon has also resulted in similar entrenching of industrial forestry practices, mainly tree planting. In France, forestry practices funded under the Low Carbon Label (Label Bas Carbone) were [99% tree planting projects](#), despite methodologies existing for less intensive logging practices.



Land speculation

Carbon offsetting has whetted financial appetites for land. In 2021 alone, demand from forestry investors seeking land to set up tree plantations for offsetting drove up Scottish land values [by 61%](#). The EU's Common Agriculture Policy (CAP) has also driven a severe increase in [land concentration](#) in the past 15 years, creating difficulties for new farmers to access land while increasing corporate and investment fund holdings in arable land. The CRCF is likely to further concentrate the EU's arable land, this time in the hands of financial speculators betting on future profits from the carbon farming gamble.

Big polluters win again

Carbon offset markets usually do not reward – or even recognise – good farming practices already employed: Financial rewards are premised on a change away from high-emission practices (see also [RZE Briefing 3](#)). [Early adopters who already integrate soil restoration into their agriculture practices, or use less intensive harvesting practices in their forests are financially disadvantaged](#): A farm that already restores soil carbon levels through agroecological practices, or a forest owner who has implemented continuous cover forestry has fewer, more complicated options for additional carbon storage. By contrast, a high-emission industrial operation or forestry employing clear-cutting will be rewarded for having delayed action and will have more reduction options.

Simply put, the more climate-damaging a farming or forestry operation is today, or the more it has depleted carbon in the past, the greater its benefits from carbon farming. This rewards the agriculture and forestry sectors' largest emitters, not those for whom care for the land is already integrated into practice.

Soil carbon dynamics are too complex for accounting-grade quantification

The limitations of quantifying soil carbon accurately are also considerable – even its feasibility is in doubt. [Soil carbon dynamics are complex](#), and [many interactions remain poorly understood](#). It is therefore not surprising that variability, uncertainty and potential errors in soil carbon accounting [are huge](#): The distribution of soil carbon content differs even within the same field; carbon content in soils fluctuates over the course of the day; potential for sampling mistakes, or lab errors, is significant. The same holds true for nitrous oxide emissions, which soil microbes can [suddenly belch out](#) in large pulses. Soil carbon credits thus amount to attempting to offset real emissions with increases in soil carbon levels that often do not exist.

Data grabbing

Carbon farming centres on carbon counting. The CRCF proposal aspires to quantify soil carbon “in an accurate and robust way.” It is doubtful that this aspiration is attainable. The process, however, will generate large volumes of data about soil carbon profiles at the individual farm level. Soil carbon offset initiatives in the Voluntary Carbon Market already demonstrate [who benefits from this massive data collection](#): the data feed analytical software typically controlled by global IT companies and the agrochemical industry.

[Carbon farming expands corporate access to farm-level data](#) to be used, or monetised, as they see fit. To “increase effectiveness,” more and more funding will be allocated to develop ever-more sophisticated satellite data collection and analysis systems. Soil carbon accounting thus drives a digital monitoring process that tracks farmers’ smallest actions, opening them to interference in their work rhythms, production choices and land use decisions by those controlling the software and data.

Carbon consulting industry cashing in

Who will really benefit from soil carbon accounting? Only around 60% of funds for a [carbon-farming scheme in France](#) actually reached farmers; up to 40% of the payment ended up in the pockets of intermediaries. Forestry activities under the scheme spent between 13 and 48% of the carbon payment² for purposes other than improving forestry practises.

This is also the experience of [voluntary carbon markets](#), which have given rise to a new industry of climate chaos profiteers: such as project developers, standards bodies, auditing firms, offset credit traders, financial services providers, and carbon rating agencies. Repeatedly, investigations have shown that these intermediaries [raked in millions](#), while those who actually carried out the emission reductions (and [whose land use is often severely restricted by carbon offset projects](#)) were routinely left with empty promises.

Temporary storage in soils and trees is not the same as keeping fossil carbon in the ground

Above all, timescales are irreconcilably mismatched. Different greenhouse gases – methane, nitrous oxide, CO₂ – impact the climate over wildly different timescales, with varying intensities. [Different approaches](#) have emerged for turning the climate-warming potential of different greenhouse gases into CO₂-eq; ratios, e.g., for converting methane emissions into CO₂-eq, have been adjusted downward in the past, and scientific disputes remain over key questions such as the determination of the nitrous oxide conversion factor. Yet rather than trigger the precautionary approach required by the EU treaties ([RZE Briefing 3](#)), the CRCF perpetuates the questionable assumption that such conversions can yield figures of accounting-grade accuracy. Carbon credits based on such artificial equivalences are clearly not suitable for offsetting purposes, yet that is what the CRCF proposes.

Another mismatch relates to carbon uptake and storage: Soils, vegetation and even wood products do not permanently store carbon. The temporary carbon storage in soils, trees and wood products therefore cannot be guaranteed for thousands of years, i.e., [the timespan over which a portion of the fossil carbon, once released, will interfere with the climate.](#)

² Payment details often not available

Assuming that creating more temporary storage for carbon can neutralise the climate impact of continued fossil fuel burning is a deadly gamble, which threatens to [lock society on a dangerous, high-temperature pathway](#) towards average global temperature rises well above 1.5°C.

Liability conundrum

Who is responsible for ensuring that carbon remains stored in soils, trees and wood products? Who is liable if it doesn't?

Allocating liability seems impossible without either short-changing the climate, or burdening farmers with a disproportionate risk for reversals. Limiting liability to the minimum five-year lifetime of an eligible carbon farming activity under the CRCF proposal would make a mockery of both soil carbon dynamics and the timescale over which fossil carbon impacts the climate. Extending liability to 100 years – common in carbon-offsetting standards – does not fix the mismatch and is still both too short and too long: far too short to balance out the climate impact of fossil carbon releases, and too long because it would tie farmers into liabilities lasting more than a generation, limiting the flexibility that farmers will need to adapt practices to accelerating climate chaos.

Proposed solutions, such as buffer pools or insurance schemes, are unsuitable: They impact a carbon offsetting project's bottom line but fail to address the timescale discrepancies. Experience with carbon offsetting schemes in the United States suggests that, as the frequency and intensity of forest fires increases, attempts to patch up the impermanence of above-ground carbon storage [may also become insufficient](#) to replace the carbon lost.

Riddled with contradictions: The CRCF's approach to carbon farming

Despite all the above, the European Commission is betting on carbon farming as an important part of the sustainable carbon cycles approach of the EU Green Deal, the major strategy the EU hopes will bring about net-zero emissions by 2050. Underscoring the financial aspect of the approach, the Commission defines carbon farming as “a green business model that rewards land managers for taking up improved land management practices, resulting in the increase of carbon sequestration [...] and/or reducing the release of carbon into the atmosphere.”

To facilitate this business model, the Commission's stated aim is to set up a certification framework to “incentivise the uptake of high-quality carbon removals, in full respect of the biodiversity and the zero-pollution objectives.” The CRCF defines carbon farming as “a carbon removal activity related to land management that results in the increase of carbon storage in living biomass, dead organic matter and soils by enhancing carbon capture and/or reducing the release of carbon to the atmosphere.”


An inherent contradiction running through the CRCF proposal is the assumption that eligible activities will “result in an unambiguous net carbon removal benefit, while avoiding greenwashing.” With carbon-farming removals, it's all ambiguous – and volatile and temporary. Adding financial benefits increases the already extreme greenwashing risk, as [the voluntary carbon market](#) has [amply demonstrated](#). That carbon farming activities can be quantified “in an accurate and robust way” is mere wishful thinking, particularly due to the large error margins in soil carbon quantification.

This is also the conclusion of an [assessment commissioned by the German Environment Agency](#): “It is not possible for climate-friendly soil management activities to achieve the high standards of additionality, permanence, and quantification required to justify offsetting.” The authors warn that “if certificates generated from carbon farming activities under the Framework were usable for offsetting, then these challenges pose a serious risk of undermining the environmental integrity of the EU’s mitigation efforts or of the voluntary carbon market. Therefore, we recommend excluding certificates from carbon farming activities from use for offsetting purposes.”

No such exclusion has been forthcoming from the European Commission or the European Parliament Committees discussing the proposal.

Finally, the European Commission proposal fails even to acknowledge the colossal timescale mismatch, discussed above. Amendments brought forward by the Parliament suggest that storing carbon in agriculture soils for five years and in wood products for 50 years is sufficient to generate carbon credits, which might then be used to “balance out” the permanent release of fossil carbon into the atmosphere. Even an expiry date for removal credits from carbon farming – as the European Parliament suggests – only kicks the responsibility for actual fossil fuel phase-out down the road.


With carbon-farming removals, it’s all ambiguous, volatile and temporary




Carbon casino: An unsuitable financing mechanism for responsible farming

Price fluctuations are part and parcel of carbon offset markets. They do not provide a predictable, stable source of funding to farmers and forest owners who shoulder a heavy burden of economic risk and need to make real green investments and timely planting decisions. Australia's Carbon Farming Initiative is a case in point: Carbon credits dropped by 30% over a short period of time, and the scheme was deemed "[largely a sham](#)" by the former head of the government's Emissions Reduction Assurance Committee because of "serious integrity issues, either in their design or the way they are being administered."

Experiences with carbon farming schemes, be they in the [U.S.](#) or [France](#), underscore that payments tied to carbon accounting in soil or forests are a poor match with farmers and forest owners' needs. Public financing that supports concrete actions and a holistic set of outcomes (soil health, water retention, biodiversity) in the agriculture and forestry sectors, combined with time-bound, quantified reduction targets would





be far more effective in encouraging a transition away from the emission-intensive EU agriculture and forestry systems. It would address these sectors' climate impact from a comprehensive perspective, helping to restore soil carbon content, as well as biodiversity and ecosystems. It would also offer more truthful accounting for climate science, given the uncertainties in measuring soil carbon.

Instead, the European Commission's CRCF proposal lends legitimacy to failed, discredited carbon offsetting approaches and promotes risky, unproven technologies: DACCS and BECCS ([RZE Briefing 1](#)). These flaws alone make the proposal irredeemable. The case for scrapping the CRCF is strengthened by its misguided carbon farming elements: Believing that the carbon farming provisions outlined in the Commission proposal will support a just transition away from the EU's high-emission industrial agriculture and forestry is akin to believing in unicorns.



*Scrap the European Union's
carbon removal certification proposal!*

***Real solutions,
not “Net Zero”!***

Further reading

The European Coordination of La Via Campesina. March 2023. Carbon farming. A “new business model” for who? <https://www.eurovia.org/wp-content/uploads/2022/03/ECVC-Carbon-farming-ENG.pdf>

IATP. Lessons for the EU’s carbon farming plans. Structural flaws plague U.S. agriculture carbon credits. June 2022. https://www.iatp.org/sites/default/files/2022-06/2022_05_23_USLessons_Carbon-Markets4%20%281%29.pdf

Friends of the Earth International. The risks of soil carbon markets. July 2023. <https://www.foei.org/wp-content/uploads/2023/07/FoEI-NBS-factsheet3.pdf>

IATP. Twelve problems with the European Commission’s proposal for a Carbon Removal Certification Framework. March 2023. <https://www.iatp.org/twelve-problems-ec-crcf>

More in the Carbon Removal Certification Framework series



- 1 Carbon Capture & Storage**
The proposed EU Carbon Removal Certification Framework promotes risky, unproven technofixes



- 3 Carbon Offsetting**
EU Carbon Removal Certification Framework proposal lends legitimacy to a discredited approach

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