Agreena

Verra-certified soil carbon credits

Everything you need to know

VERRA

Introduction

Climate action is no longer a choice but a necessity for industries facing increasing regulatory scrutiny and societal demands for transparency. Soil carbon sequestration, a nature-based solution recognised by the UN's Intergovernmental Panel on Climate Change (IPCC), offers one of the most scalable opportunities for meaningful climate impact.

Agreena's Verra registration for its AgreenaCarbon Project marks a defining moment in the development of high-integrity carbon markets. This paper outlines the significance of this achievement for corporate leaders, the rigorous validation process, and the role of data in ensuring the credibility of regen ag finance. Additionally, it highlights the benefits for companies seeking to align with net zero goals and offers a blueprint for scaling sustainable practices globally.

What's in this guide

- How Agreena's Verra registration ensures credibility.
- Scaling regenerative agriculture, a blueprint for corporate climate action.
- How MRV tech guarantees trust in carbon credits.
- Corporate & farmer impact.
- The future of soil carbon finance - why it's a game-changer for sustainability.

A watershed moment for the voluntary carbon market—Agreena's Verra milestone is set to reshape how businesses think about carbon credits and climate action.

Get in touch with us at climatesolutions@agreena.com to learn more about Agreena's corporate sustainability solutions or visit agreena.com/carbon-credits

Understanding Verra registration

Verra's Verified Carbon Standard (VCS) is a globally recognised framework that ensures the credibility and transparency of carbon credits. As the most widely adopted greenhouse gas crediting standard, Verra sets the benchmark for high-integrity methodologies in the voluntary carbon market.

The AgreenaCarbon Project's registration under the VM0042 methodology for Improved Agricultural Land Management (IALM) signifies more than compliance. It validates the project's ability to deliver verified greenhouse gas reductions and soil organic carbon removals through regenerative farming practices. This milestone provides corporates with a trustworthy mechanism to align their sustainability goals with tangible climate impact while empowering farmers to adopt practices that restore ecosystems.

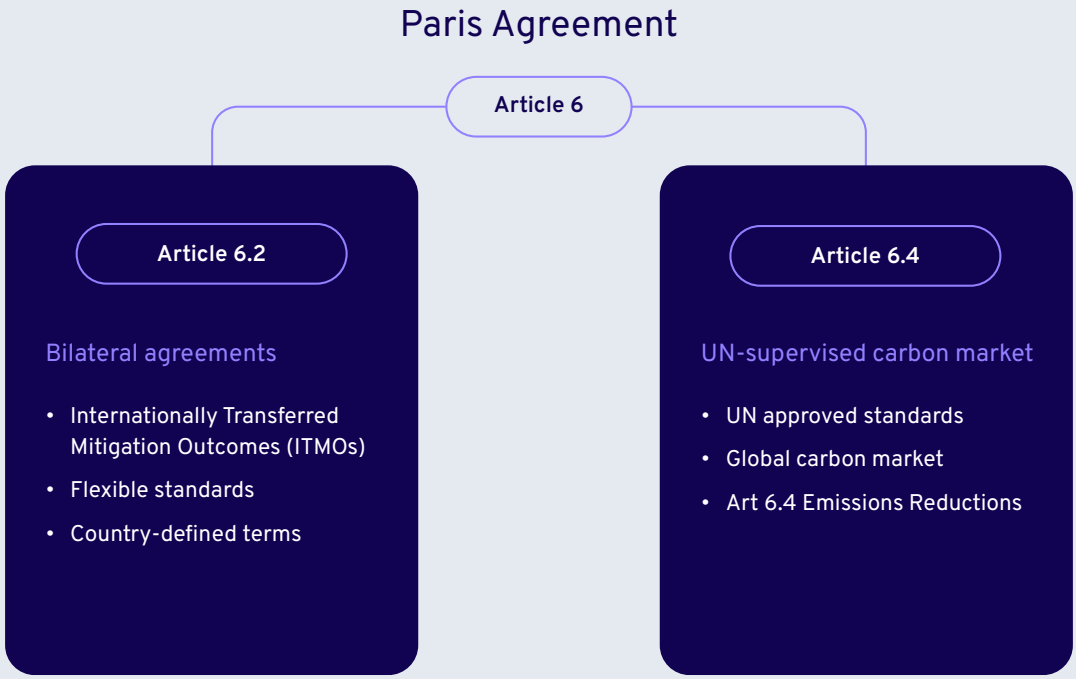
Addressing challenges in the carbon market

Agreena addresses two fundamental challenges in the voluntary carbon market (VCM):

Scalability: Through its grouped project structure, Agreena enables large-scale carbon sequestration across multiple European markets, providing a robust pathway to scale impactful climate solutions.

Integrity: By delivering Verra-certified credits, Agreena ensures high-quality outcomes that bolster market confidence and meet the growing demand for nature-based solutions from corporates worldwide.

As global standards tighten and regulatory requirements and use cases of credits are evolving, the bar for quality and integrity in carbon markets will continue to rise. Initiatives like CORSIA and the ICVCM's Core Carbon Principles underscore this increased focus on integrity, making the commitment to high-integrity practices essential for future-proofing. Additionally, with the Paris Agreement Crediting Mechanism (Article 6.4) on the horizon, Agreena remains dedicated to evolving to meet these standards, ensuring our solutions are aligned with evolving international benchmarks and upholding the highest levels of credibility.



What does Verra registration mean for corporates?

Verra's Verified Carbon Standard (VCS) is a world-leading standard for greenhouse gas crediting, ensuring that carbon credits meet the highest levels of integrity, traceability, and environmental impact. Achieving registration under the VM0042 methodology for Improved Agricultural Land Management (IALM) demonstrates that the AgreenaCarbon Project adheres to rigorous criteria for quantifying emissions reductions and soil carbon sequestration.

For corporates, this means:

Confidence in credibility: Verra-registered credits are independently validated, providing assurance that sustainability investments are aligned with internationally recognised standards.

Compliance with regulations: As climate disclosure requirements become more stringent, such as those under the European Union's Corporate Sustainability Reporting Directive (CSRD), Verra-registered credits help corporates meet compliance obligations with measurable outcomes.

The journey to Verra registration

Agreena's journey to Verra registration began with its adoption of the VM0042 methodology, designed to quantify the benefits of improved agricultural practices like reduced tillage, cover cropping, and organic fertiliser use. Achieving this milestone required rigorous evaluation, meticulous data collection, and collaboration with independent auditors over several years.

Key phases of validation included:

1. **Comprehensive Data Collection:** Field-level insights were gathered from millions of hectares across Europe, documenting emissions reductions and increases in soil organic carbon.
2. **Third-Party Audits:** Independent verification by Earthood and independent model experts to ensure compliance with Verra's requirements.
3. **Final Approval:** Following exhaustive reviews, the AgreenaCarbon Project became the first large-scale agricultural project registered under the VM0042 methodology.

This journey reflects Agreena's dedication to creating a replicable, transparent model for scaling soil carbon projects globally.

Calculating carbon: The Measure and Model approach

For the estimation of soil carbon, the VM0042 Methodology for Improved Agricultural Land Management outlines a "Measure and Model" approach that relies on a process-based model calibrated in accordance with the Verra VMD0053 Model Validation, Calibration, and Uncertainty Guidance, alongside soil sampling procedures.

These estimations account for both environmental conditions (such as local climate and soil characteristics) and management factors (including crop types and farming practices). To achieve this, a mathematical model that simulates the effects of these conditions and practices must be adjusted to local circumstances to accurately reflect changes in soil organic carbon (SOC) at the field level. This adjustment is accomplished through a process known as model calibration—a comprehensive procedure involving extensive data gathering, data preprocessing, uncertainty analysis, and submission of supporting documentation to external auditors.

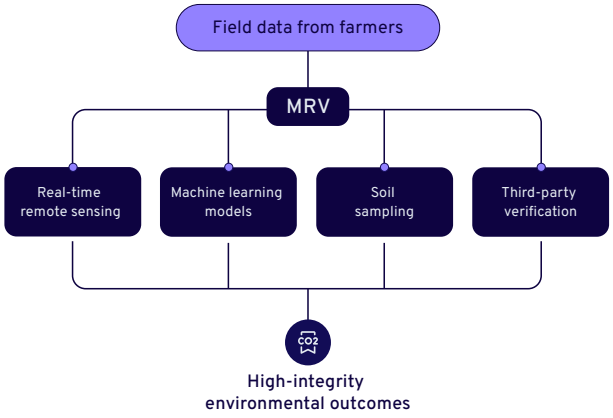
For the AgreenaCarbon project, the RothC model (Coleman et al., 1996) was adapted and thoroughly reviewed by an Independent Model Expert (IME) appointed by the validation and verification body (VVB) to evaluate its representativeness and conservatism within the project's geographic areas and conditions. The VVB and Verra then assess whether this approach is suitable for project validation and registration to issue credits.

Verified data: The backbone of credibility

Carbon finance depends on trust, and trust is built on data. Agreena's approach centres on digital monitoring, reporting, and verification (dMRV) systems that ensure every carbon credit reflects genuine and measurable climate benefits. The core platform capabilities are:

- **In-field analytics:** Soil carbon sampling and ground truth data collection to calibrate and validate model performance
- **Satellite monitoring:** High-resolution satellite imagery enables precise field-level analysis.
- **Data analytics:** Advanced machine learning models predict long-term outcomes based on historical and real-time data.
- **Blockchain integration:** Immutable ledger technology ensures the integrity of carbon credit transactions.

Pulling together data to generate verified environmental outcomes



This integration of advanced technologies firmly establishes Agreena as a leader in the carbon market, delivering high-quality credits validated through rigorous and transparent processes. By leveraging these innovations, Agreena ensures that programme data is not only accurate but also verifiable and trustworthy, providing unmatched credibility to its carbon credits.

Why data matters for corporates

Transparency: Verified data enables companies to confidently include credits in sustainability reports, meeting both regulatory and stakeholder expectations. Ensures that sustainability investments are measurable and defensible.

- **Accountability:** Aligns with global standards for emissions reporting and reduces risks of greenwashing. Continuous monitoring ensures the traceability and accuracy of reductions and removals.
- **Scalability:** Provides a reliable framework for expanding climate strategies across multiple regions, enabling corporates to integrate soil carbon solutions across broader operations.
- Agreena's data-driven approach not only strengthens market confidence but also fosters accountability, ensuring benefits reach both the climate and the farmers delivering ecosystem services.

The impact on corporates and farmers

Agreena's Verra-registered project demonstrates the value of connecting corporate climate goals with farmer-led sustainability initiatives.

For corporates:

- Verra-registered credits provide a cost-effective and credible mechanism to address Scope 3 emissions.
- Enhanced transparency helps companies comply with regulatory requirements while meeting growing expectations for measurable impact.
- Supporting regenerative agriculture strengthens corporate ESG narratives, linking climate action with biodiversity and community resilience.

For farmers:

- Financial incentives enable the adoption of practices that restore soil health and sequester carbon.
- Participation in the AgreenaCarbon Project provides access to funding for equipment, seeds, and other transition costs.
- Regenerative practices improve long-term productivity and resilience against climate change.
- This collaborative model reflects the potential of carbon finance to create shared value across sectors.

Next steps: From registration to issuance

With Verra registration complete, the AgreenaCarbon project will aim to verify Monitoring Reports to reflect the project activities on farms and how they have each been measured and verified. The Monitoring reports and VVB Verifrication auditing process is then assessed by Verra in order to achieve Issuance, which is anticipated in 2025. The main steps towards this include:

- **Verra Verification processes:** assessment of documentation that credits issued maintain the same level of transparency and integrity established through the registration process.
- **Successful completion of Verification: d**emonstrates that credits can be issued for the audited monitoring period.
- **Verra Registry Issuance Process:** Carbon credits are available in the AgreenaCarbon project and subsequently managed according the status of the credit (e.g. active, retired, cancelled)
- **Market preparation:** Expanding partnerships with corporate leaders and scaling pre-orders to meet demand.

The issuance of these credits will cement Agreena's role as a leader in agricultural carbon finance, offering corporates a reliable pathway to accelerate their sustainability goals.

Incorporated Insight: Agreena's readiness for issuance underscores its leadership in scaling high-integrity solutions in the voluntary carbon market.

Agreena insight

Agreena's readiness for issuance underscores its leadership in scaling high-integrity solutions in the voluntary carbon market.

Recent developments: Scaling regenerative agriculture for credible carbon credits

Agreena's recent initiatives have significantly advanced the adoption and impact of regenerative agriculture, positioning the organisation as a leader in delivering scalable, high-integrity climate solutions.

Expansion of farmland

With over 4.5 million hectares of farmland under management across 20 European countries, Agreena collaborates with more than 2,300 farmers. This significant expansion highlights the scalability of regenerative practices when supported by innovative financial models and robust technological infrastructure. By aligning financial incentives with measurable environmental outcomes, Agreena enables farmers to transition to sustainable practices while contributing to global climate goals.

Strategic partnerships

Agreena has forged partnerships with leading sustainability companies across sectors to accelerate teh adoption of regenerative farming. These strategic alliances reflect Agreena's role in bridging corporate climate commitments with actionable, verified solutions. For instance, collaboration with Ryanair exemplifies how corporate sustainability initiatives can align with nature-based solutions. Through the partnership, Ryanair integrates Agreena's verified carbon credits into its ESG strategy, demonstrating a tangible step towards achieving its decarbonisation goals while supporting European farmers in adopting climate-positive practices.

Why does soil carbon matter for climate change?

Carbon sinks are vitally important resources as we race to stop emitting greenhouse gases and reduce the concentration of these gases already in our atmosphere. We must restore, enhance and create more carbon sinks to reduce the concentration of atmospheric CO_2.

Yet human activity (mostly agriculture) is reducing the effectiveness of soil as a carbon sink. Changes in land use and land cover are now the second largest source of human-caused carbon emissions.

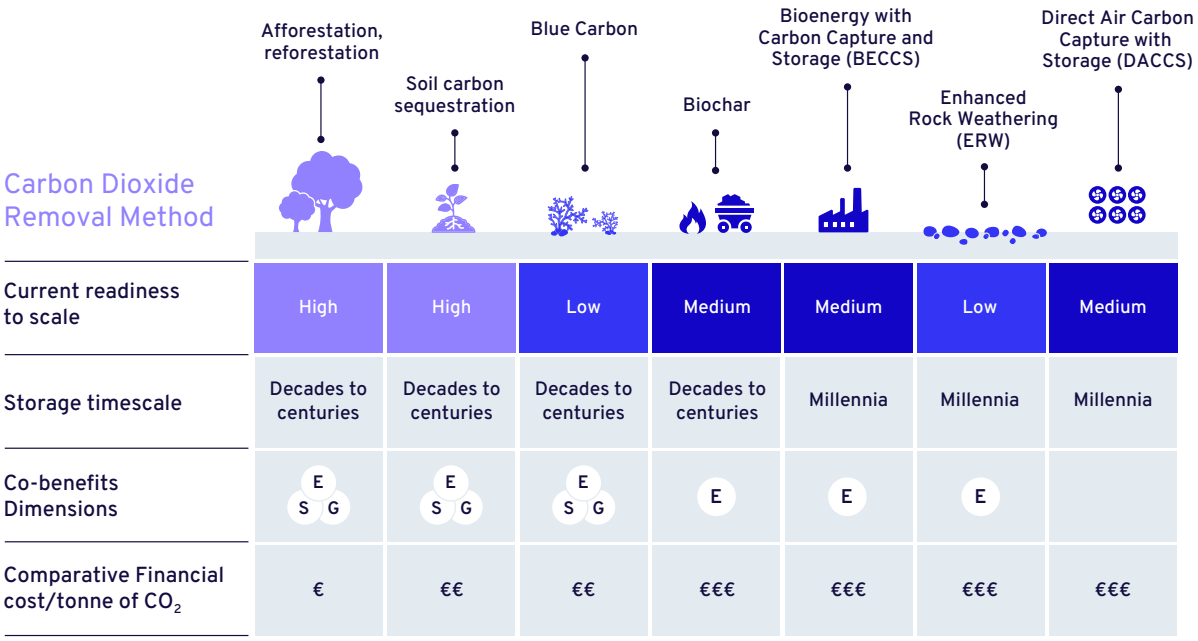
Conventional agricultural practices, such as intensive tilling and the burning of fields, have dramatically depleted soil carbon levels. Increased tillage reduces crop residue and fractures the soil, contributing to soil erosion and greater surface runoff. Moreover, since 38% of the world's land is used for agriculture, our soils are releasing more carbon than they store — an undesirable outcome for a world already warming due to excess CO_2 emissions.

Lower soil organic carbon (SOC) also has non-climate consequences. It impacts soil health and leads to increased dependence on chemical fertilisers and, in the long term, global food insecurity. Lower SOC concentrations also negatively affect local water quality, exacerbate erosion and make it harder for local ecosystems to thrive.

Could soil carbon become a key climate change solution?

Soil's potential for storing carbon is impressive. By 2050, soil could sustainably remove five gigatonnes of CO_2 yearly (roughly double the EU's total annual emissions)—provided we get the science right. By 2100, this number could grow to 130 gigatonnes a year.

The sixth IPCC Assessment Report states that 'nature-based solutions, including improving the management of working lands, such as farms, are among the top five most impactful strategies for *mitigating carbon emissions by 2030*.



Even in the most optimistic scenario of emissions reductions, we need at least 70 to 220 gigatonnes of cumulative carbon removals between now and 2050 to limit cumulative net emissions to achieve *Paris Agreement goals*. Our current annual carbon removal capacity is less than 1 gigatonne. To bridge the gap between our current capacity and our future needs, we need *carbon removals and reductions* that can have the necessary technological maturity to be commercially deployed at scale. Soil carbon sequestration is one of the few carbon removal methods that have evolved sufficiently to be rapidly scaled and applied in various scenarios across the globe. Regardless, it is critical that we press on with updating and improving our processes in this complex space as we strive to continue enhancing accuracy.

Nature-based carbon sequestration, including soil carbon, is one of the most cost-effective ways to *store carbon in the long term*. Soil carbon removal is available now, and can deliver climate impact at scale far earlier than engineered removal technologies, which are still in development. Soil carbon initiatives can also provide a sustainable source of income for farmers. We are now ready to decarbonise agriculture and plan for food security and ecosystem restoration in an increasingly warmer future through mobilising financing and technology.

The future of soil carbon finance

As the voluntary carbon market evolves, soil carbon finance is emerging as a cornerstone of global climate strategy. However, its true potential lies in its ability to go beyond carbon sequestration, addressing systemic issues like land degradation, agricultural resilience, and supply chain stability. Agreena's Verra-registered project serves as a scalable model for how these objectives can align with corporate climate leadership and tangible environmental impact.

Unlocking new opportunities for corporates

Soil carbon credits offer corporates a pathway to engage in nature-positive solutions that extend beyond offsetting emissions. By supporting projects like AgreenaCarbon, businesses can help scale regenerative practices that stabilise ecosystems and contribute to long-term food security. This ensures not only compliance with climate targets but also the creation of sustainable supply chains resilient to environmental shocks.

How can soil carbon help achieve ESG goals?

Soil carbon projects like Agreena's have serveral co-benefits, including:

Soil carbon

From the adoption of regenerative agriculture

Long-term economic benefits

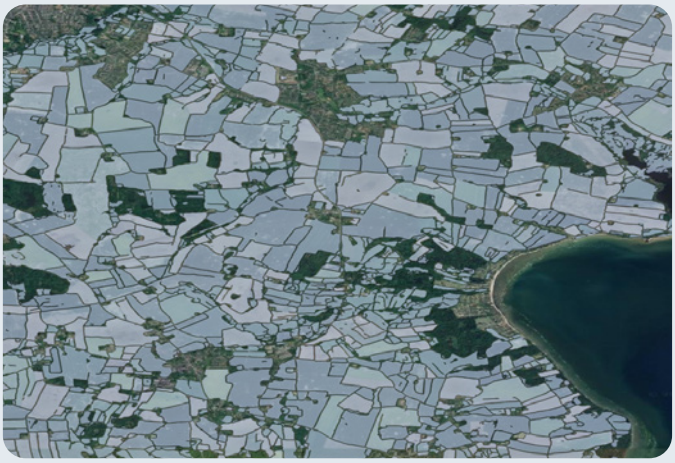
- Reduced fuel usage and labour
- Resilient rural communities
- Lower dependence on chemical fertilisers & pesticides

Long-term environmental benefits

- Increased biodiversity
- Nutrient-rich soils
- Higher water retention

Expanding the economic case for soil carbon

While the immediate benefit of soil carbon credits lies in their ability to offset emissions, their economic impact is far-reaching. Regenerative practices reduce dependency on synthetic inputs, enhance land productivity, and improve the financial viability of farming operations. For corporates, this creates an opportunity to invest in upstream solutions that secure agricultural raw materials while strengthening ESG credentials.



A blueprint for global scalability

Agreena's success demonstrates how advanced technologies and robust methodologies can unlock scalability in diverse agricultural contexts. By establishing a replicable framework, the project offers insights into how similar initiatives can be adapted to regions facing distinct challenges, such as arid zones prone to desertification or areas heavily reliant on monoculture.

Agreena's success demonstrates how advanced technologies and robust methodologies can unlock scalability in diverse agricultural contexts, offering a replicable framework for tackling global sustainability challenges

Looking ahead

The future of soil carbon finance will depend on continued innovation in verification standards, scaling project infrastructure, and fostering collaboration between corporates, farmers, and policymakers. Agreena's Verra registration is a critical step in proving the feasibility of these systems at scale. By building on this foundation, soil carbon finance can evolve into a transformative tool, aligning environmental priorities with economic growth and resilience.

Conclusion

Agreena's Verra registration represents a significant step forward in the fight against climate change. By combining rigorous methodologies with verified data, the AgreenaCarbon Project offers a scalable model for delivering credible carbon credits that benefit both corporations and farmers.

For corporate leaders, this milestone is more than an opportunity to invest in climate solutions, it is a chance to lead in building a sustainable future. Through partnership, innovation, and a commitment to transparency, Agreena is driving the transformation of agriculture into a cornerstone of global climate action.

Agreena
Growing the regenerative movement

Take Action:
Agreena, a trusted soil carbon credits company

Agreena prioritises a farmers-first approach to address the food and climate crisis by financing a seamless and secure transition to more climate-friendly practices:

- Runs Europe's largest soil carbon programme covering 2,300+ farmers and 4,500,000+ hectares.
- Uses robust MRV, remote sensing, soil sampling and machine learning technologies to deliver accurate data and verifiable outcomes.
- Can trace environmental outcomes to individual fields and farmers.
- Generates carbon emission reductions and removals in line with Verra VCS (VM0042) and ISO 14064.
- Works closely with leading corporations to decarbonise their value chains and create an impact beyond their value chains.

Transforming agriculture and restoring nature at scale

Get in touch with us at climatesolutions@agreena.com to learn more about Agreena's corporate sustainability solutions or visit agreena.com/carbon-credits