Gordian Knot Strategies

Trust Us To Unlock Your Impact

OUR TAKE:

THE ROLE OF PRO FORMA TOOLS IN SCALING CLIMATE-SMART AGRICULTURE

WHITE PAPER

FEBRUARY 2025

ACKNOWLEDGEMENTS

Publisher

This white paper was published by Gordian Knot Strategies.

Lead Author

Sean Penrith (CEO)

Disclaimer

The views and opinions expressed in this white paper are those of the author and do not constitute financial, legal, or investment advice. This content is intended for informational and educational purposes only. While every effort is made to ensure accuracy, Gordian Knot Strategies makes no warranty regarding the completeness or timeliness of the information presented. References to third-party sources, organizations, or individuals are for informational purposes only and do not imply endorsement.

Introduction

For markets to scale effectively, essential building blocks must be in place. Climate finance, in particular, must expand at an unprecedented rate to meet the urgent demands of mitigating and adapting to climate change.

According to the Climate Policy Initiative (CPI), annual climate finance flows reached nearly $1.3 trillion in 2021/2022[1], almost doubling compared to 2019/2020 levels. This surge was driven largely by an increase in mitigation finance, which grew by $439 billion during this period. However, despite this growth, current finance flows represent only 1% of global GDP, which is far below what is needed. To effectively combat climate change, annual climate finance must increase five-fold as quickly as possible, from $8.1 to $9 trillion per year through 2030, and then to over $10 trillion annually from 2031 to 2050. Without this scale-up, the world risks falling short of its climate goals, leading to severe economic and environmental consequences.

One sector within this larger financial puzzle is climate-smart agriculture (CSA), which is also often called regenerative agriculture or sustainable agriculture.

Agriculture is both a major contributor to climate change and a key part of the solution. The food and agriculture sector contributes nearly one-third of global greenhouse gas emissions[2], yet it remains one of the most underfunded areas of climate finance. Current investment in agrifood systems represents only 4% of global climate finance[3], with merely a fifth of that funding reaching smallholder farmers. These figures stamp the need for new financial mechanisms to channel capital into CSA at the scale required to drive real transformation.

Scaling finance for CSA requires multiple solutions, including policy reforms, blended finance, risk-sharing mechanisms, and increased transparency in financial modeling. No single tool will solve the challenge of scaling climate finance for CSA, but **one essential mechanism that must be employed is the use of pro forma financial tools.**

Pro Forma Tools

Pro forma financial statements[4], for example, are forward-looking documents that project future income, expenses, and cash flows based on hypothetical scenarios or assumptions. The term pro forma originates from Latin, meaning "for the sake of form" or "as a matter of form."

Unlike traditional financial statements that reflect past performance, pro forma statements help stakeholders – including investors, lenders, and policymakers – assess potential financial outcomes, model risk scenarios, and make informed decisions. These tools have been widely used in other industries, such as renewable energy, real estate, and conventional agriculture, to de-risk investments, standardize financial models, and enhance investor confidence. By adapting pro forma tools to CSA, we can bridge the knowledge gap between financiers and farmers, clarify investment risks, and unlock capital for sustainable agricultural practices.

[1] https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2023/

[2] https://www.fao.org/family-farming/detail/en/c/1379538/

[3] https://www.worldbank.org/en/topic/climate-smart-agriculture

[4] https://www.investopedia.com/terms/p/proforma.asp

This paper explores how pro forma tools have been successfully used in other industries and how customized pro forma models can help scale climate finance for agriculture.

Pro Forma Tools in Other Sectors

Other sectors have successfully used pro forma tools to scale, standardize investment decisions, and reduce risk, making it easier for capital to flow. By examining these industries, we see that financial modeling can help in proving the viability of emerging markets. The success of renewable energy and commodity markets in developing standardized financial projections serves as a model for CSA. The challenge is not creating new financial methodologies from scratch but rather borrowing and adapting proven approaches to scale CSA and regenerative agriculture.

Renewable Energy Industry

The renewable energy industry provides a clear example of how pro forma tools have helped de-risk investment and establish financial viability. In the early stages of solar and wind energy development, these projects were seen as too risky, too costly, and lacking predictable revenue streams. Investors were reluctant to commit capital because there was no standardized financial data on installation costs, maintenance expenses, or long-term revenue potential. However, as the industry matured, pro forma modeling became a key tool for structuring investments.

One of the major breakthroughs in renewable energy finance was the development of Power Purchase Agreements (PPAs)[5]. PPAs created predictable, long-term revenue streams, which allowed pro forma statements to more accurately model future cash flows. Additionally, as more projects were deployed, standardized data emerged on equipment costs, labor expenses, and efficiency improvements, making it easier for investors to assess new projects. Today, any renewable energy developer can access widely available pro forma models that estimate costs, expected energy production, and projected revenues – essentially creating a blueprint for scaling investment in the industry.

Commodity Markets

The commodity markets[6] – especially in crops like corn, soybeans, and wheat – have long relied on standardized financial projections and pro forma models to guide investment. When a farmer or agribusiness wants to expand production, they can access case studies, historical yield data, and well-established financial templates to assess expected revenues and costs before making investment decisions. Agricultural lenders and financial institutions have developed pro forma models specific to commodity crops, allowing them to evaluate risks associated with weather patterns, soil conditions, and fluctuating market prices.

The Challenge in Climate-Smart Agriculture

While pro forma tools have been used in other industries to standardize financial decision-making and unlock capital, CSA continues to struggle to attract large-scale investment. Despite its potential to enhance climate resilience, improve soil health, and create long-term economic benefits for farmers, CSA remains underfunded and misunderstood by many financiers.

[5] https://ppp.worldbank.org/public-private-partnership/sector/energy/energy-power-agreements/power-purchase-agreements

[6] https://www.pimco.com/us/en/resources/education/understanding-commodities

Two major barriers contribute to this challenge.

First, financial institutions and investors are uncertain about the investability of CSA because they lack standardized data and financial models that prove its long-term viability. Unlike renewable energy or commodity agriculture, where costs, returns, and risks are well-documented, CSA often presents variable and context-specific financial outcomes that make it difficult for investors to assess risk.

Second, many farmers lack trust in financial projections related to CSA, making them hesitant to adopt these practices. Without clear, localized financial models that reflect real-world conditions, farmers often see CSA investments as too risky, too expensive, or too slow to yield returns.

Financiers' Uncertainty About Investability

One of the biggest hurdles in scaling CSA is that financial institutions struggle to assess its profitability and risk. In other well-established industries, investors rely on standardized financial models that provide clear projections of revenue, costs, and returns. In contrast, CSA lacks historical financial data, standardized cost structures, and universally accepted financial projections which makes it difficult for investors to quantify expected returns.

A key reason for this challenge is that CSA generates long-term benefits that do not always fit into conventional investment timeframes. Many CSA practices, such as regenerative farming, agroforestry, and conservation agriculture, improve soil health, water retention, and biodiversity over several years rather than producing immediate financial gains. Traditional lending and investment models often prioritize short-term returns, making it harder for CSA projects to secure funding. Additionally, CSA investments frequently involve multiple revenue streams[7], such as carbon credits, ecosystem service payments, and yield improvements, which lack standardized pricing mechanisms and financial reporting frameworks. This further discourages financial institutions from investing in CSA at scale.

Beyond return uncertainty, investors also face difficulty in assessing risk in CSA projects. While traditional farming has well-documented risks related to weather patterns, crop yields, and market prices, CSA involves additional variables, such as changes in soil organic carbon, biodiversity benefits, and climate adaptation measures, that are not yet fully integrated into existing financial models. Without widely accepted, standardized pro forma templates for CSA, financiers continue to perceive these investments as high-risk and unpredictable which results in limited capital flow into the sector.

Farmers' Lack of Understanding and Trust in Financial Projections

While investors struggle with financial uncertainty, farmers face a different but equally important challenge – a lack of trust and familiarity with CSA financial projections. Many farmers, particularly smallholders, view CSA as a risky shift away from conventional practices that have supported their livelihoods for generations[8]. Even when financial models project long-term profitability, farmers often hesitate to adopt CSA practices.

[7] https://www.tcafwb.org/sites/default/files/2021-07/TCAF_CSA%20Blueprint_FINAL_April%204%202021.pdf

[8] https://www.mdpi.com/2071-1050/16/21/9525

One reason for this distrust is that many existing financial projections for CSA are complex, generalized, or developed by institutions that do not directly engage with farmers. Unlike traditional agriculture, where financial projections are based on widely available commodity data, input costs, and historical yield patterns, CSA financial models often rely on assumptions that vary depending on local soil conditions, climate patterns, and policy incentives. This variability makes farmers skeptical of one-size-fits-all financial forecasts that do not reflect their specific conditions.

Additionally, many farmers have limited access to financial literacy programs and decision-making tools that explain the economic implications of CSA adoption. Even when provided with financial models, they may lack the training to interpret key financial indicators such as return on investment (ROI), payback periods, and projected cash flows. Without clear and localized pro forma tools that break down initial costs, expected returns, and risk mitigation strategies, CSA adoption remains slow, even when financial benefits exist.

Applying Pro Forma to Climate Finance

In order for pro forma tools to unlock climate finance, a few challenges need to be addressed.

Demonstrating Investability

Pro forma tools could help demonstrate the investability of CSA by modeling projected yield increases resulting from climate-resilient techniques. Many sustainable practices lead to cost savings through efficient resource use, such as reduced fertilizer application, improved water management, and lower input dependency. Pro forma models could quantify these savings and thus provide concrete financial justification for adoption. Additionally, CSA offers opportunities for additional revenue streams through carbon credit markets and payments for ecosystem services, which pro forma tools could integrate into financial projections to demonstrate profitability.

Building Trust with Farmers

For farmers, transparent and user-friendly pro forma statements could outline initial investment costs and realistic timelines for returns on CSA investments. By simulating cash flows under various climate scenarios, financial models could help farmers prepare for potential challenges and mitigate risks. Comparative financial projections between conventional and climate-smart practices could further illustrate the long-term financial advantages of sustainability, making CSA more compelling for adoption. By providing clear, scenario-based financial forecasts, pro forma tools could shift CSA from a perceived financial risk to a viable and profitable investment.

De-Risking Investments

Beyond proving profitability, pro forma models could also serve as de-risking tools for investors. By quantifying potential financial returns and identifying associated risks, these tools would allow investors to structure financing mechanisms that accommodate CSA's unique economic profile. Blended finance models – combining public and private capital – could be facilitated through clear financial projections, reducing the risk exposure of individual investors. Additionally, weather-indexed insurance products could be developed using pro forma financial projections that incorporate climate variability, further protecting investments and ensuring financial stability for CSA projects.

Implementation Strategies

To effectively integrate pro forma tools into climate finance for CSA, several key implementation strategies are essential.

Standardizing Pro Forma Templates for CSA

Developing standardized pro forma templates tailored to CSA projects is crucial for providing both investors and farmers with clear financial benchmarks. These templates should incorporate industry-specific variables, market trends, and financial projections to accurately reflect the unique aspects of CSA initiatives. For instance, resources like the pro forma financial statements provided by Purdue University's Center for Commercial Agriculture[9] offer frameworks that can be adapted to CSA contexts, assisting stakeholders in forecasting future income, expenses, and cash flows.

Improving Data Collection for Accurate Forecasting

Accurate and comprehensive data collection is fundamental to the reliability of financial projections in CSA projects. Enhanced data efforts should focus on gathering localized information on soil health, climate patterns, crop yields, and market prices. The World Bank emphasizes that operationalizing CSA relies on the ability to measure production, resilience, and emissions effectively, which necessitates robust data collection systems[10].

Building Capacity Among Farmers and Financial Institutions

Empowering both farmers and financial institutions with the knowledge and tools to utilize pro forma statements is vital for the successful adoption of CSA practices. Capacity-building initiatives should include training programs that enhance financial literacy, enabling stakeholders to interpret key financial indicators such as ROI, payback periods, and projected cash flows. The World Bank's investments in climate-smart agriculture[11] highlight the importance of turning analytics into action through financing and advisory services, which support stakeholders in implementing sustainable practices.

Encouraging Public-Private Partnerships to Scale Investment

Leveraging public-private partnerships (PPPs) can effectively share risks and attract diverse capital sources, thereby scaling investments in CSA. PPPs provide platforms for mobilizing both public and private resources to support sustainable agriculture initiatives. For example, the U.S. Department of Agriculture (USDA) has invested $3.1 billion in 141 selected projects under the Partnerships for Climate-Smart Commodities, aiming to promote climate-smart farming practices through collaborative efforts[12].

---

[9] https://ag.purdue.edu/commercialag/home/resource/2019/05/pro-forma-financial-statements/

[10] https://documents1.worldbank.org/curated/ar/187151469504088937/pdf/105162-WP-P132359-PUBLIC-CSAIndicatorsReportweb.pdf

[11] https://www.worldbank.org/en/results/2024/12/05/climate-smart-agriculture-from-knowledge-to-implementation

[12] https://www.usda.gov/about-usda/general-information/priorities/climate-solutions/climate-smart-commodities/partnerships-climate-smart-commodities-project-summaries

By implementing these strategies, stakeholders can enhance the financial viability of CSA projects or practices and make them more attractive to investors and more accessible to farmers.

Conclusion

The transition to climate-smart agriculture is not just an environmental imperative – **it is an economic opportunity.** Pro forma financial tools have played a key role in scaling investments in other industries, and now is the time to adapt and apply them to CSA to unlock the capital needed for sustainable agricultural transformation.

Investors, policymakers, and agribusiness leaders must work together to develop standardized financial models, improve data transparency, and support farmers in understanding the economic value of CSA. With the right financial tools in place, we can de-risk investments, increase adoption, and create a resilient agricultural system that benefits both people and the planet.

If you are interested in discussing this topic in more detail or exploring how pro forma tools can help scale CSA (or other nascent climate markets), we happy to connect! We welcome the opportunity to collaborate and advance solutions that drive climate finance.

ABOUT

Gordian Knot Strategies is an expert climate finance consultancy firm. Drawing on two decades of experience, our clients rely on us to devise high impact solutions that are innovative and implementable.

Over 80% of the impact investors, corporations, and developers that we serve are repeat clients. They trust us to provide clarity as they mobilize and deploy capital in a complex and rapidly evolving market.

With our proprietary frameworks and deep industry knowledge, our clients are equipped to unlock and optimize environmental impact and returns. Trust us to unlock your impact!

CONTACT

Reach out to see how we can help you unlock your impact:
communications@gordianknotstrategies.com