



AG CARBON
SOLUTIONS, LLC

Mitigating Climate Change with 21st Century Agriculture

Ag Carbon Solutions LLC

Orlando, Florida

Business Plan



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INTRODUCTION

In the face of escalating global climate challenges, Ag Carbon Solutions LLC stands at the forefront of innovative environmental solutions, integrating advanced renewable energy technologies with sustainable agricultural practices. Located in Orlando, Florida, this company has embarked on a transformative journey to revolutionize how agricultural residuals are utilized, turning them into valuable resources that not only mitigate environmental impact but also drive economic growth.

This project represents a strategic expansion of Ag Carbon Solutions LLC's current operations, aimed at scaling up our capabilities to meet the increasing demand for clean energy and sustainable agricultural products. With an established foundation in carbon sequestration and renewable energy production, we are poised to broaden our impact through the acquisition of new technologies and the development of infrastructures, such as fast electric vehicle (EV) chargers, hydrogen production facilities, and advanced solar power generation systems.

The purpose of this project is twofold: to significantly enhance our operational efficiency and to create multiple, reliable revenue streams that will ensure our long-term sustainability and profitability. This initiative is not just a business expansion—it is a step towards building a resilient, sustainable future that aligns with global efforts to combat climate change while supporting local economies and agriculture.

Ag Carbon Solutions LLC aims to leverage our innovative practices in order to bring the business to new heights—purchasing essential equipment, expanding our facilities, and entering new markets. This business plan outlines our strategic approach to using this investment to generate substantial environmental benefits and robust economic returns, ensuring the success and sustainability of the project.



1. EXECUTIVE SUMMARY

Ag Carbon Solutions LLC, positioned in Orlando, Florida, is ready to expand its groundbreaking initiatives in sustainable agriculture and energy production. This expansion includes advanced renewable energy technologies and innovative carbon sequestration methods that not only combat climate change but also enhance agricultural practices and generate prolific revenue streams. The requested funding will facilitate the acquisition of critical equipment, development of infrastructure, and expansion of our revenue base through environmentally focused technologies and services.

The primary objective of this business plan is to outline Ag Carbon Solutions LLC's operational capabilities and technological infrastructure as well as future plans for expansions in these critical sectors. As the following pages will show you in more detail, the current short-term plans for excess capital is to invest in a series of infrastructural enhancements essential for the expansion of the company's innovative environmental solutions. Our revenue will fund the purchase of critical equipment necessary for scaling operations and extending service offerings. This equipment includes fast EV chargers, a NEL Proton PEM Hydrogen Electrolyser for hydrogen production, AirBurners PG 100 Firebox for contained power generation, and advanced solar power generation units. Additionally, the company plans to use a Three-Phase 480v Electrical System and Three-Phase Electricity Meter with Net Metering Credit to enhance energy efficiency and management. This 3-Phase Power setup is already in place on site.

Beyond these short-term goals, we seek to deploy the MEG™/AFC Mobile Energy Grid™ for integrated hydrogen and electric power delivery, and the Van Der Hoeven HAcO-System Greenhouse, which aligns with our sustainability goals. These technologies are crucial for developing Vehicle to Load (V2L) systems, which utilize electric vehicles as temporary energy storage units, further optimizing our renewable energy use.

Moreover, the continued stockpiling of organic materials to create carbon offsets and the leveraging of these stockpiled materials for power generation to significantly reduce the carbon footprint of the agricultural and cattle industries will be an important final stage in the process of our company. This approach not only supports the creation of new agricultural land and promotes the cattle industry but also allows for the generation of carbon offsets and carbon tax credits. These efforts are designed to advance the project sustainably and profitably, without reliance on government subsidies, thereby ensuring a self-sustaining revenue model that supports extensive agricultural and environmental benefits.



Market Opportunity

Ag Carbon Solutions LLC operates in a rapidly growing market fueled by increasing environmental awareness and the global shift towards sustainability. The company's patented methodologies are innovative solutions which address critical needs in waste management, renewable energy, and carbon footprint reduction. With proven technologies and a scalable business model, Ag Carbon Solutions LLC is well-positioned to capitalize on opportunities within the agricultural sector, renewable energy markets, and eco-conscious consumer segments.

Financial Projections and Strategic Goals

Financial projections indicate robust growth and profitability driven by diversified revenue streams, including energy production, carbon credits, and consulting services. Strategic goals focus on enhancing operational efficiencies, expanding into new markets, and continuously innovating product offerings to stay ahead of technological advancements and market demands.

Conclusion

With a strong operational foundation and a clear strategic direction, the company is poised to deliver significant environmental and economic benefits. This business plan outlines a detailed roadmap for utilizing future revenues to achieve substantial growth, drive innovation, and contribute positively to global sustainability efforts.



2. COMPANY OVERVIEW

Ag Carbon Solutions LLC (ACS) is an innovative leader in the environmental sector, dedicated to transforming agricultural and organic waste into valuable renewable energy resources. Since its inception, the company has focused on developing and implementing sustainable practices that effectively address critical environmental issues such as carbon emissions and waste management. As a pioneer in carbon sequestration and renewable energy solutions, Ag Carbon Solutions LLC is committed to expanding its reach and impact through strategic advancements in technology and infrastructure.

- **Mission statement:** The mission of Ag Carbon Solutions LLC is to lead the transition towards a sustainable future by implementing innovative agricultural and energy solutions that reduce carbon footprints, enhance ecosystem health, and contribute positively to global climate change mitigation. The company strives to achieve these goals through responsible stewardship of natural resources, pioneering renewable energy technologies, and upholding the highest standards of environmental integrity and business ethics.
- **Markets and services:** Ag Carbon Solutions LLC serves a diverse market, including the agricultural sector, renewable energy markets, and environmentally conscious corporations and consumers. The company's services encompass a wide range of sustainable practices:
 - **Renewable Energy Production:** Utilizing patented technologies to generate energy from biomass, including the installation of solar power systems and hydrogen fuel production facilities.
 - **Carbon Management:** Developing carbon offset projects through innovative sequestration techniques, helping businesses and individuals achieve their carbon neutrality goals.
 - **Waste Transformation:** Converting agricultural and forestry residues into valuable commodities, thereby reducing landfill use and promoting recycling and reuse.
 - **Consultancy and Training:** Providing expertise in environmental management and sustainable practices to other organizations looking to reduce their environmental impact.



- **Operational structure:** Ag Carbon Solutions LLC operates under a structured, yet flexible operational framework designed to maximize efficiency and adaptability. The organizational structure includes:
 - **James Meade, CEO:** Manages overall corporate strategy, leadership, and vision, while also driving technological innovation and company growth.
 - **Jennifer Meade, CTO:** Directs the development and strategic integration of technology, ensuring it supports the company's goals.
 - **Ivetic, Logistics Coordinator:** Orchestrates the efficient flow of goods and materials, from procurement to distribution, while optimizing inventory management.
 - **Jack Smith, Environmental Engineer:** Designs systems for the benefit of the environment, ensures compliance with environmental regulations, and promotes sustainable practices.
 - **Bill Osborne, Legal Counsel:** Manages all legal matters, ensures compliance with laws and regulations, and provides strategic legal guidance to support the company's objectives.
- **Financial goals:** Ag Carbon Solutions LLC is committed to achieving sustainable financial growth through the following objectives:
 - **Profitability:** Generate stable and growing profits by diversifying revenue streams across various services and markets, ensuring a strong financial base for future expansion.
 - **Return on Investment:** Deliver competitive returns to stakeholders through efficient operational practices and strategic capital investments.
 - **Market Expansion:** Leverage existing technologies and develop new solutions to increase market share in the renewable energy and environmental sectors both domestically and internationally.
 - **Debt Management:** Maintain a healthy balance sheet with manageable levels of debt, focusing on using leverage strategically to fuel growth while ensuring robust cash flow management to meet financial obligations.



3. BUSINESS AND BACKGROUND

Ag Carbon Solutions LLC commits to a profitable, ecological, and sustainable operational model through the following strategic objectives:

1. **Resource Transformation:** Utilizing a patented methodology (U.S. Patent # 11,511,325) we convert woody biomass into a sustainable, clean agricultural energy resource. This innovative process not only supports clean energy production but also leverages agricultural waste beneficially.
2. **Energy Production:** Our operations focus on creating and utilizing an agricultural-based energy source to generate power, aiming to replace fossil fuels across various business operations and promote a transition to sustainable energy.
3. **Resource Management:** We maintain large reserves of woody biomass, ensuring a consistent supply for sustainable renewable energy production, thus supporting ongoing energy needs and environmental sustainability.
4. **Agritourism Integration:** By implementing the concept of Agritourism, as defined in Florida statutes, we aim to enhance agricultural commerce and support a clean energy framework, contributing significantly to regional and national sustainability goals.

The community benefits from these initiatives are substantial and multifaceted:

1. **Innovative Business Model:** We are establishing a pivotal agricultural energy resource that serves as a new model for clean energy businesses.
2. **Environmental Conservation:** Our operations contribute to preserving landfill space by advocating for legislation that mandates the use of clean burning and agriculturally produced materials for consumer packaging, moving towards the elimination of landfill use altogether.
3. **Job Creation:** We are creating employment opportunities within the agricultural and clean energy sectors, fostering economic growth and skill development in these important areas.
4. **Greenhouse Gas Reduction:** Our clean energy production methods are designed to significantly reduce the release of greenhouse gasses, aligning with global efforts to mitigate climate change impacts.
5. **Reduced Fossil Fuel Dependence:** Through our sustainable practices, we are dramatically lessening the reliance on fossil fuels, thereby improving environmental quality and public health.



At Ag Carbon Solutions, located in Central Florida, we redefine the perception and utility of clean wood and vegetative materials. Traditionally labeled as waste, these resources account for 20-30% of global waste materials as reported by the World Bank and the U.S. Environmental Protection Agency. When repurposed with a meaningful end-use, these materials transcend their "waste" label and contribute to a sustainable environment by reducing landfill reliance.

Our innovative approach involves the patented methodology (U.S. Patent # 11,511,325) for carbon sequestration under license from Ag Carbon Farms. This process not only mitigates the need for landfill space but is also a cornerstone of the 10X Climate Change Solution, significantly reducing environmental impact.

Currently, the conventional methods for managing these materials include chipping and grinding processes that, despite being recognized as Best Management Practices, are not sustainable as they require fossil fuels and contribute substantially to carbon emissions. Moreover, the traditional method of open burning, which has been the simplest and cheapest solution, is highly problematic. This method is a major producer of "Black Carbon" and CO₂, which are leading contributors to global climate change, responsible for more than 35% of Black Carbon emissions worldwide.

By implementing our patented Agricultural Production System and Methodology (APS), we effectively use these organic, biodegradable materials to capture and sequester significant amounts of carbon and nitrates. This process not only creates new grazing pasture lands and fertile soils for crops but also positions Ag Carbon Solutions at the forefront of ecological innovation, transforming environmental challenges into agricultural opportunities.



Above: Cattle grazing on restored pasture planted over Carbon Capture site on Lake Pickett Road, Orlando, Florida

Advancing Florida's Agricultural and Energy Sectors



Under the guidance of the Florida Energy and Climate Protection Act (FS 377.801), the State of Florida has implemented several key procedures and processes to support the growth of the sustainable biogenic agricultural-based fuels and products industry. This initiative has been designed to drive economic growth and job creation within Florida's agricultural and energy sectors, which are poised for expansion due to current local and global economic conditions.

The successful development of these sectors is evident in various parts of the country, where similar initiatives have taken root. The implementation of ACS's planned Renewable Energy project aligns with these efforts and is set to further enhance the economic prospects for Florida's citizens and businesses while meeting government mandates.

Florida's robust agricultural productivity, supported by a long growing season particularly in its southern and central regions, offers many opportunities for expansion and economic advancement. The completion of new plant genetic research and ongoing studies conducted by state universities provide a timely and advantageous backdrop for leveraging these innovations to significantly impact Florida's economy.

Overview of Florida's Forestry Resources and Industry Contributions

Florida boasts a wealth of forest resources, which are predominantly under private ownership. As of 2007, forests spanned 49% of the state, totaling 16.9 million acres. Of this, 94% or 15.9 million acres have been designated as timberland available for timber production, with the remaining areas set aside for conservation (such as parks and preserves) or deemed unproductive. Among the timberland, softwood forest types account for 46%, hardwoods for 51%, and non-stocked areas the remaining 3%. The predominant forest type is longleaf-slash pine, covering 35% or 5.6 million acres of timberland, followed by oak-gum-cypress at 19% or nearly 3.1 million acres.

Ownership of these forest lands is varied, with non-industrial private forest (NIPF) owners holding 63% or 10.1 million acres. Public entities own 28% or about 4.5 million acres, and the forest products industry owns 9% or 1.4 million acres. NIPF lands have been divided evenly between family-owned forests at 4.8 million acres and corporate-owned forests at 5.0 million acres, with corporate holdings primarily managed by Timber Investment Management Organizations (TIMOs) and Real Estate Investments Trusts (REITs).

- o Florida boasts a robust forestry and forest products industry, which significantly contributes to the state's economy. The state is home to seventy-seven sawmills, pulpwood mills, and other primary wood-processing plants. Annually, these industries consume approximately twenty million green tons of merchantable timber. Over the past six decades, timber production in Florida has surged, more than doubling from 218 million cubic feet in 1948 to 491 million cubic feet in 2007. The main products of this industry include pulpwood, saw logs, veneer logs, composite boards, posts, pilings, and, more recently, wood pellets.

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- o The forestry and forest products sectors are vital economic drivers in rural counties in northern Florida, where they contribute significantly to local economies. In terms of revenue generation, forestry and its related activities rank as the largest among the state's agricultural industries, while their total economic impact is second only to environmental horticulture among Florida's top seven agricultural sectors.
- o The forestry, wood, and paper products industry significantly bolster Florida's economy, generating an annual economic impact of \$16.7 billion and providing employment for 89,000 individuals. Central Florida stands out from other regions in the state due to its predominance of oak species in urban wood residuals.
- o Ag Carbon Solutions LLC benefits from a reliable source of biogenic, woody agricultural materials, setting it apart from other facilities. In fact, there are no comparable facilities either within Florida or nationwide that offer the same range of services and products. Additionally, the facility stocks structural fill dirt, topsoil, and potting soil, products for which there is robust demand across the road building, construction, landscaping, agriculture, and horticulture industries.

4. THE PROJECT



Current Facilities

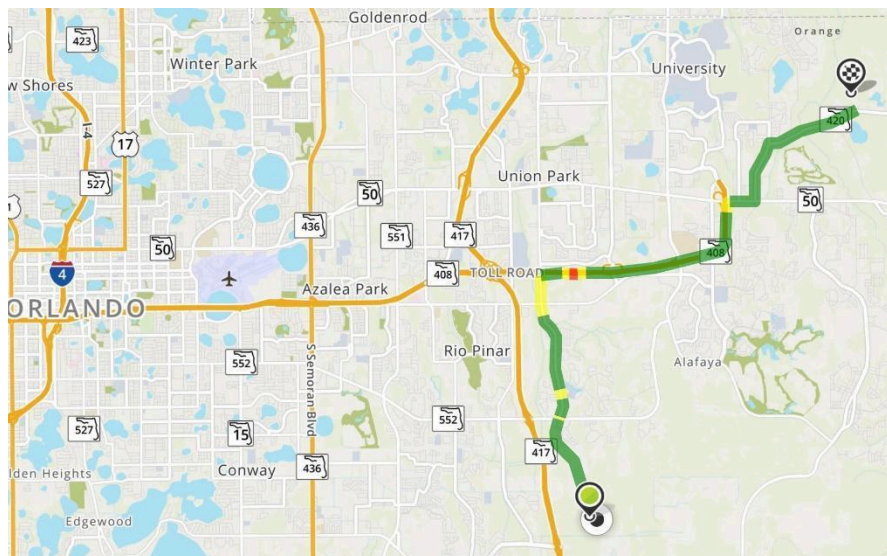


Above – Site 1 – 5361 Young Pine Road, Orlando, Florida, 32829
Below – Site 2 – 15841 Lake Pickett Road, Orlando, Florida, 32820

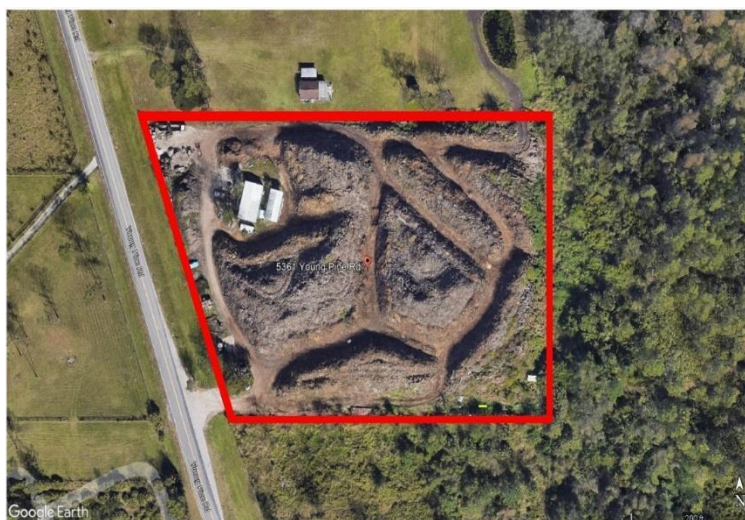


The Project has two locations. The first site is located on Young Pine Road, in the Designated Energy Corridor of unincorporated Orange County, Florida, just outside of the City of Orlando, Florida. The second site is located at 15841 Lake Pickett Road in Orange County, Florida.

The map below depicts these two locations in relation to one another:



On March 15th, 2024, Orange County Environmental Protection Division announced its intent to issue an Air Permit to Ag Carbon Solutions LLC (Project No. 0951411-001-AC).



Plot Plan
AG Carbon Solutions, LLC
5361 Young Pine Rd
Orlando, FL 32829



The Air Curtain Incinerator (ACI) unit will be placed in the southeast sector near the 4-Phase Power Box that is already installed and fully functional.

The site plan will adhere to rules established under and pursuant to Florida Statute Chapter 877.801, as outlined in the Florida Energy and Climate Protection Act.

Alternate Energy Source & Rapid-Charge System



Facility 1 Location: Young Pine Road

This facility can generate 100 kilowatts of sustainable and innovative electric power from biomass waste to quickly supply hydrogen and provide both scheduled and emergency power directly to electric vehicles or the electric grid.

Components:

- Three-Phase 480v Electrical System
- Three-Phase Electricity Meter Net Metering Credit
- AirBurners PG 100 Firebox Contained Power Generation
- NEL Proton PEM Hydrogen Electrolyser
- MEG™/AFC Mobile Energy Grid™ Hydrogen & Electric Power Delivery
- Ven Der Hoeven HAcO-System Green House



The Process:

1. Excess Biomass is diverted from the Orange County Landfill.
2. Landscape, Agricultural, Silvicultural & Urban Wood Residuals are repurposed as Fuel.
3. Wood Residuals are safely burned as Fuel in an AirBurner PG 100 Firebox Contained Burn System.
4. With a Net Metering Credit benefit, Hydrogen & Oxygen are produced onsite through Electrolysis with an NEL C10 Hydrogen Generator.
5. Hydrogen is compressed & stored onboard a Mobile Energy Grid™, or MEG™, our custom 4WD vehicle.
6. Each MEG™ vehicle, equipped with an Onboard Rapid Charge Battery, a 70kw Hydraulic Generator, & a Fuel Cell System, will Fast-Charge Class-8 Trucks as well as multiple electric vehicles. It will also provide Hydrogen & Electric Power, even in remote and off-road locations.
7. State-of-the-art Green Houses produce medicinal horticultural products.
8. Carbon offsets are created and provided.
9. Carbon soils, mulches & biochar are produced for farms to sequester carbon and generate additional revenue.

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- The proposed facility's layout will incorporate the AirBurners PG Firebox, giving the site the capability of generating power to generate its own electricity, and to provide any excess power generated to the local grid.

The current operation at Ag Carbon Solutions LLC maintains an inventory of approximately 40,000 tons of woody biomass and has adequate land for both the existing and a planned sister facility. Currently, the facility receives about 10,000 tons of biomass annually, but with the initiation of the proposed project, this inflow is expected to surge to 75,000 tons annually within three years. The facility charges \$20 per ton (\$5 per cubic yard) for each ton or cubic yard of biomass delivered, a rate anticipated to hold steady for the next seven years.

Approximately 20% of the biomass received will be utilized using an air curtain burner, producing biochar—a valuable agricultural and horticultural product priced at \$25 per cubic yard. Although biochar sales do not constitute a major revenue stream, they support the facility's goals to minimize waste, create valuable products, and efficiently manage space for more profitable inventory.

The remaining 80% of the biomass is of high enough quality to be turned into firewood, which is then sold in both retail and wholesale markets. It is projected that 40% of this firewood will be sold through retail channels with the remaining 60% sold wholesale.

Additionally, structural fill dirt is excavated from the site, which is leased specifically for this purpose, and sold to various markets. This operation not only generates additional revenue but also contributes to the facility's overall productivity and environmental sustainability goals.



Above: Shredded Wood at the Young Pine Road Site



Operational History

Ag Carbon Solutions has a longstanding record of securing 10,000 tons of residual woody biomass annually. Recent storms have increased the availability of wood residuals, which can be redirected to this facility, supporting the project's potential for expansion. There is ample demand across relevant sectors to justify and sustain the growth of this initiative.

The facility currently generates revenue by charging a Stacking and Unloading fee of \$20 per ton, or \$5.00 per cubic yard. Additionally, soil and soil amendments are sold for \$10 per cubic yard, while firewood is marketed at \$25 per cubic yard. These revenue streams are integral to the facility's ongoing financial health and support its operational expansion.

Carbon Capture Tax Credits

$$(1) \frac{0.457^a (\text{Carbon content by dry mass}) * 640 \text{ lbs}^b (\text{per cubic yard of mixed yard waste})}{2200 \text{ lbs (pounds in a metric ton)}} *$$
$$(2) 3.67 (\text{Carbon Dioxide conversion factor}) = 0.49 \text{ metric tons of CO}_2 \text{ per cubic yard}$$

The formula shown above is used to calculate volumes for Carbon Capture Tax Credit generation. Ag Carbon Solutions LLC has retained the services of the law firm of Greenberg Traurig PA for its expertise in Environmental Law as it pertains to these tax credits.

Current Equipment Owned and Leased by the Facility

- A 2004 JCB 220 excavator with thumb,
- a 2016 Komatsu PC 360 excavator with thumb,
- a Volvo Loader, model L150,
- Komatsu 270 loader with forks,
- AMS Rental 290 excavator,
- and a 2005 Ford F-350 Flatbed truck.

Project Management



James M. Meade II, inventor of the patented Agricultural Production System and Method, serves as the Managing Partner and Chief Executive Officer at Ag Carbon Solutions LLC. In this role, he spearheads the development and expansion of agricultural fuel and woody biomass energy markets. A staunch advocate for renewable energy and sustainable practices, Mr. Meade is an active member of the Florida Alliance for Renewable Energy. Mr. Meade has over twenty years of experience as an entrepreneur in the areas of business development and real estate ventures. He manages and directs daily operations at both the Young Pine Road facility and the Lake Pickett Road facility. He is a lifelong resident of Orlando, Florida, and he has a background in engineering and chemistry from the University of Florida.



APPENDICES

Appendix A

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Technology & Process Monitoring	

Appendix B

- #1 – White Paper – Carbon Sequestration via Wood Burial, by Ning Zeng PhD - University of Maryland
- #2 – 2024-03-15 - OC EPD – Notice of Intent of Issue Permit to Ag Carbon Solutions – 6 pages
- #3 – Ravolt Power Plant Purchase Agreement – 2 pages
- #4 – Slide Show – Ag Carbon Solutions – Photos + Captions
- #5 – Current Methodology vs. Patented Agricultural Production System