2025

CarbonCore

PITCH DECK

THE CARBONCORE ADVANCED ENERGY MATERIALS COMPLEX

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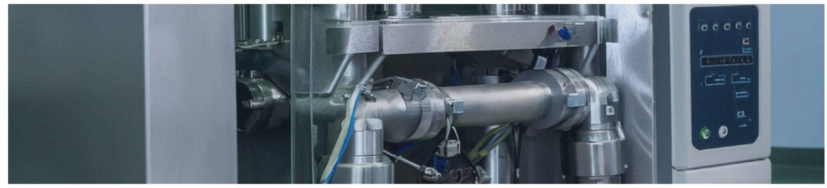

Executive Summary

Project Highlights

- **Proven New Breed of Processing Plant**
- **AI Optimized Scalability**
- **Qualification for Major Local and Federal Government Grants**
- **Ideal tax incentivized location**
- **Strong Strategic Partnerships in place**

Overview:
CarbonCore Inc. is seeking a $420 million investment to launch an Advanced Energy Materials Complex in Catlettsburg, Boyd County, Kentucky. The facility will initially focus on producing Sustainable Aviation Fuel (SAF), followed by graphene and advanced materials. Beginning with natural gas, we will phase in lumber, miscanthus, renewable natural gas, and coal waste for co-gasification. Operations will begin within 18 months at 10,000 barrels/day, scaling to >40,000 barrels/day by Year 5.

Strategic Partnerships:
We are working with Gray AES, a Kentucky-based leader in industrial construction and integration, and eKAMI, Eastern Kentucky's premier manufacturing institute. These partnerships ensure efficient execution, AI-driven systems integration, and access to a high-skill workforce trained for next-generation operations.

Government Support and Incentives:
We have secured over $21 million in state incentives already, with eligibility for additional federal loans and grants of $1.2 billion, TIF designation, tax abatements, and Industrial Revenue Bonds. These programs enhance project economics and reinforce strong public support.

Project Scope and Timeline:
- **0-18 months:** Launch modular SAF production at 10,000 bbl/day
- **2-5 years:** Expand SAF output to >40,000 bbl/day; begin graphene production
- **3-5 years:** Scale both SAF and graphene production; explore rare earth processing as technologies mature

Economic & Workforce Impact:
CarbonCore will create over 800 full-time jobs by Year 3, supporting 24/7 operations across three shifts. With AI-enhanced systems and advanced safety controls, we are building an inclusive workforce that fuels regional economic revitalization and long-term industrial leadership.

Market Opportunity:
SAF and graphene are critical to decarbonizing aviation, enabling next-gen electronics, and reshaping materials science. Our platform is built for agility, allowing us to respond to surging demand in clean fuels, quantum tech, aerospace, and national security applications.

Financial Projections and Funding Strategy:
With site control, partner alignment, and incentives in place, CarbonCore projects rapid commissioning and early revenue. This $420 million investment funds Phase 1 execution and unlocks eligibility for additional capital via debt, federal grants, or IPO pathways.

Conclusion
CarbonCore represents a rare convergence of execution-ready infrastructure, clean energy relevance, and social impact. Anchored by Kentucky-based partners and public backing, this high-growth venture is engineered to deliver long-term returns, resilience, and sustainable economic transformation.

Our project delivers economic, environmental, and social benefits — all backed by multi-million-dollar grants, loans, and public incentives.

Investing in CarbonCore means more than strong financial returns — it's a chance to shape the future of clean energy and advanced materials.

Join us in pioneering secure, scalable, and sustainable growth. Together, we can drive innovation, uplift communities, and make a lasting impact. Let's build our future — starting now.

Introduction

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Hello

My name is Michael McKenzie, and I'm co-founder, President and CEO of CarbonCore Inc.

Over the past three years, I've worked tirelessly to bring this vision to life — assembling the right team, securing the right site, and building the right partnerships to create something transformative right here in Eastern Kentucky. I've spent a lot of time in this region, and I believe in its people, its potential, and its role in the future of American industry.

At CarbonCore, we're building more than a plant — we're building a platform. A platform that begins with Sustainable Aviation Fuel (SAF), and expands over time into advanced materials like graphene. We've designed this project to get into SAF production quickly — within 18 months — using proven modular technology, AI-driven process control, and a carefully phased approach to growth.

Importantly, artificial intelligence and emerging AGI capabilities are embedded at the very core of our strategy — not as a replacement for human capital, but as a force multiplier to empower our workforce, enhance safety, and accelerate performance across every part of the organization. Our vision is people-led, AI-enabled.

We've also made a strategic decision that I believe is important for investors: while SAF remains the core of this investment, graphene will be developed under a separate corporate structure, using the same infrastructure and syngas as the SAF facility. This "split" allows us to focus capital and execution on delivering SAF first, while creating a valuable, parallel opportunity in a high-growth sector without introducing complexity or dilution into the core business.

For you as an investor, this means clarity of purpose and flexibility of participation. You're investing in a focused SAF operation with clear economics, strong policy tailwinds, and immediate commercial relevance — and, if desired, you'll also have the option to participate in the graphene business as it scales. That's what I call upside, not distraction.

With strong state support, aligned federal programs, and respected Kentucky-based partners like Gray AES and eKAMI behind us, we're ready to go. This is a real opportunity — one that blends economic strength, strategic foresight, advanced technology, and social value. I hope you'll join us.

Michael

Michael McKenzie
President & CEO, CarbonCore Inc.

Project Overview

- **High value advanced product range**
- **Abundant local feedstock**
- **Local and Federal Government Support**
- **Significant Co-Gasification Advantages**
- **Premium Strategic Partnerships**

Project Overview

Name: CarbonCore Advanced Energy Materials Complex
Location: Catlettsburg, Boyd County, Kentucky
Project Scope: Sustainable Aviation Fuel (SAF); Graphene; future Critical Minerals Processing

Purpose & Platform Vision:

The Advanced Energy Materials Complex is designed as a modular, AI-enhanced platform for clean fuel and materials production. Initial SAF operations will serve as the anchor, while infrastructure, control systems, and syngas integration are engineered from day one to support advanced product verticals including graphene and rare earths.

Execution Strategy:

- **Phase A (12-18 months): Launch SAF production at 10,000 bbl/day using modular, expandable systems.**
- **Phase B (2-5 years):** Begin graphene production (targeting >500 MT/year) using syngas from SAF operations.
- **Phase C** (3-5 years): Activate optional rare earth processing pathway, pending technology validation.

Integrated Operations & Technology Stack:

With Johnson Matthey CANS™ FT reactors, Gray AES systems integration, and AI/AGI-enabled operations, the platform ensures optimized throughput, continuous improvement, and carbon intensity compliance. Co-gasification using natural gas, biomass, and coal waste delivers resilience against feedstock volatility.

Partners & Workforce:

Gray AES and eKAMI firmly anchor execution, integration, and training. These Kentucky-based leaders ensure access to local skilled labor, while AI-enhanced operations unlock full 24/7 performance. The project will support over 800 full-time, well-paid jobs across three shifts, driving regional economic transformation.

Site and Infrastructure:

Situated on a fully serviced 227-acre site with utilities and expansion capacity, the location supports 24/7 operations, logistics access, and large-scale growth with minimal permitting friction.

Government Incentives & Strategic Alignment:

Designated for major local and federal incentives (TIF, tax relief, grants, IRBs), the project aligns with critical national objectives for clean fuels, reshoring materials, and regional economic development.

Commercial Advantage & Growth Outlook:

CarbonCore is positioned at the intersection of SAF demand, graphene innovation, and critical material independence. With AI-enabled systems, synergistic operations, and a phased growth model, we deliver immediate relevance with exponential upside.

Market Analysis

Sustainable Aviation Fuel (SAF)

1. Overview of the SAF Market

Sustainable Aviation Fuel (SAF) is a bio-derived alternative to traditional jet fuel, reducing greenhouse gas (GHG) emissions by up to 80% over the fuel's lifecycle. As aviation contributes approximately 2.5% of global CO_2 emissions, SAF has become a crucial component in the decarbonization of air travel. Airlines, governments, and fuel producers are investing heavily in SAF to align with net-zero emission targets and regulatory mandates.

Key Market Drivers

- Regulatory Pressures: The aviation sector is under increasing scrutiny to meet International Civil Aviation Organization (ICAO)'s CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation) standards and the EU's Fit for 55 package, requiring airlines to progressively increase SAF use.
- Government Incentives & Mandates: In the U.S., the Inflation Reduction Act (IRA) provides $1.25-$1.75 per gallon SAF tax credits based on carbon intensity reductions. The EU has proposed blending mandates, starting at 2% SAF by 2025, 6% by 2030, and 70% by 2050.
- Corporate Sustainability Goals: Airlines, including Delta, United, British Airways, and Virgin Atlantic, have committed to 10% SAF usage by 2030, creating a significant demand pull.
- Oil Major & Energy Sector Involvement: Companies like Marathon Oil, Shell, and BP are entering the SAF space, seeking to integrate it into their existing fuel supply chains.
- Rising Air Travel Demand: Despite economic fluctuations, global air passenger traffic is projected to double by 2050, increasing demand for low-carbon fuel alternatives.

2. SAF Market Growth Projections

Current Market Size & Growth Trends

- SAF market in 2024: Estimated at $1.5–$2.0 billion (USD).
- Projected CAGR (2024–2035): 35%–40% due to policy mandates and increased airline commitments.
- Market value by 2035: Estimated between $40–$60 billion, depending on production scalability and feedstock diversification.
- Long-term potential (2050): SAF demand could reach 450–500 million barrels annually, representing a $200 billion market.

Projected Demand Growth & Deficit

Current SAF production meets <0.5% of global jet fuel demand, leaving a significant supply gap.

- Global jet fuel demand (2024): ~100 billion gallons per year.
- SAF production (2024): ~0.1 billion gallons (~0.1% penetration).
- SAF demand (2030): ~8–10 billion gallons (~10% penetration).
- SAF demand (2050, Net Zero scenario): ~80–100 billion gallons (~70–100% penetration).

CarbonCore's initial 10,000–15,000 bbl/day SAF production (scaling to 24,500 bbl/day, then 40,000 bbl/day in later phases) strategically positions it within this massive supply-demand gap.

Market Analysis

This market analysis outlines the current industry trends, future growth potential, and competitive landscape for sustainable avaition fuel and graphene, highlighting CarbonCore's strategic advantages and positioning.

3. Competitive Landscape Analysis

Major SAF Producers & Emerging Competitors

Company	Production Capacity (bbl/day)	Technology	Key Customers	Challenges
Neste Oyj	~9,500 bbl/day (ramping up)	HEFA (Hydroprocessed Esters & Fatty Acids)	American Airlines, Lufthansa	Limited feedstock availability
World Energy	~5,000 bbl/day	HEFA	United, Amazon	Scaling limitations
SkyNRG	Developing large-scale facility	Power-to-Liquid (PtL), HEFA	KLM, Boeing	Requires significant funding
Gevo	Planning 12,000 bbl/day (by 2025)	Alcohol-to-Jet (ATJ)	Delta, TotalEnergies	High capital costs
Marathon Petroleum & Neste JV	12,000 bbl/day	HEFA	Various airlines	Dependent on waste oil feedstocks
Fulcrum BioEnergy	~4,500 bbl/day	Municipal Waste-to-Jet (WtJ)	United	High process complexity

CarbonCore's Competitive Advantages

• Co-Gasification Process: Unlike HEFA-based competitors reliant on waste oils, CarbonCore's biomass and coal waste gasification is scalable and circumvents feedstock scarcity issues.

• Production Capacity: With an eventual 40,000 bbl/day capacity, CarbonCore could surpass leading producers like Neste and Gevo.

• Technology Integration: AI-driven process optimization ensures efficiency, cost reductions, and compliance with ASTM D7566 & CORSIA.

• Strategic Location: Proximity to Marathon Oil, UPS Worldport, and major East Coast airports enhances logistics and distribution.

Market Analysis

4. Regulatory & Policy Tailwinds

U.S. SAF Initiatives & Federal Support

• SAF Grand Challenge: U.S. government aims for 3 billion gallons/year SAF production by 2030 and full decarbonization of aviation by 2050.
• SAF Tax Credits & Loan Guarantees: The $1.25–$1.75 per gallon tax credit under the Inflation Reduction Act supports economic viability.
• State-Level Incentives: California's Low Carbon Fuel Standard (LCFS) offers additional credits (~$200 per ton of CO_2 avoided).

EU & Global Regulations

• ReFuelEU Aviation Mandate: Airlines must use 2% SAF by 2025, 6% by 2030, and 70% by 2050.
• CORSIA (ICAO Regulation): Requires airlines to reduce carbon intensity and mandates offsetting schemes.
• IATA Net-Zero Commitment: Airlines globally have pledged 10% SAF usage by 2030, driving investment.

CarbonCore aligns perfectly with these policies, providing a low-carbon, scalable SAF solution.

5. Investment Opportunities & Future Expansion

Strategic Growth Prospects

• Short-term (2024–2028): Establish CarbonCore's Kentucky SAF facility (10,000–15,000 bbl/day).
• Mid-term (2028–2033): Expand to 40,000 bbl/day, secure long-term offtake agreements with airlines, cargo carriers (UPS, FedEx), and oil majors.
• Long-term (2033–2050): Additional SAF production hubs in resource-rich regions (Upstate NY, Washington, Alaska, Illinois), targeting 100,000+ bbl/day.

Funding & Revenue Model

• Phase 1 Funding (2025–2027): $420M initial investment (Debt/Hybrid model).
• Projected Revenue (Year 5): $2.5–$3.0B annually at full production (24,500 bbl/day).
• Potential IPO / M&A Exit (2030+): Strategic buyout or public listing at $5–$8B valuation.

6. Conclusion:

Why CarbonCore is a Leading SAF Investment

• High-Impact Market Position: Addressing the 90% SAF supply-demand gap with scalable gasification technology.
• Regulatory Alignment: Positioned to maximize U.S. federal tax credits & EU mandates.
• Cost & Feedstock Advantage: Biomass, RNG & coal waste feedstock circumvents waste oil constraints faced by competitors.
• Strategic Partnerships: UPS, Gray AES, Team Kentucky, and potential airline alliances strengthen market positioning.

CarbonCore represents a high-growth, high-impact opportunity in the SAF sector, poised to disrupt the market with scalable, cost-effective, and regulatory-compliant fuel production.

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Technical Overview

Technical Overview of Sustainable Aviation Fuel (SAF) Production at CarbonCore

Revolutionizing SAF Production Through Modular Scalability, AI-Driven Optimization, and Feedstock Flexibility

1. Introduction

CarbonCore's Sustainable Aviation Fuel (SAF) production model integrates advanced modular gasification, AI-driven process optimization, and a strategically located feedstock ecosystem to maximize efficiency, lower costs, and ensure compliance with international regulatory frameworks.

Unlike traditional SAF producers, CarbonCore's modular and scalable approach ensures:

- Phased Expansion: Starting at 10,000–15,000 barrels per day (bpd) with a clear pathway to 40,000 bpd, reducing upfront capital risk.
- Cost-Effective Growth: Equipment is proven, commercially deployed, and highly adaptable, enabling efficient scaling.
- Strategic Feedstock Advantage: The Kentucky location provides diverse co-gasification options, allowing for dynamic feedstock blending strategies.
- AI/AGI Process Control: Continuous real-time optimization of SAF yield, carbon intensity (CI), and operational costs.
- Regulatory Compliance by Design: AI dynamically tracks, predicts, and adapts to compliance thresholds for CORSIA, RFS, and LCFS.

2. Modular Scalability: The Key to Competitive SAF Expansion

How CarbonCore's Modular Approach Reduces Risk and Cost

Traditional SAF facilities commit to full-scale construction upfront, resulting in high CAPEX and longer development timelines. CarbonCore, however, employs a phased, modular strategy that allows for lower upfront investment, faster ramp-up, and immediate revenue generation.

Feature	CarbonCore's Modular Approach	Traditional SAF Facilities
Scalability	Start at 10,000–15,000 bpd, scaling to 40,000 bpd in phases	Require full-capacity investment upfront
Risk Mitigation	Tested commercial units are expanded as demand grows	One-shot design with potential delays
Cost Efficiency	Lower CAPEX per module, enabling financial flexibility	High fixed costs with long ROI periods
Faster Commissioning	Pre-fabricated units accelerate installation and reduce engineering delays	Custom-built facilities with long lead times

Technical Overview

> This technical overview outlines the proposed processes for syngas, hydrogen and graphene production, highlighting **CarbonCore's** phased deployment plan and proven technologies that will be utilized throughout to ensure speedy and faultless execution.

3. CarbonCore's Strategic Location: The Advantage of Feedstock Flexibility

CarbonCore's location in Kentucky offers a distinct co-gasification advantage over competitors. The facility is positioned to maximize feedstock availability while minimizing transport and logistics costs.

Why Kentucky's Location is a Game Changer for SAF

- Proximity to Coal Waste & Biomass Supplies: Immediate access to coal waste, sawdust, miscanthus, and forestry residues enables dynamic feedstock blending for cost efficiency.
- Existing Industrial & Natural Gas Infrastructure: Pipeline natural gas and renewable natural gas (RNG) support stable syngas production.
- Lower Logistics Costs: Rail, river, and highway infrastructure reduce transportation costs, improving SAF's economic viability.
- Integration with Marathon Oil's Footprint: Potential shared infrastructure reduces storage and distribution costs.
- State & Federal Support: Kentucky's commitment to industrial innovation accelerates regulatory approvals and financial incentives.

How CarbonCore's Modular Approach Reduces Risk and Cost

Feedstock Type	CarbonCore's Co-Gasification Strategy	Competitor Limitations
Miscanthus, Sawdust, Forestry Residues	Blended with coal waste to lower carbon intensity and improve sustainability	HEFA producers struggle with seasonal availability
Coal Waste & Petcoke Residues	Upcycled into syngas with carbon capture, reducing landfill burden	Other SAF producers do not utilize coal waste
Renewable Natural Gas (RNG)	AI dynamically integrates RNG to reduce carbon footprint	Many competitors do not use gas-phase feedstocks
Hydrogen (Blue & Green)	AI models determine real-time blending ratios for optimized syngas quality	Most SAF plants lack hydrogen integration

By combining low-carbon biomass, waste-derived feedstocks, and advanced hydrogen integration — along with thermal pre-treatment via integrated pyrolysis within the gasification system — CarbonCore achieves best-in-class feedstock efficiency while ensuring SAF compliance with CORSIA and LCFS mandates.

Technical Overview

4. AI/AGI Integration: Unlocking Maximum Process Efficiency

CarbonCore's AI-Enhanced SAF Production Model

CarbonCore's AI-driven "Digital Twin" system continuously monitors, predicts, and optimizes SAF production at every stage.

Key AI/AGI Functions in SAF Production:

1. **Real-Time Feedstock Optimization:** AI dynamically selects the lowest-cost, lowest-carbon feedstock mix to maximize profitability.
2. **Self-Adaptive Gasifier Control:** AI adjusts temperature, oxygen flow, and catalyst activity to maintain optimal syngas composition.
3. **Predictive Maintenance & Process Automation:** Sensors detect early wear on gasifiers, compressors, and reactors to prevent downtime.
4. **Automated Compliance Monitoring:** AI continuously tracks and adjusts carbon intensity, ensuring full RFS, CORSIA, and LCFS compliance.
5. **Supply Chain & Financial Forecasting:** AI integrates market data, policy changes, and carbon credit incentives to maximize ROI.

Competitive Advantage of AI/AGI in SAF Production

AI Function	CarbonCore's Advantage	Competitor Limitations
Real-Time Process Optimization	AI adjusts SAF yield dynamically to maximize efficiency	Traditional SAF plants rely on static control systems
Feedstock Pricing & Availability Prediction	AI forecasts price changes, adjusting feedstock sourcing in real time	Most competitors lack dynamic cost optimization
Automated Carbon Compliance	AI ensures full regulatory adherence, preventing fines or penalties	Compliance is manual or delayed in traditional setups
Predictive Maintenance	AI extends equipment lifespan by detecting issues before failure	Downtime and unexpected repairs increase competitor costs

This AI-driven framework ensures CarbonCore's SAF production remains cost-competitive, scalable, and fully optimized.

Technical Overview

5. Hybrid Hydrogen Integration for Carbon Intensity Reduction

Unlike traditional gasification-to-liquids (GTL) processes, CarbonCore integrates hydrogen blending for optimized syngas conversion and CO_2 reduction.

AI-Driven Hydrogen Integration

- Dynamic H_2 Blending: AI determines optimal blue/green hydrogen ratios to improve carbon efficiency.
- Cost-Efficient Hydrogen Utilization: AI shifts between blue hydrogen (industrial byproduct) and green hydrogen (electrolyzed from renewables) based on availability and pricing.
- Carbon Intensity Reduction: AI optimizes H_2 injection levels to meet RFS & LCFS credit thresholds for maximum incentives.

This hydrogen-enhanced approach gives CarbonCore a competitive edge in low-carbon SAF production.

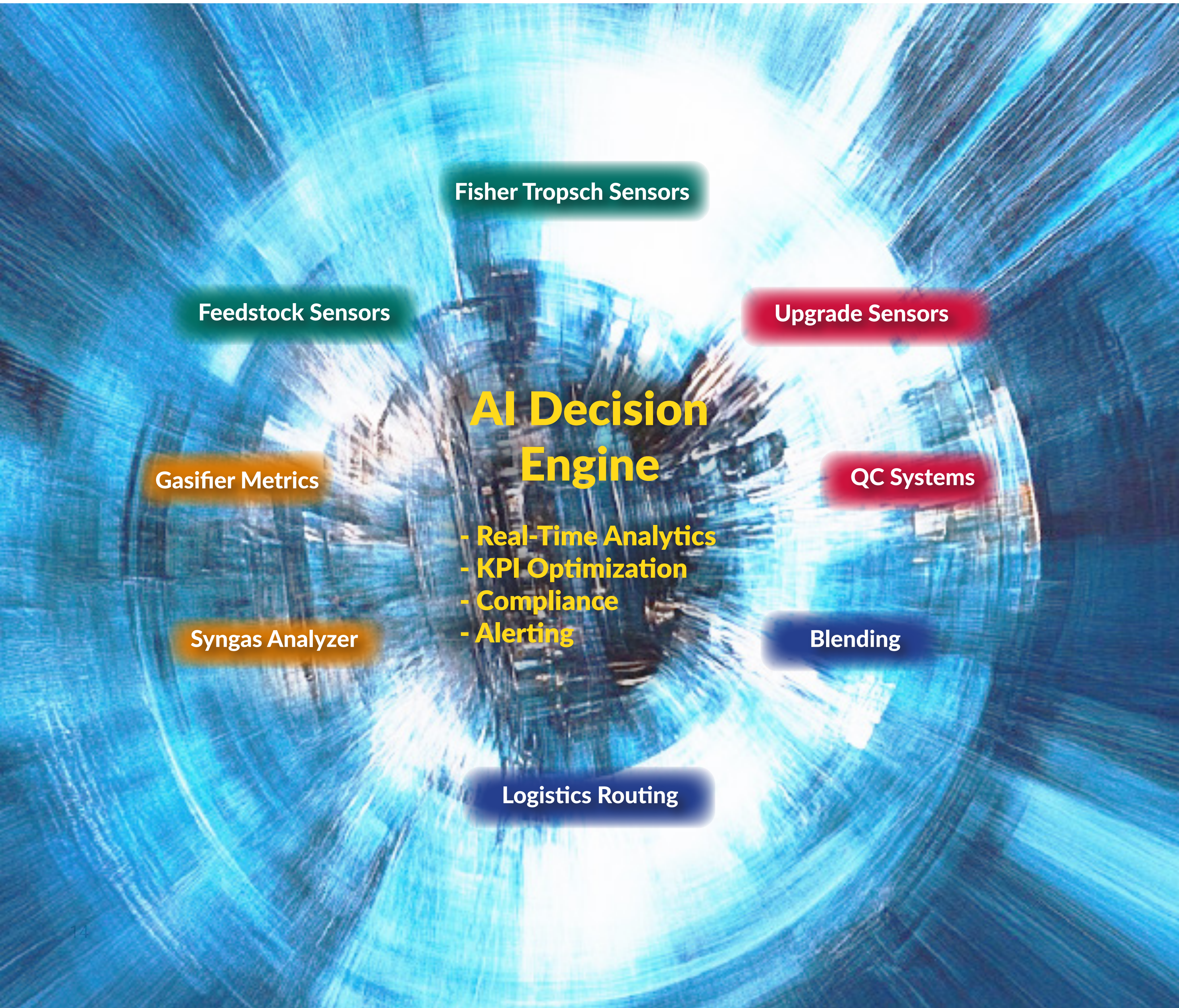
6. Conclusion: CarbonCore's Disruptive SAF Model

Feature	CarbonCore's Edge	Competitor Limitations
Modular Scalability	Phased expansion from 10,000 to 40,000 bpd, reducing CAPEX risk	Requires full upfront capital commitment
Feedstock Flexibility	Co-gasification of biomass, coal waste, and RNG lowers costs	HEFA producers rely solely on scarce lipid feedstocks
AI/AGI Process Control	Real-time SAF yield and compliance optimization	Static process controls limit efficiency
Hybrid Hydrogen Integration	AI-managed hydrogen injection for cost savings and low-carbon compliance	Most SAF plants do not integrate H_2 into syngas

CarbonCore's modular, AI-driven SAF production model ensures low-cost scalability, regulatory compliance, and long-term profitability, positioning it as the next-generation leader in sustainable aviation fuel.

Technical Overview

AI Integration Architecture - Process-Wide Intelligence



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Strategic Partnerships

Partnership with Gray AES

Capabilities and Reputation:

Gray AES are leaders in industrial construction and engineering. With decades of experience, they have a global reputation for delivering large-scale, complex projects on time and within budget. Gray AE provides comprehensive design-build services, including site selection, engineering, construction, process control and operational support. Gray AE encompasses various subsidiaries with expertise in different aspects of industrial and commercial development.

Value to the Venture:

- Expertise in SAF, Syngas and Related Processes: Gray AE has extensive experience in designing and constructing facilities for syngas production and other advanced energy technologies, ensuring successful implementation and smooth operation.
- Integrated Services: With Gray's comprehensive design-build capabilities, we benefit from seamless project management, minimizing risks and ensuring timely completion of each project phase.
- Innovation and Quality: Gray is committed to innovation and quality, incorporating the latest technologies, including AI and best practices to keep our facility at the forefront of the industry.
- Ongoing Support: Gray provides ongoing operational support and maintenance, ensuring our facility remains at peak performance and adapts to evolving industry standards.

Partnership with eKAMI

Capabilities and Reputation:

The East Kentucky Advanced Manufacturing Institute (eKAMI) in Paintsville, KY, offers advanced manufacturing training with cutting-edge equipment and experienced instructors. Their ties with the Haas Formula One Racing Team highlight their program's quality.

eKAMI's customized programs ensure graduates are industry-ready and trained in the latest technologies. Ongoing education keeps their workforce updated on advancements, fostering innovation and adaptability. This minimizes downtime and accelerates new hires' learning curves.

Value to the Venture

This collaboration supports our project and drives economic growth in Eastern Kentucky by creating high-paying, skilled jobs. eKAMI's community ties enhance local acceptance and support, fostering a collaborative environment for smooth execution and sustainability.

Access to skilled workers gives us a competitive edge, keeping our project on schedule and within budget. eKAMI's reputation and training capabilities position us for success in the clean energy and advanced materials sectors, aligning with our needs and goals.

Ongoing Value:

The collaborations with Gray AES, eKAMI and our existing resource supply chain partners are essential for the Advanced Energy Materials Complex. Gray's expertise in industrial construction and operations, combined with eKAMI's reliable labor supply, ensures efficient, guaranteed and sustainable facility operations. These partnerships facilitate the initial setup and operational stability of our project, providing ongoing support, innovation, and human resource management. CarbonCore will also develop strategic relationships within relevant industries to enhance growth. Together, these alliances will boost CarbonCore's brand awareness and position our venture as a leader in clean energy and advanced materials, driving economic growth and sustainability.

Government Support

CarbonCore has identified a comprehensive range of federal, state, and local government programs designed to support clean energy, advanced manufacturing, and job creation. Many of these funding opportunities require secured financing as a prerequisite for eligibility, making them a crucial component of CarbonCore's growth strategy.

Key funding sources and initiatives include:

Federal Support

- **U.S. Department of Energy (DOE)** – Various grants supporting clean energy, advanced materials, and hydrogen production.
- **U.S. Department of Defense (DoD)** – Funding opportunities for energy resilience, advanced fuels, and strategic materials.
- **Office of Clean Energy Demonstrations (OCED) & Office of Fossil Energy and Carbon Management (FECM)** Grants focused on carbon capture, utilization, and advanced energy solutions.
- **Syngas & Hydrogen Combustion Reduced Order Reactions and Rate Constants Grant** – Supporting advancements in syngas and hydrogen applications.
- **Office of Energy Efficiency and Renewable Energy (EERE) Funding** – Focused on sustainable fuels, energy efficiency, and next-generation technologies.
- **Bipartisan Infrastructure Law (BIL) Battery Materials Processing & Battery Manufacturing Grants** – Supporting domestic supply chain resilience and energy storage solutions.
- **Advanced Manufacturing Office (AMO)** – Grants for industrial decarbonization and efficiency improvements.
- **Advanced Research Projects Agency-Energy (ARPA-E)** – Supporting high-impact energy technologies with commercialization potential.

State & Local Support

- **Team Kentucky & Kentucky Cabinet for Economic Development (KCED)** – Over $21 million in committed support, with additional incentives tied to key project milestones, job creation, and infrastructure investment.
- **State-level incentives and grants** – Supporting advanced manufacturing, energy innovation, and workforce development.
- **Tax incentives and credits** – Including property tax abatements, sales tax exemptions, and job creation tax credits.
- **Industrial Revenue Bonds**– Leveraging public and private capital to maximize funding impact.
- **Workforce training programs** – In collaboration with eKAMI and other state-backed initiatives to develop a highly skilled workforce tailored to CarbonCore's operational needs.

With strong state-backed commitments already in place and a continually expanding list of available grants, tax incentives, and job creation support packages, CarbonCore is well-positioned to leverage government funding for sustained growth and long-term success.

Location

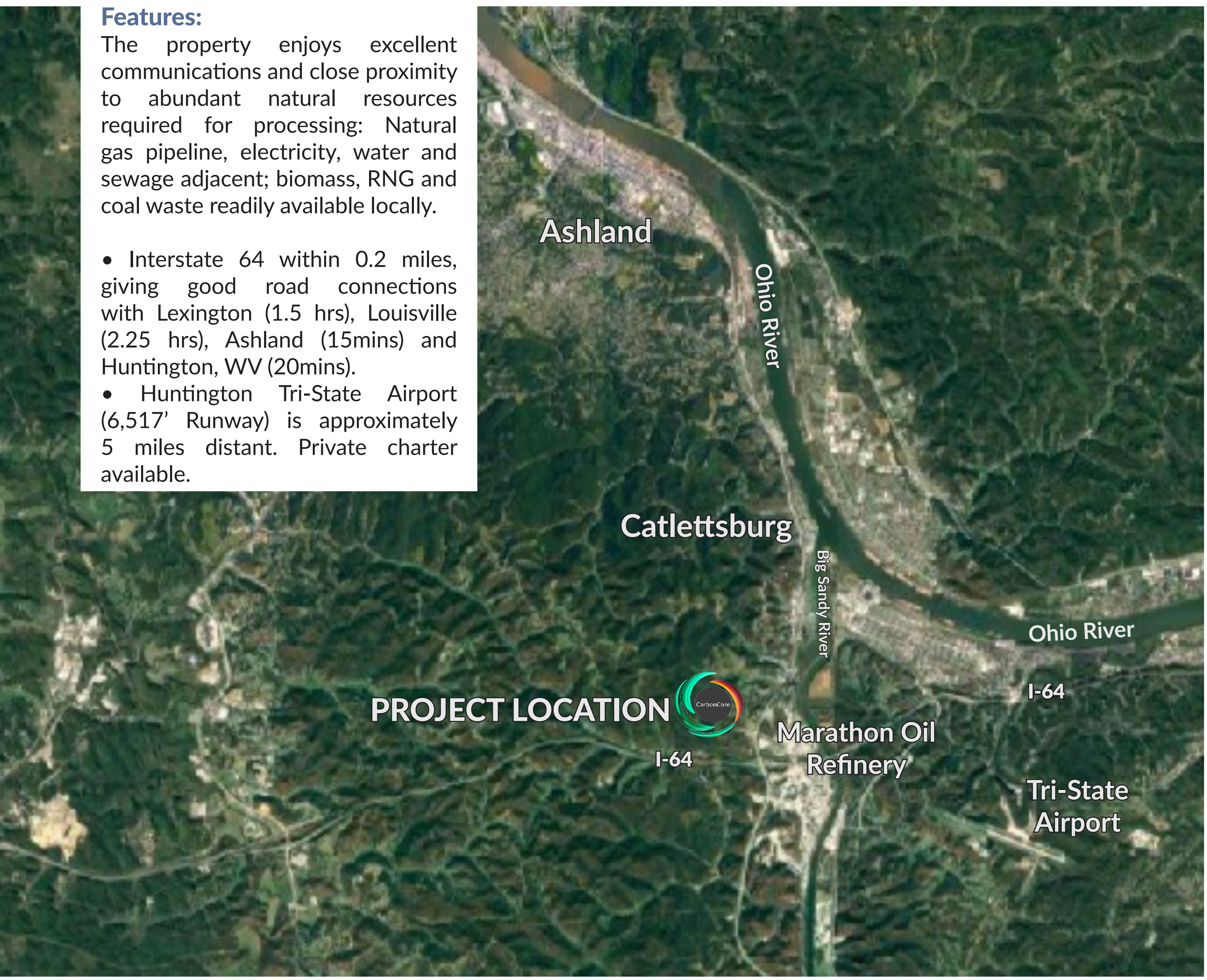
Project Location:

Catlettsburg, Boyd County
KY 41129

GPS Reference:
38.3551, -82.7000

Features:
The property enjoys excellent communications and close proximity to abundant natural resources required for processing: Natural gas pipeline, electricity, water and sewage adjacent; biomass, RNG and coal waste readily available locally.

- Interstate 64 within 0.2 miles, giving good road connections with Lexington (1.5 hrs), Louisville (2.25 hrs), Ashland (15mins) and Huntington, WV (20mins).
- Huntington Tri-State Airport (6,517' Runway) is approximately 5 miles distant. Private charter available.



Location

> The location of the CarbonCore Advanced Energy Materials Complex in Boyd County Kentucky will bring huge benefits to all concerned and in particular to stakeholders in this venture.

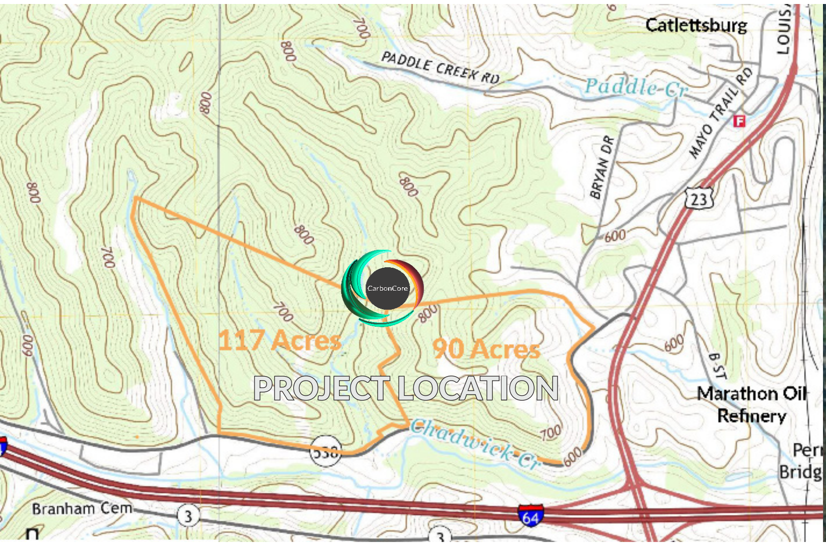
Recent History and Potential Benefits of the Carboncore Project in Catlettsburg, Boyd County, Kentucky

Recent Socio-Political and Economic History

Catlettsburg, KY, has experienced a dynamic socio-political and economic transformation over recent years. Historically an industrial hub, the town has faced economic challenges due to the decline of traditional manufacturing and coal industries. However, recent initiatives by local and state governments have focused on revitalizing the area, promoting economic diversification, and attracting new industries. Investments in infrastructure, education, and workforce development have been prioritized to stimulate growth and improve the quality of life. Additionally, the socio-political landscape has been marked by a strong community engagement in local governance and economic planning, ensuring that development projects align with the needs and aspirations of the residents. This proactive approach has positioned Catlettsburg as a promising location for new ventures and sustainable economic development.

Potential Benefits of the Carboncore Project

Locating the CarbonCore project in Catlettsburg, KY, offers substantial benefits to all parties involved. For CarbonCore, the strategic location near major transportation routes, including Interstate 64 and the Big Sandy and Ohio Rivers, ensures efficient logistics and supply chain management. The town's revitalization efforts and commitment to economic growth provide a supportive environment for the project's success. Local residents will benefit from >800 skilled, well-paid jobs, contributing to economic stability and community development. The partnership with Kentucky-based entities such as the Gray AE and eKAMI, will leverage local expertise and resources, fostering a collaborative approach. Additionally, the property's designation as a Tax Increment Financing (TIF) district offers significant tax incentives and financial benefits, enhancing the project's economic viability. The focus on sustainable and advanced materials aligns with regional and national goals for environmental responsibility and innovation, positioning Catlettsburg as a leader in the new energy economy. This alignment will attract further investment, enhance local infrastructure, and promote long-term prosperity for the community.



Boundaries approximate

Use of Funds

Overview:

We are excited to outline how a phased **$420,000,000** investment, over the first 12-24 months will be utilized to achieve critical milestones in the development of the CarbonCore Advanced Energy Materials Complex. By phasing the funding according to project timelines and key gateways, we can ensure efficient use of capital and provide clear progress markers.

Phase 1: Initial Setup and Startup (0-18 months)

Site Preparation and Infrastructure Development: $72 million

- Design, compliance and site preparation
- Construction of required infrastructure (buildings, roads, utilities, etc.)
- Initial working capital
- Contingency

Equipment Procurement and Installation: $280 million

- Purchase and installation of gasifiers, syngas cleaners, and coolers
- Setup of steam methane reforming units and hydrogen purification systems

Operational Readiness: $36 million

- Hiring and training of initial staff
- Establishment of safety and operational protocols
- Working capital

Phase 2: Early Production and Scale-Up (18-24 months)

Initial Production Capacity: $10 million

- Achieve production rate of 10,000bbl/day of SAF by month 18.
- Build to launch graphene production by 24 months.
- Ongoing hiring and training of staff.

Equipment and Facility Expansion: $22 million

- Additional gasifiers and cleaning systems to ramp up production to >12,000 bbl/day by 24 months.
- Installation of chemical vapor deposition systems and substrate processing equipment for graphene.
- Installation of Liquid Phase Exfoliation systems.

Use of Funds

CarbonCore makes use of phased funding for clear growth: Ensuring transparency, adapting to capital needs, leveraging grants, and gearing up for a possible strategic IPO to drive expansion and success.

Funding Schedule:

- Initial Phased Funding (0-24 months): $420 million
- Second Phase (24-48 months): $1.7 billion

Total required funding: $2.12 billion

Conclusion:

Phased funding tied to project milestones or 'gateways' provides a clear roadmap for investors, ensuring transparency and accountability. This approach not only mitigates risk but also aligns funding with project progress, making it easier to track returns on investment and adjust strategies as needed. By linking funds to specific gateways, we can deliver measurable results and build investor confidence at each stage of the project.

Moreover, phased funding allows for ongoing reviews of actual capital requirements, ensuring that we can adapt to changing conditions and opportunities. It also makes provisions for local and federal grant programs and approvals, which could potentially contribute hundreds of millions of dollars to the project but are not included in this proposal. This flexibility will enable us to maximize available resources and optimize our financial strategy.

Additionally, we plan to pursue an initial public offering (IPO) around year four, which may impact our financing methodology and fund requirements at a later stage. This strategic move is anticipated to provide us with additional capital and broaden our investor base, further supporting our expansion and operational goals in Kentucky and elsewhere as other opportunities present themselves.

Ultimately, this strategy positions CarbonCore for a significant scale-up to >40,000 barrels of compliant sustainable aviation fuel per month, which may or may not necessitate an additional $1.7 billions capital requirement over the following 3-5 years. By adopting this phased approach, we ensure a sustainable and scalable growth trajectory, meeting the anticipated boom in demand across our product range and driving long-term success. Graphene production will be developed as a standalone from year 3 onwards, utilizing synthesis gas produced from SAF processes.

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23 Financial Projections

Introduction to Financial Forecasts

This section provides a forward-looking view of CarbonCore's projected financial performance over the next seven years, anchored in the strategic buildout of our core Sustainable Aviation Fuel (SAF) platform. These projections are underpinned by rigorous market research, proven technology partnerships, and a disciplined capital deployment roadmap that aligns investment with tangible operational milestones.

Our financial model takes a deliberately conservative stance, omitting any speculative future inflows from grants or public-sector funding. This ensures a transparent and credible baseline driven solely by core operational execution, organic revenue generation, prudent cost management, and scalable unit economics. By excluding non-dilutive capital inflows at this stage, we aim to demonstrate the underlying strength, profitability, and standalone viability of the SAF business model—even in the absence of external funding.

While an initial public offering (IPO) may be considered around Year 4 to further fuel expansion and unlock broader capital markets, our growth trajectory and financial resilience are designed to be robust irrespective of IPO timing. Our forecasts reflect an investor-focused discipline: self-sufficiency first, then scalable growth.

CarbonCore's financial strategy is structured to build institutional confidence by prioritizing long-term value creation, downside protection, and operational excellence. Our objective is not merely to meet industry benchmarks, but to establish a new financial standard for sustainability-aligned manufacturing ventures.

Note: *A separate five-year financial overview for CarbonCore's advanced materials subsidiary (Graphene operations) is included in the appendix.*

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Projected Income Statements

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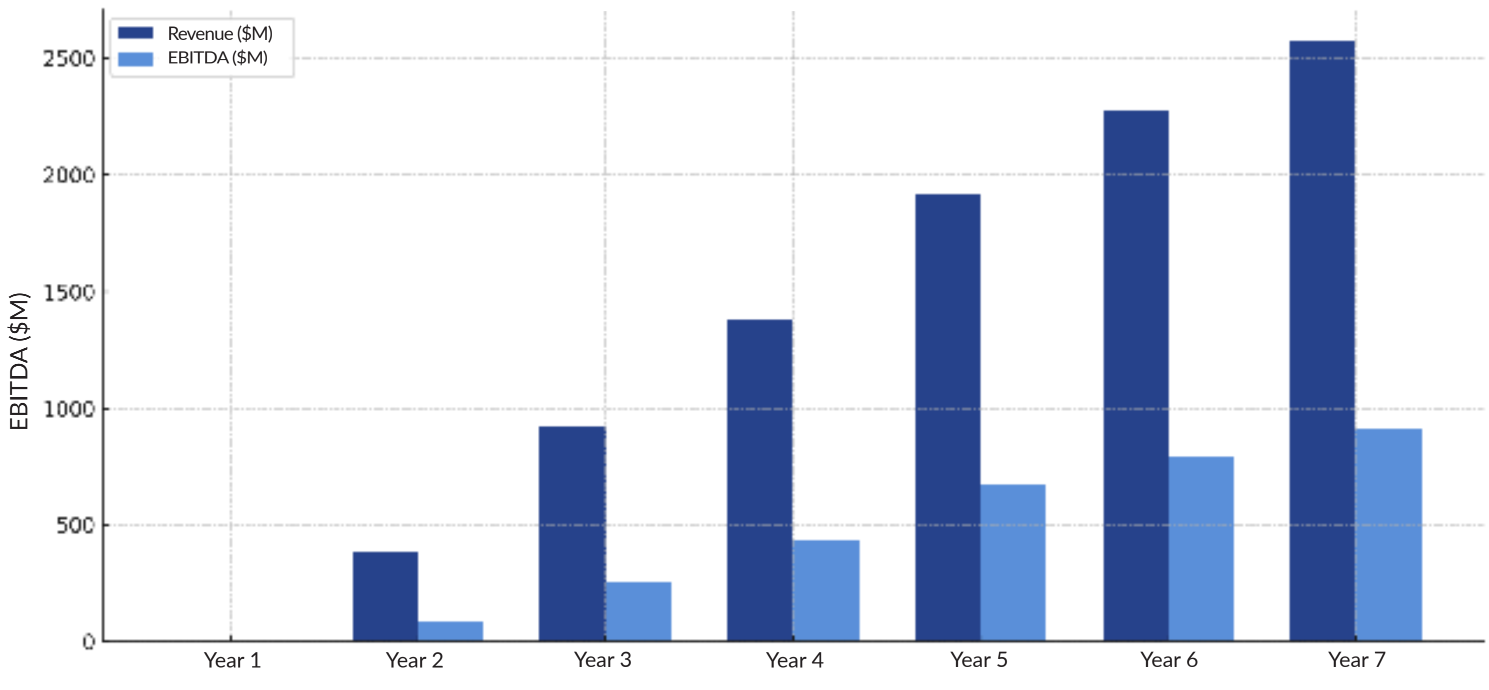
Summary

CarbonCore's SAF operations are structured for high-efficiency, modular growth, enabling a smooth scale-up from initial production capacity of 10,000–15,000 barrels per day (bpd) to 24,500 bpd by Year 5, with long-term expansion plans toward 40,000 bpd. The projected income statements reflect conservative revenue recognition aligned with anticipated commissioning and ramp-up timelines, while preserving margin integrity across each phase.

Revenue is projected to begin in Year 2, assuming a 12–18 month construction and equipment lead time post-funding. Initial SAF pricing assumptions are indexed to current market ranges ($2.80–$3.25/gallon) and are subject to minor adjustments based on evolving LCFS, RFS, and CORSIA compliance premiums. As production scales, cost of goods sold (COGS) is expected to decline due to economies of scale, vertical feedstock integration, and AI-driven process optimization.

Gross margins are modeled to stabilize in the 35–40% range over the first five years, with EBITDA margins improving steadily as throughput increases and capex amortization is distributed across higher volumes. The model assumes three full operating shifts and 365-day production, with labor costs ramping from $9M in Year 1 to $12M+ by Year 3 as additional modules come online.

Federal and state incentives, including potential 45Z tax credits and LCFS stacking, are not fully baked into base-case projections but present upside potential. The financial model is designed to remain robust under conservative pricing and throughput assumptions, with upside scenarios available on request.



Projected Income Statement

Year 1

Revenue:

• Sustainable Aviation Fuel	$0
Total Revenue:	**$0**

Operating Expenses:

• Feedstock Costs:	$0
• Labor & Salaries:	$9,000,000
• Utilities:	$3,000,000
• Regulatory Compliance & Permitting:	$2,500,000
• Insurance:	$2,000,000
• Office, Admin & Legal:	$6,000,000
• Site Prep & Temporary Infrastructure:	$5,000,000
• Construction-Related OPEX:	$6,000,000
• Depreciation:	$1,750,000
• R&D Allocation:	$2,500,000
Total Operating Expenses:	**$37,750,000**
Net Income:	**-$37,750,000**
Net Income:	**-$37,095,220**
• Tax Expense (25%):	$0
Net Income After Tax:	**-$37,750,000**

Projected Income Statement

Year 2

Revenue:

• Sustainable Aviation Fuel	$219,000,000
Total Revenue:	**$219,000,000**

Operating Expenses:

• Feedstock Costs:	$49,926,296
• Labor & Salaries:	$9,000,000
• Utilities:	$4,309,125
• Regulatory Compliance & Permitting:	$3,000,000
• Insurance:	$2,100,000
• Office, Admin & Legal:	$1,500,000
• Site Prep & Temporary Infrastructure:	$11,521,453
• Construction-Related OPEX:	$23,042,906
• R&D Allocation:	$13,505,000
• Depreciation:	$20,000,000
Total Operating Expenses:	**$137,904,780**
Net Income:	**$81,095,220**
• Tax Expense (25%):	$20,273,805
Net Income After Tax:	**$60,821,415**

Projected Income Statement

Year 3

Revenue

• Sustainable Aviation Fuel	$1,724,625,000
Total Revenue:	**$1,724,625,000**

Operating Expenses:

• Feedstock Costs:	$392,352,187
• Labor & Salaries:	$9,500,000
• Utilities:	$29,325,000
• Regulatory Compliance & Permitting:	$1,500,000
• Insurance:	$1,500,000
• Office, Admin & Legal:	$9,775,000
• Site Prep & Temporary Infrastructure:	$2,000,000
• Construction-Related OPEX:	$12,000,000
• R&D Allocation:	$13,000,000
• Depreciation:	$30,000,000
Total Operating Expenses:	**$501,952,187**
Net Income:	**$1,222,672,813**
• Tax Expense (25%):	$305,668,203
Net Income After Tax:	**$917,004,610**

Projected Income Statement

Year 4

Revenue

• Sustainable Aviation Fuel	$3,285,000,000
Total Revenue:	**$3,285,000,000**

Operating Expenses:

• Feedstock Costs:	$765,000,000
• Labor & Salaries:	$10,000,000
• Utilities:	$38,000,000
• Regulatory Compliance & Permitting:	$2,000,000
• Insurance:	$2,000,000
• Office, Admin & Legal:	$9,000,000
• Construction-Related OPEX:	$15,000,000
• R&D Allocation:	$15,000,000
• Depreciation:	$40,000,000.00
Total Operating Expenses:	**$896,500,000**
Net Income:	**$2,389,000,000**
• Tax Expense (25%):	$597,250,000
Net Income After Tax:	**$1,791,750,000**

Projected Income Statement

Year 5

Revenue

• Sustainable Aviation Fuel	$4,562,250,000
Total Revenue:	**$4,562,250,000**

Operating Expenses:

• Feedstock Costs:	$1,050,000,000
• Labor & Salaries:	$11,000,000
• Utilities:	$47,000,000
• Regulatory Compliance & Permitting:	$2,500,000
• Insurance:	$2,500,000
• Office, Admin & Legal:	$9,000,000
• Construction-Related OPEX:	$20,000,000
• R&D Allocation:	$18,000,000
• Depreciation:	$50,000,000
Total Operating Expenses:	**$1,209,500,000**
Net Income:	**$3,352,750,000**
• Tax Expense (25%):	$838,187,500
Net Income After Tax:	**$2,514,562,500**

Projected Income Statement

Year 6

Revenue

- Sustainable Aviation Fuel $5,700,000,000

Total Revenue: $5,700,000,000

Operating Expenses:

• Feedstock Costs:	$1,300,000,000
• Labor & Salaries:	$12,000,000
• Utilities:	$55,000,000
• Regulatory Compliance & Permitting:	$2,000,000
• Insurance:	$2,500,000
• Office, Admin & Legal:	$9,000,000
• Construction-Related OPEX:	$25,000,000
• R&D Allocation:	$20,000,000
• Depreciation:	$60,000,000

Total Operating Expenses: $1,485,500,000

Net Income: $4,214,500,000

- Tax Expense (25%): $1,053,625,000

Net Income After Tax: $3,160,875,000

Projected Income Statement

Year 7

Revenue

• Sustainable Aviation Fuel	$6,708,750,000
Total Revenue:	**$6,708,750,000**

Operating Expenses:

• Feedstock Costs:	$1,500,000,000
• Labor & Salaries:	$12,500,000
• Utilities:	$60,000,000
• Regulatory Compliance & Permitting:	$2,000,000
• Insurance:	$3,000,000
• Office, Admin & Legal:	$9,000,000
• Construction-Related OPEX:	$30,000,000
• R&D Allocation:	$22,000,000
• Depreciation:	$70,000,000
Total Operating Expenses:	**$1,708,500,000**
Net Income:	**$5,000,250,000**
• Tax Expense (25%):	$1,250,062,500
Net Income After Tax:	**$3,750,187,500**

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Projected Balance Sheets

Summary

The SAF Division's balance sheet structure is built around a capital-efficient strategy that leverages asset-backed financing (IRBs), matched federal grants, and carefully staged equity deployment. This structure enables aggressive capitalization of long-term assets without overleveraging early-stage cash flows.

Fixed assets, including gasification, Fischer-Tropsch synthesis, and AI control infrastructure, dominate the balance sheet through Years 1–3, reaching over $1.2B by Year 5. These are funded primarily through long-term debt and public-private programs, minimizing dilution and preserving equity value for stakeholders.

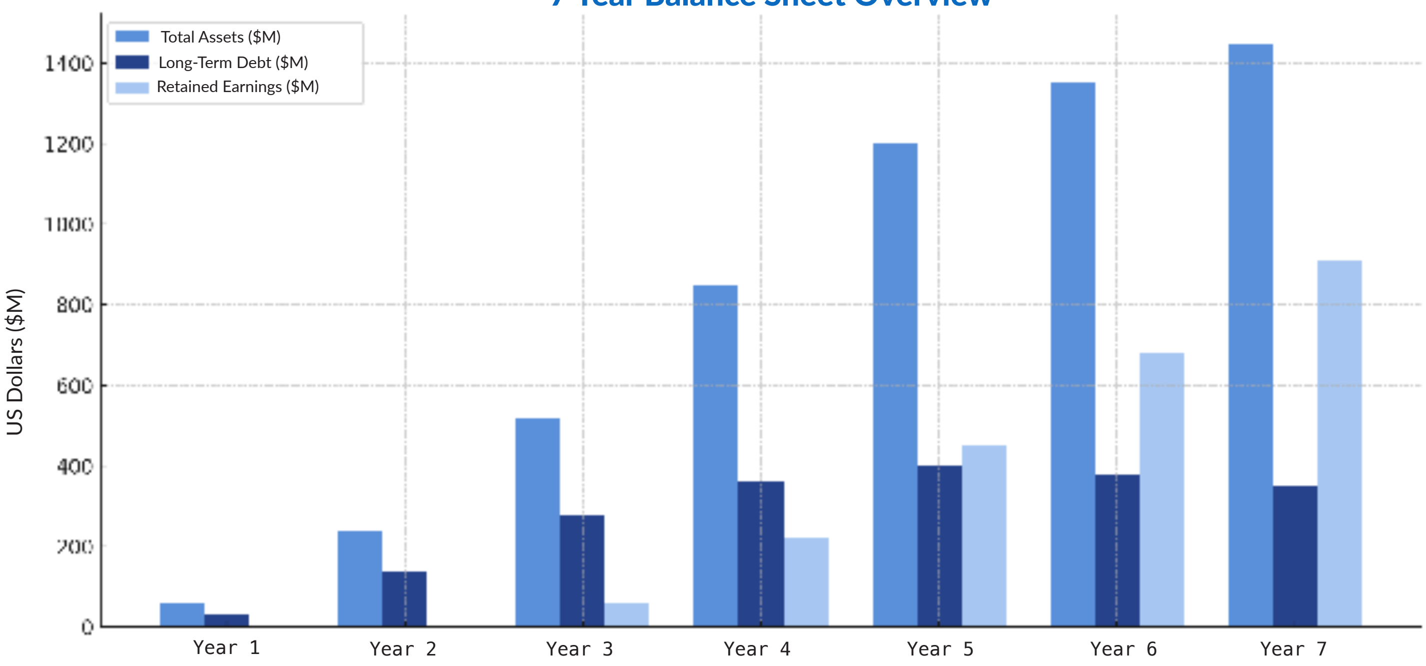
Working capital remains tightly managed in early years, supported by staged draws and internal syngas supply that insulates against market volatility.

Inventory and receivables grow proportionally with throughput, while payables remain favorable due to equipment lead times and strategic procurement relationships.

Debt-to-equity ratios are modeled to remain within commercially acceptable ranges throughout the ramp, with refinancing or credit enhancement options available in Year 4 or 5. Interest coverage improves significantly as revenues scale, reducing risk and increasing the project's attractiveness to institutional lenders.

By Year 6, the balance sheet reflects a fully matured asset base with substantial retained earnings and reduced reliance on external debt. This positions the SAF Division for strategic refinancing, future dividend issuance, or leverage for follow-on expansion and acquisitions.

7 Year Balance Sheet Overview



Projected Balance Sheet

Year 1

Assets:

- Cash: $143,000,000

Total Current Assets: **$143,000,000**

- Property, Plant, and Equipment: $35,000,000

Total Non-Current Assets: **$35,000,000**

Total Assets: **$178,000,000**

Liabilities and Equity:

- Long-Term Debt: $250,000,000
- Federal Government Grants: $0
- Retained Earnings / Net Equity: -$72,000,000

Total Liabilities and Equity: **$178,000,000**

Projected Balance Sheet

Year 2

Assets:

• Cash:	$242,500,000
Total Current Assets:	**$242,500,000**
• Property, Plant, and Equipment:	$400,000,000
Total Non-Current Assets:	**$400,000,000**
Total Assets:	**$642,500,000**

Liabilities and Equity:

• Long-Term Debt:	$370,000,000
• Federal Government Grants:	$0
• Retained Earnings / Net Equity:	$272,500,000
Total Liabilities and Equity:	**$642,500,000**

Projected Balance Sheet

Year 3

Assets:

• Cash:	$932,500,000
Total Current Assets:	**$932,500,000**
• Property, Plant, and Equipment:	$500,000,000
Total Non-Current Assets:	**$500,000,000**
Total Assets:	**$1,432,500,000**

Liabilities and Equity:

• Long-Term Debt:	$540,000,000
• Federal Government Grants:	$200,000,000
• Retained Earnings / Net Equity:	$692,500,000
Total Liabilities and Equity:	**$1,432,500,000**

Projected Balance Sheet

Year 4

Assets:

• Cash:	$2,615,500,000
Total Current Assets:	**$2,615,500,000**
• Property, Plant, and Equipment:	$900,000,000
Total Non-Current Assets:	**$900,000,000**
Total Assets:	**$3,515,500,000.**

Liabilities and Equity:

• Long-Term Debt:	$740,000,000
• Federal Government Grants:	$300,000,000
• Retained Earnings / Net Equity:	$2,475,500,000
Total Liabilities and Equity:	**$3,515,500,000**

Projected Balance Sheet

Year 5

Assets:

• Cash:	$4,740,500,000
Total Current Assets:	**$4,740,500,000**
• Property, Plant, and Equipment:	$1,350,000,000
Total Non-Current Assets:	**$1,350,000,000**
Total Assets:	**$4,740,500,000**

Liabilities and Equity:

• Long-Term Debt:	$990,000,000
• Federal Government Grants:	$500,000,000
• Retained Earnings / Net Equity:	$4,600,500,000
Total Liabilities and Equity:	**$6,090,500,000**

Projected Balance Sheet

Year 6

Assets:

- Cash: $8,210,500,000

Total Current Assets: $8,210,500,000

- Property, Plant, and Equipment: $1,600,000,000

Total Non-Current Assets: $1,600,000,000

Total Assets: $9,810,500,000

Liabilities and Equity:

- Long-Term Debt: $1,090,000,000
- Federal Government Grants: $600,000,000
- Retained Earnings / Net Equity: $8,120,500,000

Total Liabilities and Equity: $9,810,500,000

Projected Balance Sheet

Year 7

Assets:

- Cash: $12,435,500,000

Total Current Assets: $12,435,500,000

- Property, Plant, and Equipment: $1,850,000,000

Total Non-Current Assets: $1,850,000,000

Total Assets: $14,285,500,000

Liabilities and Equity:

- Long-Term Debt: $1,140,000,000
- Federal Government Grants: $700,000,000
- Retained Earnings / Net Equity: $12,445,500,000

Total Liabilities and Equity: $14,285,500,000

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Projected Cash Flow Statements

Summary

CarbonCore's SAF cash flow projections reflect a phased capital deployment strategy, underpinned by industrial revenue bonds (IRBs), anticipated federal grants, and project-level equity. The project is structured to limit cash burn during the construction phase and maintain high capital efficiency through shared infrastructure, modular buildouts, and internalized syngas production.

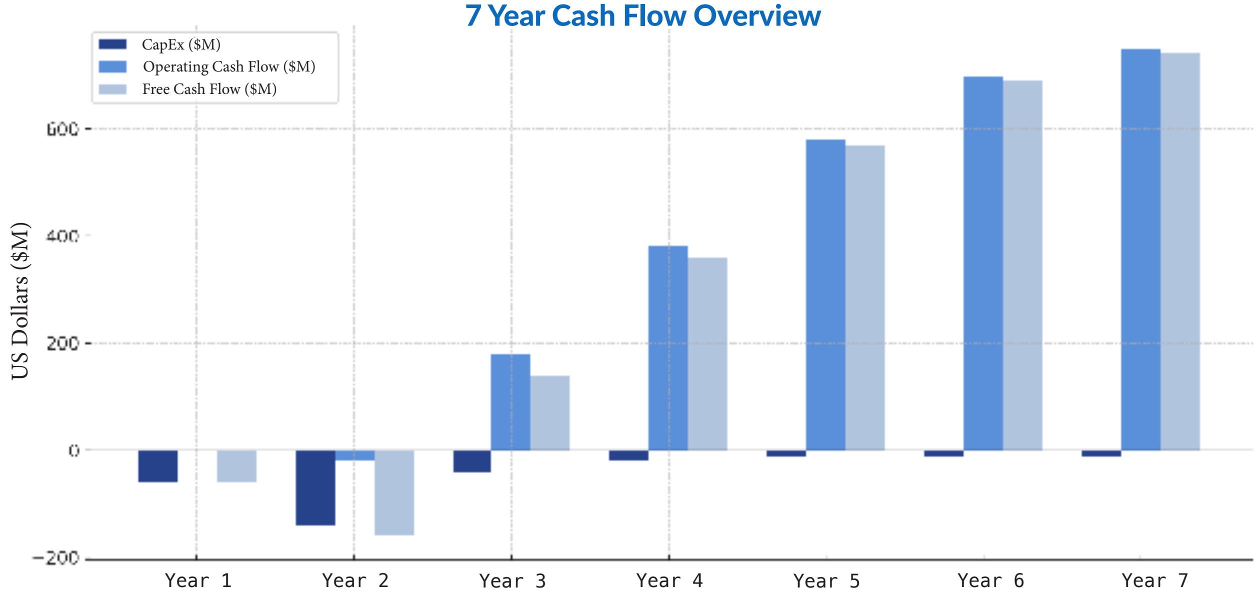
Initial capital outlays are concentrated in Years 1 and 2, covering site acquisition, permitting, front-end engineering, and procurement of gasification and Fischer-Tropsch equipment. First revenue is expected by mid-to-late Year 2, with operating cash flows turning positive in Year 3 and cumulative free cash flow becoming net positive in Year 4.

Cash flow stability is supported by long-term offtake potential, LCFS/RFS/45Z tax credit eligibility, and optimized OPEX via AI-driven automation.

Conservative modeling excludes speculative tax incentives and assumes linear price realizations and throughput ramps. Capital intensity reduces in Year 5 onward, aligning with growing internal cash generation. Bridge capital and IRB tranches are structured to front-load major equipment purchases and unlock matching federal support. Flexible staging also allows for alignment with milestone-based grant programs, minimizing dilution and preserving financial headroom. Additional working capital allocations in early years ensure feedstock availability, labor ramp-up, and commissioning stability without drawing excess equity.

The SAF division is expected to reach full self-sufficiency by Year 4, with strong cumulative cash reserves forecast from Year 5 onward. Net operating cash flow exceeds $750M annually by Year 7, providing ample reinvestment capacity or strategic dividend optionality.

7 Year Cash Flow Overview



Projected Cash Flow Statement

Year 1

Cash Flows from Operating Activities:

Net Cash from Operations:	-$22,000,000

Cash Flows from Investing Activities:

• Engineering & Design	-$15,000,000	
• Grading & Site Prep	-$10,000,000	
• Equipment Deposits	-$20,000,000	
• Main Facility Construction	-$35,000,000	
• Temporary Structures Setup:	-$5,000,000	
Net Cash from Investing Activities:		-$85,000,000

Cash Flows from Financing Activities:

• Loan Proceeds:	$250,000,000	
• Interest Payments:	$0	
Net Cash from Financing Activities:		$250,000,000

Tax Payments:

• Taxable Income:	$0	
Tax Expense (25%):		$0

Net Cash Flow: $143,000,000

Closing Cash Balance: $143,000,000

Projected Cash Flow Statement

Year 2

Cash Flows from Operating Activities:

Net Cash from Operations:	**$120,000,000**

Cash Flows from Investing Activities:

• Facility expansion	-$50,000,000	
• Infrastructure Upgrades	-$20,000,000	
• Equipment Prep and Installation	-$75,000,000	
• Miscellaneous Construction	-$10,000,000	
Net Cash from Investing Activities:		**-$155,000,000**

Cash Flows from Financing Activities:

• Loan Proceeds:	$170,000,000	
• Interest Payments:	-$10,500,000	
Net Cash from Financing Activities:		**$159,500,000**

Tax Payments:

• Taxable Income:	$100,000,000	
Tax Expense (25%):		$25,000,000

Net Cash Flow: $99,500,000

Closing Cash Balance: **$242,500,000**

Projected Cash Flow Statement

Year 3

Cash Flows from Operating Activities:

Net Cash from Operations: $850,000,000

Cash Flows from Investing Activities:

• Facility Expansion:	-$60,000,000
• Infrastructure Upgrades:	-$30,000,000
• Equipment Prep and Installation:	$-100,000,000
• Miscellaneous Construction:	$-20,000,000

Net Cash from Investing Activities: -$210,000,000

Cash Flows from Financing Activities:

• Loan Proceeds:	$170,000,000
• Interest Payments:	-$15,000,000
• Federal Government Grants:	$200,000,000

Net Cash from Financing Activities: $355,000,000

Tax Payments:

• Taxable Income:	$1,222,672,813

Tax Expense (25% After Incentives): $305,668,203

Net Cash Flow: $690,000,000

Closing Cash Balance: $932,500,000

Projected Cash Flow Statement

Year 4

Cash Flows from Operating Activities:

Net Cash from Operations:	$1,800,000,000

Cash Flows from Investing Activities:

• Facility Expansion:	-$150,000,000
• Infrastructure Upgrades:	-$80,000,000
• Equipment Prep and Installation:	-$120,000,000
• Miscellaneous Construction:	-$50,000,000

Net Cash from Investing Activities:	**-$400,000,000**

Cash Flows from Financing Activities:

• Loan Proceeds:	$200,000,000
• Interest Payments:	-$20,000,000
• Federal Government Grants:	$100,000,000
• Local Government Grants:	$5,000,000

Net Cash from Financing Activities:	**$280,000,000**

Tax Payments:

• Taxable Income:	$2,389,000,000

Tax Expense (25% After Incentives):	$597,250,000

Net Cash Flow: $1,683,000,000

Closing Cash Balance: **$2,615,500,000**

Projected Cash Flow Statement

Year 5

Cash Flows from Operating Activities:

Net Cash from Operations: $2,550,000,000

Cash Flows from Investing Activities:

- Facility Expansion: -$180,000,000
- Infrastructure Upgrades: -$100,000,000
- Equipment Prep and Installation: -$130,000,000
- Miscellaneous Construction: -$40,000,000

Net Cash from Investing Activities: -$450,000,000

Cash Flows from Financing Activities:

- Loan Proceeds: $250,000,000
- Interest Payments: -$25,000,000
- Federal Government Grants: $200,000,000

Net Cash from Financing Activities: $425,000,000

Tax Payments:

- Taxable Income (After Incentives): $3,352,750,000

Tax Expense (25% After Incentives): $838,187,500

Net Cash Flow: $2,125,000,000

Closing Cash Balance: $4,740,500,000

Projected Cash Flow Statement

Year 6

Cash Flows from Operating Activities:

Net Cash from Operations:	$3,550,000,000

Cash Flows from Investing Activities:

- Facility Expansion: -$100,000,000
- Infrastructure Upgrades: -$50,000,000
- Equipment Prep and Installation: -$80,000,000
- Miscellaneous Construction: -$20,000,000

Net Cash from Investing Activities:	-$250,000,000

Cash Flows from Financing Activities:

- Loan Proceeds: $100,000,000
- Interest Payments: -$30,000,000
- Federal Government Grants: $100,000,000

Net Cash from Financing Activities:	$170,000,000

Tax Payments:

- Taxable Income (After Incentives): $4,711,250,000

Tax Expense (25% After Incentives):	$1,177,812,500

Net Cash Flow: $3,470,000,000

Closing Cash Balance: $8,210,500,000

Projected Cash Flow Statement

Year 7

Cash Flows from Operating Activities:

Net Cash from Operations: $4,300,000,000

Cash Flows from Investing Activities:

- Facility Expansion: -$100,000,000
- Infrastructure Upgrades: -$30,000,000
- Equipment Prep and Installation: -$50,000,000
- Miscellaneous Construction: -$10,000,000

Net Cash from Investing Activities: -$190,000,000

Cash Flows from Financing Activities:

- Loan Proceeds: $50,000,000
- Interest Payments: -$35,000,000
- Federal Government Grants: $100,000,000

Net Cash from Financing Activities: $115,000,000

Tax Payments:

- Taxable Income: $340,000,000

Tax Expense (25% After Incentives): $85,000,0000

Net Cash Flow: $4,225,000,000

Closing Cash Balance: $12,435,500,000

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Risk Analysis

1. Market Risk
Fluctuations in the demand for syngas, hydrogen, and graphene could impact our revenue projections. Market dynamics can be influenced by technological advancements, regulatory changes, and macroeconomic factors.

2. Technological Risk
Potential delays or failures in the implementation of advanced technologies for SAF, and graphene production. Technological challenges could arise from unforeseen complications in scaling up processes or integrating new technologies.

3. Financial Risk
Inaccurate financial projections or unexpected cost overruns could affect profitability. Financial risks include higher-than-expected operational costs, unforeseen expenses, or lower than anticipated revenues.

4. Regulatory Risk
Changes in environmental regulations or delays in obtaining necessary permits could impact project timelines and costs. Regulatory changes could impose stricter compliance requirements or increase operational costs.

5. Operational Risk
Operational challenges such as equipment failures, supply chain disruptions, or workforce issues could affect production. Operational risks include maintenance issues, logistical bottlenecks, and workforce shortages.

6. Feedstock Supply Risk
Variability in the availability or cost of feedstocks (natural gas, biomass, coal) could impact production costs and efficiency. Supply chain interruptions or price volatility could affect feedstock reliability and cost.

7. Competitive Risk
Increased competition from existing players or new entrants could impact market share and pricing power. Competitors may develop superior technologies or offer more competitive pricing.

8. Funding and Capital Risk
Delays or difficulties in securing phased funding could impact project timelines and growth plans. Financing risks include investor reluctance, unfavorable market conditions, or funding shortfalls.

9. IPO Risk
The planned IPO around year three may not materialize or meet financial expectations, impacting future funding. Market conditions or company performance may affect IPO timing and success.

10. Environmental and Social Risk
Potential environmental impacts or community opposition could lead to reputational damage or project delays. Environmental concerns and social opposition could result in regulatory scrutiny or project halts.

11. Legacy Risk
Risks associated with the transition from traditional energy sources and technologies to advanced, sustainable ones. This includes managing existing investments and infrastructure that may become obsolete or require significant modification.

Risk Mitigation

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1. Market Risk Mitigation

Strategy:
Diversify product offerings and target multiple markets to reduce dependency on any single market. Conduct continuous market analysis to adapt strategies promptly and identify emerging opportunities.

2. Technological Risk Mitigation

Strategy:
Partner with reputable manufacturers and technology providers. Invest in phased implementation to identify and address issues early. Maintain a robust R&D program to stay ahead of technological advancements.

3. Financial Risk Mitigation

Strategy:
Build a robust financial model with conservative estimates and contingency funds. Conduct regular financial reviews and audits to ensure budget adherence and prompt corrective actions. Maintain a disciplined approach to cost management.

4. Regulatory Risk Mitigation

Strategy:
Engage with regulatory bodies early in the planning process. Stay informed about regulatory changes and adapt compliance strategies proactively. Establish a dedicated compliance team to monitor and manage regulatory requirements.

5. Operational Risk Mitigation

Strategy:
Implement rigorous maintenance and quality control programs. Develop strong relationships with suppliers to ensure reliable supply chains. Invest in employee training and retention programs to build a skilled and stable workforce.

6. Feedstock Supply Risk Mitigation

Strategy:
Secure long-term supply agreements with reliable suppliers like Kentucky River Properties LLC. Utilize co-gasification to provide flexibility in feedstock use and mitigate the impact of price volatility and supply interruptions.

7. Competitive Risk Mitigation

Strategy:
Focus on continuous innovation, strategic partnerships, and maintaining high quality and cost efficiency. Develop a strong brand and market presence. Monitor competitor activities and adapt strategies accordingly.

8. Funding and Capital Risk Mitigation

Strategy:
Maintain transparent communication with investors and demonstrate clear progress towards milestones. Prepare alternative funding strategies, such as strategic partnerships or debt financing, to ensure capital availability.

Risk Mitigation

9. IPO Risk Mitigation

Strategy:
Develop a solid business model that ensures viability and growth independent of the IPO. Keep exploring additional financing options and strategic partnerships. Prepare thoroughly for the IPO to maximize the chances of success.

10. Environmental and Social Risk Mitigation

Strategy:
Implement sustainable practices and maintain open communication with local communities and stakeholders. Conduct environmental impact assessments and actively address concerns. Develop community engagement programs to foster positive relationships.

11. Legacy Risk Mitigation

Strategy:
Develop a clear transition plan for existing investments and infrastructure. Invest in retrofitting and upgrading old facilities where feasible. Maintain a balanced portfolio that includes both traditional and advanced energy assets during the transition phase.

Conclusion

This comprehensive risk analysis and mitigation plan provides a clear framework for identifying potential challenges and implementing strategies to address them. By proactively managing these risks, CarbonCore aims to ensure the successful execution and sustainability of the Advanced Energy Materials Complex, ultimately achieving our strategic objectives and delivering value to our investors.

Aligned with USDA rural priorities and energy transition initiatives

Risk Mitigation

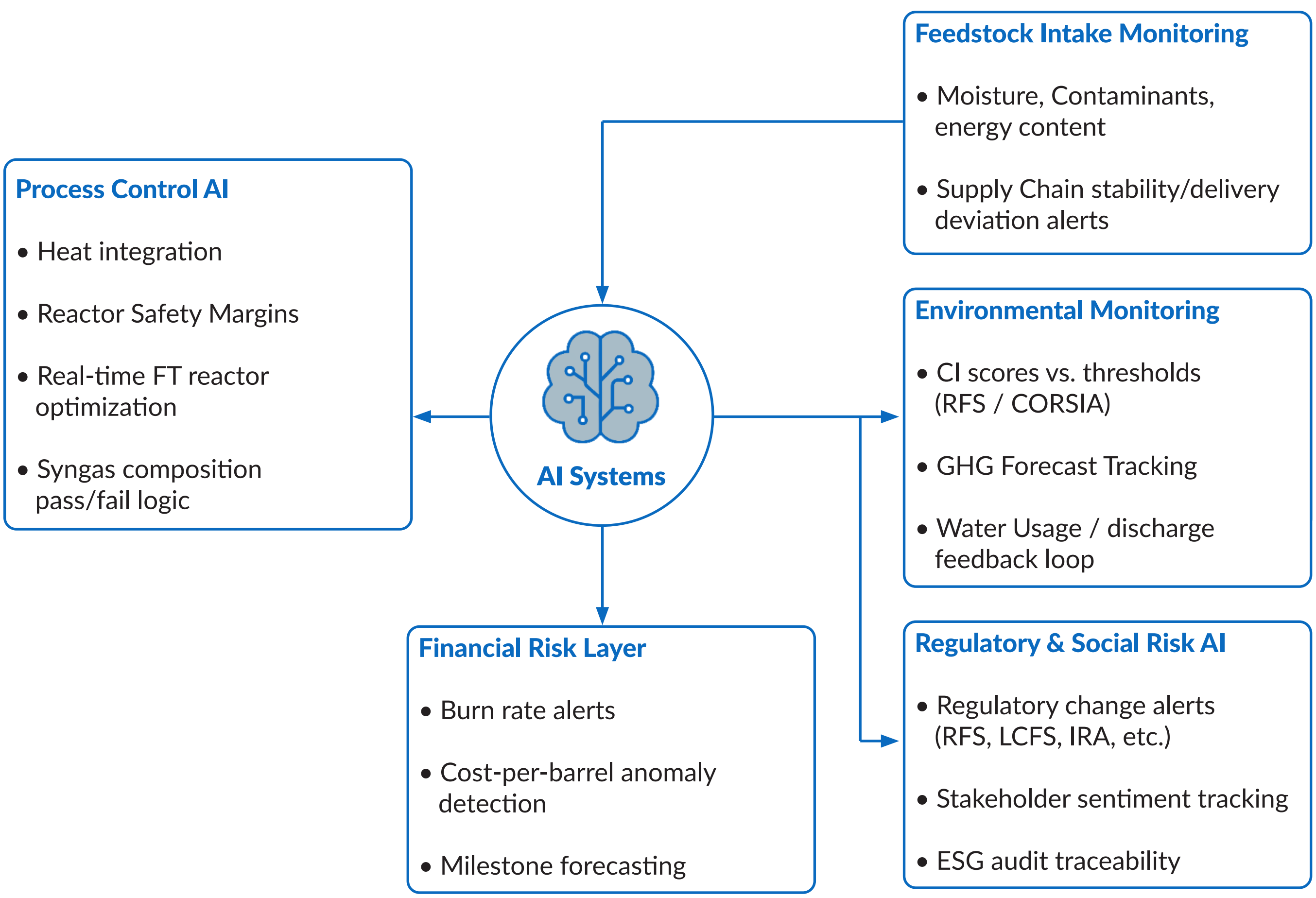
AI-Powered Risk Mitigation & Adaptive Control

CarbonCore's AI systems are not passive observers — they are active agents in identifying, mitigating, and resolving risk across every operational layer.

Through continuous monitoring, predictive modeling, and real-time intervention, our AI infrastructure strengthens the resilience of CarbonCore's SAF platform — improving uptime, ensuring compliance, and reducing exposure to market volatility and environmental liabilities.

From syngas composition analysis and feedstock fluctuation detection to carbon intensity forecasting and cost anomaly flagging, the AI stack is woven into the very fabric of CarbonCore's decision-making and quality control.

This allows us to respond before problems arise — with agility, precision, and confidence.



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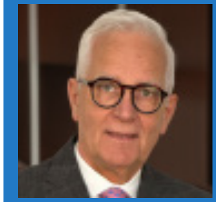
Main Board

Michael A. McKenzie – Founder, President & C.E.O.



Visionary entrepreneur with a global background in energy, sustainability, advanced materials, and capital markets. Founder of CarbonCore Inc., leading one of North America's most ambitious SAF and graphene platforms. He has driven the project from concept to execution, securing major state-level support and incentives from Team Kentucky. With experience across the U.S., UK, Europe, and the Middle East, Michael is committed to delivering transformative, commercially viable climate solutions.

Dr. Chief Sustainability & Science Officer (CSSO)

To Be Announced Shortly

An experienced SAF scientist and patented innovator, CarbonCore's Chief Sustainability & Science Officer (CSSO) brings deep expertise in lifecycle emissions reduction, green chemistry, and federal compliance frameworks including CORSIA and the U.S. RFS. With prior experience scaling commercial SAF programs and guiding decarbonization efforts in the private sector, the CSSO now oversees CarbonCore's scientific roadmap and environmental integrity from board level.

John P. Cornett - Co-Founder & Chief Compliance Officer

Co-founder of CarbonCore and a seasoned attorney with deep experience in regulatory compliance, corporate governance, and risk mitigation. John oversees all legal and regulatory matters across the organization, ensuring full alignment with federal, state, and industry-specific requirements. His role is central to CarbonCore's licensing, permitting, and ESG assurance frameworks, helping establish a culture of integrity and long-term accountability.

Raymond A. Farrier - Chief Operations Officer

Ray Farrier brings over 30 years of executive leadership across global oil & gas and heavy industry sectors. Relocating from Perth, he has managed operations and project delivery for multi-billion-dollar assets across North America, Europe, the Middle East, and Asia-Pacific. Ray's expertise spans large-scale logistics, infrastructure development, and facility commissioning. As CarbonCore's designated COO, he will assume full-time leadership upon the close of Series A funding.

Dr. Zahra Sepasi - Chief AI & Process Officer (C.A.P.O)

Chief AI & Process Officer (Designate), Zahra Sepasi holds a PhD in chemistry and brings deep expertise in AI integration for sustainable fuels and advanced materials. Her cross-disciplinary background aligns with CarbonCore's mission to embed intelligent systems across SAF, graphene & other platforms. With a strong strategic lens and fluency in complex systems, Zahra is uniquely positioned to lead company-wide AI deployment and accelerate innovation from lab to large-scale application.

Jack Cornett - Chief Financial Officer

Jack Cornett is a retired IBM executive with expertise in finance, management, and IT. He founded and ran a successful employment services firm in Lexington for 13 years. He later held leadership roles in state and local government, including founding Kentucky's first IT oversight office. Most recently, he served as CFO, Interim CAO and Board Member at the Lexington-Fayette County Health Department. His focus on process, sustainability, and strategic leadership adds invaluable insight to CarbonCore.

Fueling The Future Together

We’re genuinely excited about what comes next — and even more excited by the possibility of doing it with you.
Thank you for taking the time to evaluate this opportunity.

Curious how this turns into a billion-dollar clean-tech powerhouse? We’ve prepared a set of Core Intelligence Briefings — short, high-impact reads on how CarbonCore wins with AI, systems design, and advanced materials.

Just say the word, and we’ll send the ones that matter most to you.

And here’s a final thought that captures the spirit behind everything we do:

At CarbonCore, we don’t just think outside the box —
we recycle it, convert it into SAF and graphene,
and use it to power the future.

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Appendices

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Appendix i

Graphene Summary

CarbonCore's Graphene Division is an advanced materials platform leveraging our integrated syngas infrastructure. Operating as a standalone entity, it will initially focus on high-purity graphene production via Chemical Vapor Deposition (CVD), serving premium markets in quantum computing, electronics, and defense. This model ensures cost efficiency, precision, and scalable commercialization.

Phase 1 Objectives (Years 1–3)

Production Target: 400–600 MT/year of high-purity graphene (CVD)
Feedstock: Internal methane-rich syngas (cost +10%)
Facility: Co-located with SAF plant to share infrastructure and AI systems

Core Applications:

- Quantum devices
- Advanced electronics
- EMI shielding in EVs/aerospace
- Composite reinforcement

Feedstock Supply

Primary Input: High-purity methane/hydrogen syngas
Cost Advantage: Predictable internal pricing, full vertical integration
Quality Assurance: Controlled gas delivery for monolayer/multilayer graphene

Future Flexibility:

- LPE (Liquid Phase Exfoliation) to be explored in Phase 2
- Feasibility underway with University of Kentucky's CAER (coal-derived graphite)
- Optional for industrial or bulk-grade markets

Technology & Equipment

- CVD Lines:
- Copper substrate-based, modular roll-to-roll systems
- Supplied by Aixtron, CVD Equipment Corp, others
- AI Integration:
- Inline defect detection and process optimization
- Predictive maintenance and dynamic energy/load balancing

Strategic Positioning

Low-Cost Leadership: Vertical integration + shared infrastructure
Federal Funding Fit: Strong alignment with DOE, DoD, NSF, CHIPS Act priorities
Sustainability: Emissions-light, syngas-powered process

Growth Outlook:

- Phase 2 scale to >1,500MT/year
- Additional CapEx: $80–120M for expanded LPE and derivative lines

Commercial Strategy

Target Clients:

- Aerospace and defense firms
- Semiconductor/electronics OEMs
- Composite material producers
- Pricing: Premium-grade graphene with AI-driven margin gains
- IP: Proprietary AI process tools and potential joint IP with federal/university partners

Investor Alignment

Structured as a separate venture, the Graphene Division offers investors targeted exposure to the fast-growing advanced materials sector, while benefiting from CarbonCore's shared infrastructure and feedstock access. This creates an attractive, capital-efficient platform for equity participation, potential federal grant leverage, and future monetization opportunities via strategic partnerships or public markets.

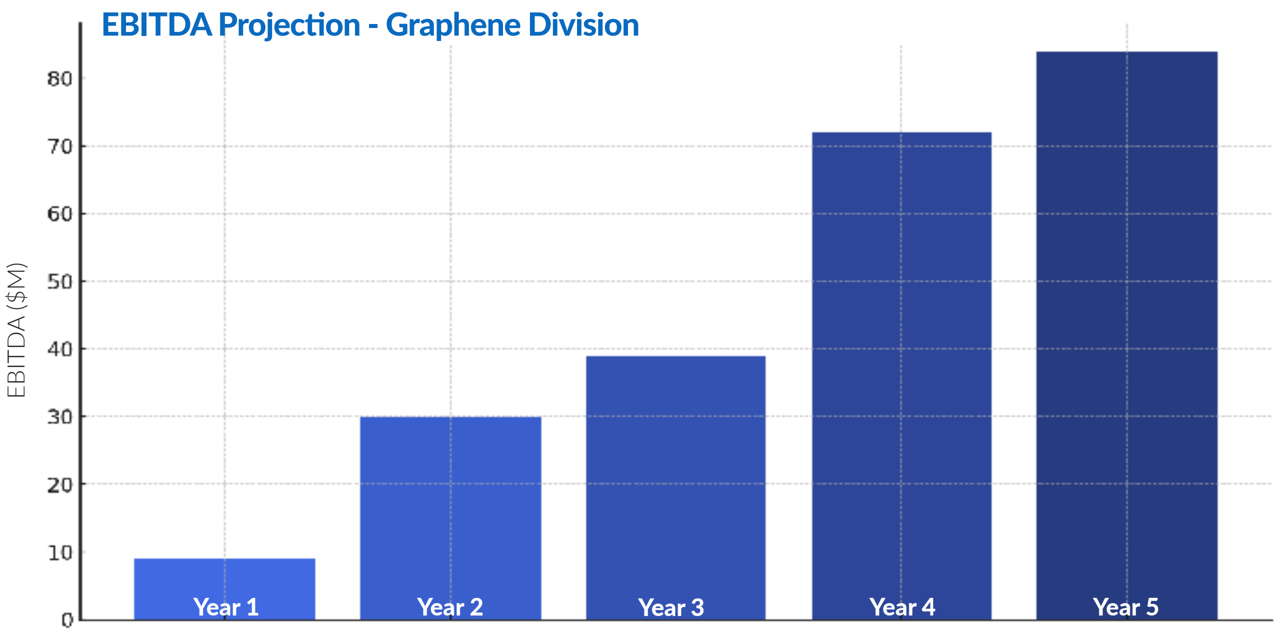
Graphene Financial Projections

Financial Snapshot

Metric	Year 1	Year 2	Year 3	Year 4	Year 5
Graphene Production (MT/year)	100	400	600	1,200	1,500
Average Selling Price ($/kg)	250	230	210	195	180
Gross Revenue ($M)	25.0	92.0	126.0	234.0	270.0
Gross Margin (%)	66%	65%	64%	64%	64%
EBITDA ($M)	9.0	30.0	39.0	72.0	84.0
CapEx (Cumulative, $M)	35.0	60.0	60.0	120.0	140.0

Key Assumptions

- Phase 1 CapEx: $60M total through Year 3
- Phase 2 Expansion: Begins Year 4 with additional $80M
- Feedstock pricing: Internal syngas at cost +10%
- Pricing: Premium ASP maintained through disciplined market selection
- AI systems drive yield, QC, and OPEX efficiency
- Revenue mix based on premium-grade graphene for aerospace, electronics, and defense markets



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Appendix ii

Project Location

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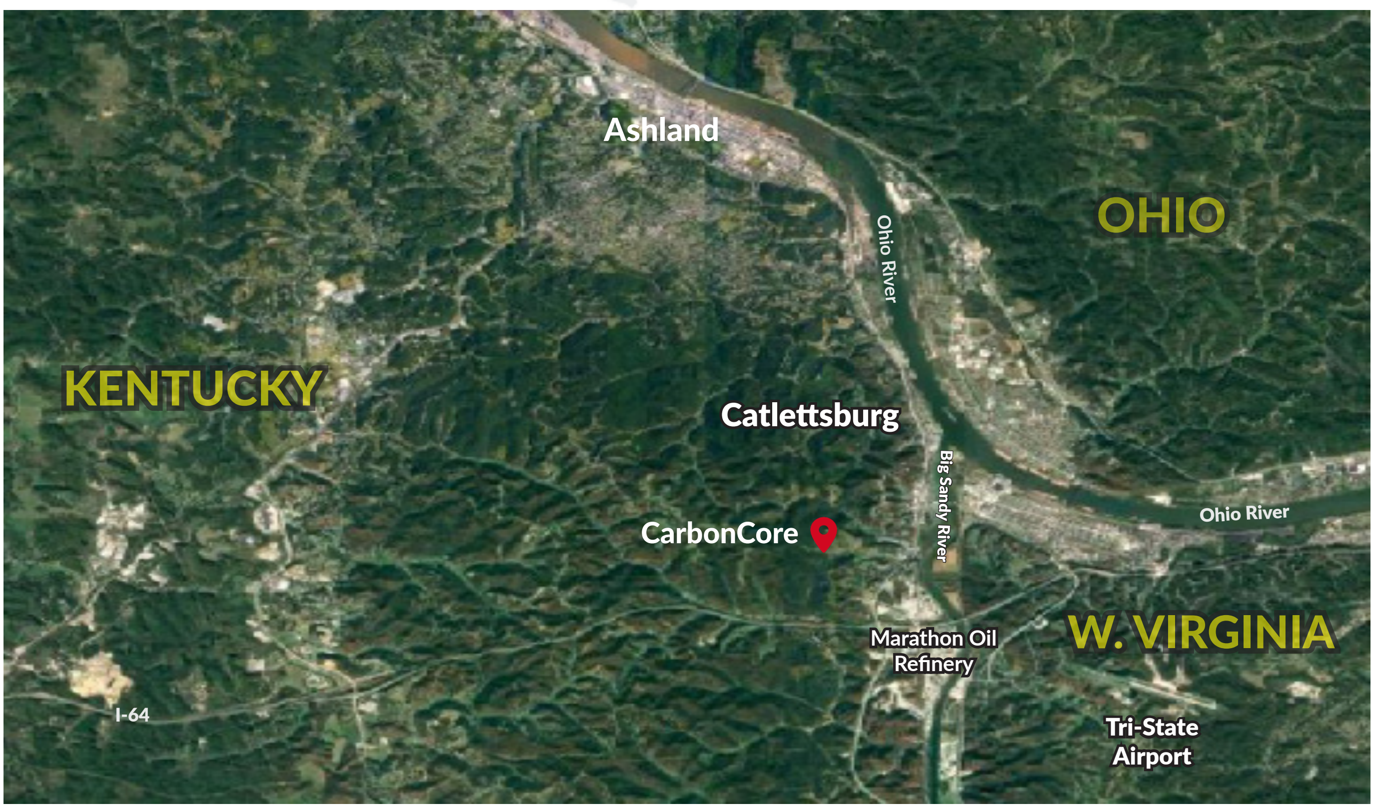
Project Location



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Appendix iii

Strategic Partner

Who We Are.

True to Our Values.
Proven by Our Performance.

Gray is a family-owned, fully integrated global service provider specializing in engineering, architecture, construction, automation, controls, & robotics, specialty equipment manufacturing, and real estate services.

Over the years, a lot has changed. One thing that hasn't? Our dedication to being the best possible partner to every customer. We see every project as an opportunity to build meaningful relationships. We do so by giving the customer everything they need—and just a little bit more.

One Cohesive Team.

Founded in 1960, Gray has grown to encompass an integrated family of companies, designed to augment and complement each other's specialized capabilities. From engineering and equipment fabrication to automation and robotics, our robust offering enables us to create one-of-a-kind solutions at the highest levels of customization. Dedicated cross-collaboration amongst Gray's family of companies drives innovative solutions, delivering precision and partnership to some of the world's most sophisticated organizations.

Transforming industries by reimagining the possible.

Our Core Values.

Gray believes our success can be attributed to upholding a simple set of core values that date back to our founding:

01

We put safety and quality of life first.

02

We are customer and relationship driven.

03

We treat others the way we want to be treated where everyone is welcome and respected.

Our Purpose.

Make a positive **difference** in people's lives and build a **better future**.

Our Vision.

The **trusted partner, transforming industries** by **reimagining** the possible.

Guiding Principles.

Leaders
You are the lifeblood at Gray: **Everyone** is a **leader** that defines, protects, and grows our culture.

Core Values
We believe in our **core values** and will **always lead** with them.

Cohesive Teams
We are **one Gray family** of **cohesive teams** – respecting and trusting, assuming positive intent and collaborating.

Profits
Our **entrepreneurial spirit** delivers consistent and growing profits.

Specialized Capabilities. One Cohesive Team.

Construction

- Safety Management
- Project Management
- Site Management
- Pre-construction
- Facility Construction
- Equipment Procurement
- Equipment Installation
- Schedule Management

Engineering

- Process & Packaging Systems
- Robotics & Vision
- AMRs/AGVs
- Preliminary & Detailed Technical Engineering
  - Utility Design
  - Automated Material Handling Systems
  - Equipment Specifications & Design
- Civil/Building Engineering
- Mechanical/Electrical Engineering
- Fire Protection & Life Safety Systems
- Power Distribution Systems

Design

- Facility Design
- BIM/VDC
- Sustainable Design

Equipment

- Design-Build for Custom Equipment
- Process Skids
- Clean-in-Place Systems
- Extruders
- Mixers & Blenders
- Ovens & Cookers
- Batching Equipment
- Bioreactors
- Distributed Products
- Control Panel Fabrication

Development

- Feasibility Studies
- Pre-construction
- Incentive Coordination

Digital

- Automation & Controls Design and Integration
- Production-first IT
- MES/MIS & IOT/Data

Planning

- Master Planning
- Front-end Services
- Strategy Consulting
- Site Evaluation/Analysis

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