



CarbonCore Technology Overview

Introduction

CarbonCore's technology platform is designed to accelerate the deployment of sustainable aviation fuel (SAF) at industrial scale, while integrating circular resource recovery, modular engineering, and AI-driven operational intelligence. Our approach is built around three foundational technology pillars, each represented in a detailed technical brief within this section.

1. SAF Production Process

This brief outlines the end-to-end process of converting biomass into clean SAF through thermal gasification, syngas purification, Fischer-Tropsch synthesis, and downstream upgrading. CarbonCore's platform leverages proven technologies, including Johnson Matthey's CANS FT system (now owned by Honeywell UOP), integrated with robust emissions control and product handling strategies.

2. Modular Design Philosophy

This document highlights the engineering rationale behind CarbonCore's modular deployment strategy. Modular construction reduces EPC risk, enables scalable phase-in from 10,000 to 40,000 barrels per day, and shortens time to commissioning. It also allows greater flexibility across evolving policy, offtake, and feedstock conditions.

3. Co-product Recovery & Mitigation

This brief addresses how CarbonCore manages all non-fuel outputs of the SAF production process. It includes water recycling, heat recovery, CO₂ capture and valorization, tar and ash management, and circular use of biomass residuals. These systems reduce environmental impact while creating secondary value streams and long-term ESG benefits.

Conclusion

Together, these three briefs provide a clear and detailed view of CarbonCore's technology backbone. They demonstrate our readiness to deliver high-performance SAF infrastructure that is clean, scalable, and operationally intelligent.