

Green Bay Packaging Partners with Trinity on Air Permit for \$1 Billion Mill Modernization

CHALLENGE

Green Bay Packaging's (GBP's) \$1B mill modernization project is designed to replace aging infrastructure and reduce greenhouse gas emissions, ensuring the mill's long-term viability despite unique modeling challenges and an evolving PM_{2.5} standard.

SOLUTION

Acting as an integrated partner, Trinity guided iterative modeling to define stack heights and refine site layouts while coordinating closely with regulators. This approach allowed the project to stay on schedule throughout coordination across three offices.

RESULT

GBP secured its Prevention of Significant Deterioration (PSD) air permit on schedule. The team continued design refinements, adjusting layout and equipment placement, to ensure as-built compliance with the PSD air permit while retaining more than 620 jobs, cutting GHG emissions by 63%, and increasing renewable energy use to more than 95%.

Green Bay Packaging (GBP) is a family-owned company with a long history of innovation, sustainability leadership, and community impact. To continue this legacy, the company has launched a once-in-a-generation modernization of its Arkansas Kraft Paper Mill—an investment exceeding \$1 billion aimed at replacing aging infrastructure with state-of-the-art technology. This modernization will enhance the mill's long-term viability and contribute to decarbonization efforts by reducing greenhouse gas emissions by an average of 63% (combined Scope 1 and Scope 2 emissions) and increasing renewable energy generation from 70% to 95%. The project is also focused on investing in the community workforce and retaining over 620 jobs.

Executing a project of this scale required securing a Prevention of Significant Deterioration (PSD) air permit. During preparation of the PSD application, the U.S. Environmental Protection Agency (EPA) announced plans to tighten the National Ambient Air Quality Standards for particulate matter (PM_{2.5}). This shift introduced significant challenges for air dispersion modeling and engineering design, as the team needed to ensure that proposed permit limits were achievable with commercially available technology. To address this, team members worked diligently to assess supplier capabilities and evaluate technology options that would meet both process requirements and operational needs. The effort demanded near-constant coordination between the project team and Trinity, with continuous updates to reflect evolving design considerations.

Comprehensive modeling of various equipment configurations--aligned with the dynamic site layout--proved essential to arriving at a final, compliant, and feasible plan. To navigate the air permitting process effectively, the company engaged with Trinity Consultants, leveraging their regulatory expertise and strong partnerships with the Arkansas Department of Energy & Environment, Division of Environmental Quality (ADEQ) from previous sustainability-driven projects.

CHALLENGE

As the largest capital project in Central Arkansas history, the mill modernization is designed to minimize environmental impacts while bolstering both the workforce and the regional economy. However, the project team faced a significant challenge: navigating the air permitting process amid evolving regulatory standards.

SOLUTION

Trinity acted as an integrated partner, guiding the iterative modeling needed to define stack heights and refine site layouts while closely coordinating with regulators. The Trinity team worked alongside Green Bay Packaging to facilitate the air permitting process and ensure the modernization project stayed on track. This nine-person team operated seamlessly across three offices while maintaining close collaboration with GBP leadership and the ADEQ.

One of the most complex aspects of the process was air dispersion modeling. Trinity led an iterative approach to define optimal stack heights, recommend strategies for reducing fugitive emissions, and suggest adjustments to the site layout to meet regulatory requirements and project design needs. As GBP advanced in its detailed design work, the Trinity team evaluated those changes and layout modifications to ensure compliance with air permits. GBP's acquisition of an additional 300 acres provided the project with added flexibility, allowing new sources to be positioned further away from sensitive areas and the Arkansas River.

Simultaneously, Trinity proactively engaged with the ADEQ to clarify expectations and address any potential concerns, minimizing the risk of delays. Weekly calls with air permit engineers, biweekly meetings with ADEQ leadership, and coordination with Federal Land Managers during Class I modeling kept the permitting process aligned and transparent. As a result, GBP secured its PSD air permit on schedule, maintaining momentum despite ongoing changes to federal standards.

RESULT

GBP received its final PSD air permit in October 2023. With the PSD air permit secured, construction is progressing on schedule, paving the way for innovation and advanced energy technology, including combined heat and power (CHP) systems that facilitate decarbonization and ensure long-term sustainable, renewable energy reliability.

Securing our permits was essential to protecting our project timeline and advancing our goal of reaching 95% on-site renewable energy.

-LISA BAUER LOTTO, DIRECTOR OF ENVIRONMENTAL & SUSTAINABILITY PROGRAMS, GREEN BAY PACKAGING

ABOUT TRINITY CONSULTANTS

Trinity Consultants, a leading global environmental consulting firm, provides services and solutions in the EHS Regulatory Compliance, Built Environment, Life Sciences, and Water & Ecology markets. Founded in 1974, Trinity has the technical expertise, industry depth, and capabilities to help clients achieve their goals across the natural and built environments.