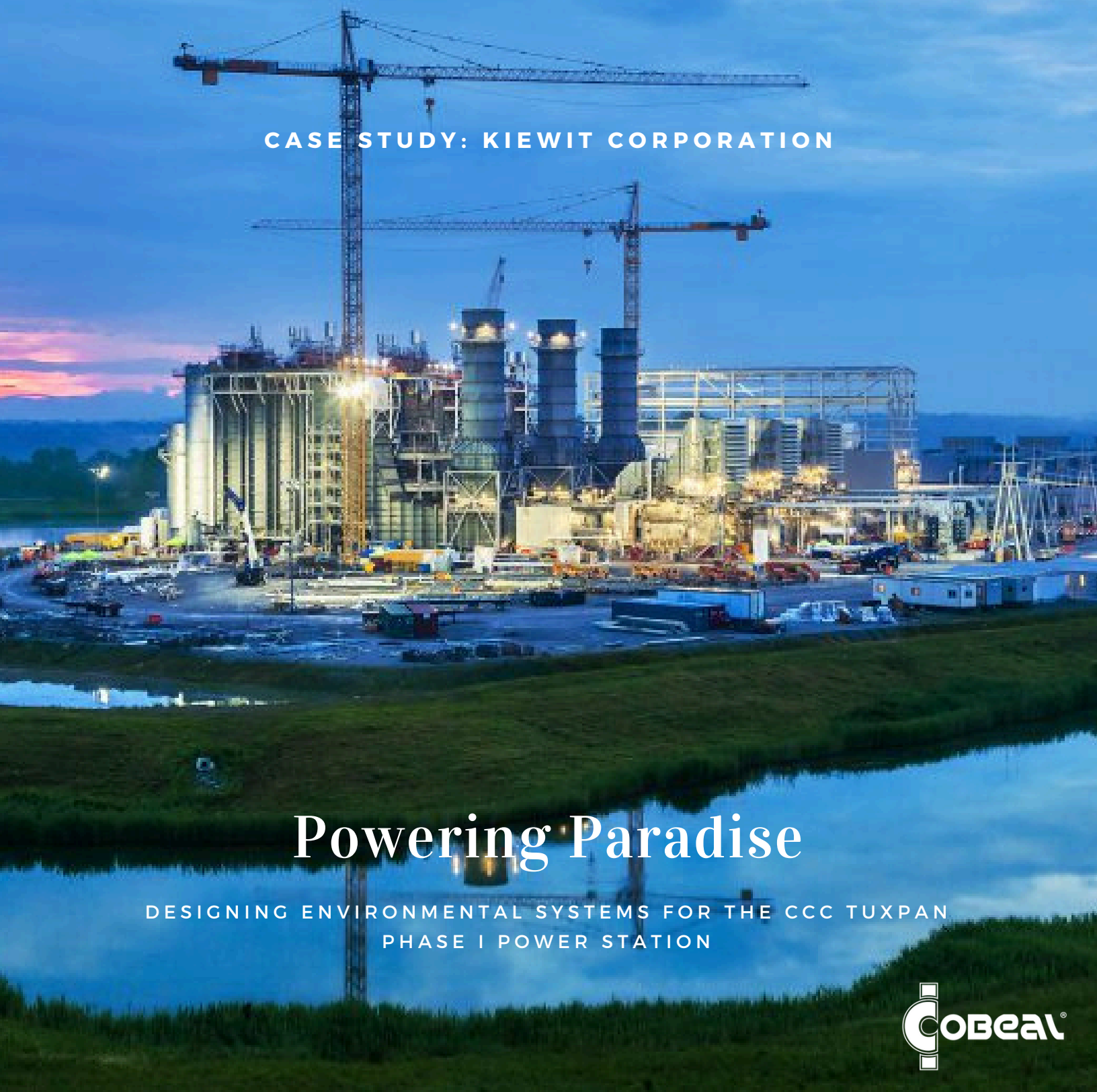
COBEAL MAGAZINE VOLUME 7

18 FEB 2025

CCC Tuxpan Phase I Power Station

CASE STUDY: KIEWIT CORPORATION



Powering Paradise

DESIGNING ENVIRONMENTAL SYSTEMS FOR THE CCC TUXPAN PHASE I POWER STATION

COBEAL®

Scope of Work

Cobeal was contracted by **Kiewit Corporation** (https://www.kiewit.com/) to carry out the commissioning of the environmental control system for the CCC Tuxpan Phase I power station, a state-of-the-art combined cycle facility currently under construction, with an expected start-up in 2025. The plant, which runs on natural gas, has a capacity of 1,086 MW, making it a significant addition to Mexico's energy landscape. The facility is owned by the Comisión Federal de Electricidad (CFE), which holds 100% ownership.

Our team at Cobeal is responsible for commissioning the environmental control systems and dehumidifiers which are essential to preserving the turbine generators of this combined cycle plant. The commissioning process ensures that all systems are designed, installed, tested, operated, and maintained in accordance with operational requirements. This not only guarantees the efficiency and reliability of the power station but also ensures compliance with strict environmental standards.

Cobeal's Role in the Commissioning of the Environmental Control System

Cobeal is responsible for commissioning the environmental control systems that play a crucial role in maintaining the efficiency and longevity of the turbine generators in this combined cycle plant.

The commissioning process ensures that all critical systems—including air quality monitoring, and thermal and humidity regulations—are fully integrated and optimized for long-term operation.

Every component undergoes rigorous testing to confirm compliance with performance, safety, and regulatory standards, ensuring that the power station operates at peak efficiency from day one.

Beyond performance optimization, our work is essential in meeting strict environmental requirements that govern modern energy infrastructure.

By implementing advanced environmental control measures, we help reduce the risk of corrosion in critical components like the blades of the turbine, reinforcing the project's commitment to sustainability and regulatory compliance.

This proactive approach not only enhances operational reliability but also contributes to a cleaner and more environmentally responsible energy sector, aligning with global initiatives for reduced carbon footprints and enhanced energy efficiency.

Mexico's Commitment to International Environmental Standards

Mexico is actively aligning its energy infrastructure projects with global climate and sustainability goals, particularly in compliance with the Paris Agreement and the country's Nationally Determined Contributions (NDCs). The CCC Tuxpan Phase I project plays a critical role in meeting these commitments by enhancing energy efficiency, reducing greenhouse gas emissions, and supporting the transition to cleaner energy.

As part of its 2030 and 2050 sustainability targets, Mexico has pledged to:

- **Reduce greenhouse gas emissions by 35% by 2030,** with a focus on industrial and energy sectors.
- **Increase reliance on cleaner, more efficient energy sources,** including natural gas, to phase out more carbon-intensive alternatives.
- **Ensure compliance with international environmental standards** through projects that integrate advanced emissions monitoring and environmental controls.

Technical Advancements in CCC Tuxpan Phase I's Environmental Control Systems

From an engineering perspective, the commissioning of the CCC Tuxpan Phase I power station represents a benchmark in environmental control integration for large-scale combined cycle plants. The environmental control systems (ECS) deployed on this project are designed to minimize NOx and CO2 emissions through an advanced dry low-NOx (DLN) combustion system and selective catalytic reduction (SCR) technology.

Additionally, the plant incorporates continuous emissions monitoring systems (CEMS), which ensure real-time compliance with SEMARNAT's air quality regulations and international best practices. The project also integrates waste heat recovery mechanisms to optimize energy efficiency, reducing thermal discharge into the environment and increasing overall power output.

As commissioning progresses, the engineering team remains focused on fine-tuning system performance, ensuring that every component—from gas turbines to emissions treatment infrastructure—meets the highest standards of reliability, efficiency, and environmental compliance.

Looking Ahead: The Lasting Impact of CCC Tuxpan Phase I

As the commissioning process advances, CCC Tuxpan Phase I is poised to become one of Mexico's most efficient and environmentally responsible power stations. This project is not just about engineering excellence today—it's about laying the groundwork for a cleaner, more resilient energy future.

✓ **Reliability & Energy Security –** With a capacity of 1,086 MW, this power plant will provide stable and consistent electricity, reducing reliance on older, less efficient facilities.

✓ **Reduced Environmental Footprint –** The integration of advanced emissions control and real-time monitoring ensures that CCC Tuxpan meets Mexico's international sustainability commitments.

✓ **A Model for Future Infrastructure –** By setting new benchmarks in efficiency and emissions reduction, this project demonstrates how high-tech solutions can support global climate goals.

Next Steps in the Commissioning Process

The final phases of commissioning include system optimization, full-load testing, and final regulatory approvals. Our engineers are working closely with industry partners and regulatory agencies to ensure a seamless transition to full-scale operations.

As we move forward, Cobeal remains committed to excellence in engineering, sustainability, and innovation, ensuring that CCC Tuxpan Phase I delivers clean, reliable energy for decades to come.

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