

CLARIANT

Case Study

Towards more sustainable feed additives with natural drying and recultivation



Overview

This case study focuses on the production of responsibly mined, naturally dried bentonites for feed additive applications, providing customers with lower scope 3 emissions and responsible supply chains. Clariant's natural feed additives detoxify animal feed, thereby ensuring animal health and efficiency. Clariant developed a technique to deploy sun drying, encompassing yard preparation, drying cycles and ploughing phases, resulting in a strong reduction of the demand for heat from gas for thermal drying.

Next to decarbonising its processes, Clariant follows a rigorous approach to quarry restoration, focusing on species and ecosystem biodiversity. Testament of that was the recultivation of the Minor VII Mining Concession, a former bentonite quarry in the Cabo de Gata Natural Park (Níjar, Almería). The operation began in 1961 before the Natural Park was declared, and was restored between December 2018 and March 2021, covering 15,000 m² of fully rehabilitated land. The success was based on exemplary collaboration between the mining authority, the Natural Park, and Clariant, framed within the European LIFE TECMINE project.

Impact

Compared to gas drying, natural drying of Clariant's feed additives prevented 1 kt CO₂e of climate change impact in 2025¹, and lowered the product carbon footprints (PCFs) by 45 to 63%².

In parallel, the restoration project eliminated waste dumps and backfilled the mining pit, while revegetation resulted in more than 8,484 specimens of native species and natural seeding. Moreover, the constructed stone terraces and dikes effectively prevented erosion during the heavy storm in September 2019. Thanks to these collaborative efforts, Clariant earned the prize in the Environment – Restoration for Other Extractive Industries category in 2022, setting the benchmark for sustainable quarry operations.

Supporting Materials:

- [Clariant Mine Re-Cultivation](#)
- [Cabo De Gata-Nijar National Park, Almería](#)
- [Premio-VI-Congreso-Nacional-Aridos.pdf](#)
- [La ceremonia de entrega de los PNDS2022 de la FdA fue el broche de oro del acto de clausura del congreso – VII Congreso Nacional de Áridos – VICNA](#)
- [Premios Nacionales Minería y Vida 2024 – Fundación Minería y Vida](#)
- [TECMINE methodological guide \(Pages 138-139\)](#)

¹ internal calculation of carbon emission reductions based on reduced gas requirements, following GHG Protocol (scope 1 and scope 3.3)

² internal PCF calculations with [CliMate engine](#), following ISO 14067 and TfS v3.0 guidelines

*This sustainability-related case study was provided by **Clariant**.*

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