

Technical Appendix

Documentation of GHG Reduction Assumptions

Heidelberg Materials' estimated carbon emission reductions for the proposed measures have been calculated based on initial scoping of similar plants in the US, supported by energy engineers and construction managers. These figures are grounded in a thorough evaluation of site conditions, conceptual designs, and extensive experience with alternative fuel and carbon capture projects. This rigorous approach ensures that the projected GHG reductions are both ambitious and achievable, marking a significant milestone in Heidelberg Materials' environmental stewardship journey. The forecast included in this proposal is based on:

Emissions Factors

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM): [Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model \(WARM\) | Waste Reduction Model \(WARM\) | US EPA](#)

Consumption Data

The consumption data critical to this project was meticulously gathered from a collaborative effort involving both managers and contracted energy engineers, who conducted a comprehensive evaluation of the actual annual energy and fuel consumption at our Leeds plant's existing equipment and systems. This thorough analysis provided an in-depth look into the plant's operational efficiency, pinpointing areas where energy use could be optimized and where alternative fuel sources could be integrated to reduce overall consumption and carbon footprint. The data collected serves as the foundation for our project, guiding the decision-making process in selecting the most effective strategies and technologies to enhance sustainability and operational efficiency. By leveraging this precise consumption data, we aim to implement targeted improvements that will not only reduce energy and fuel consumption but also contribute to the plant's long-term environmental and economic sustainability.

Calculation Methodology

Heidelberg Materials calculated annual expected emissions reductions for each measure by multiplying the expected consumption change by the corresponding relevant emissions factor. These annual totals for each measure were then summed for 2025-2030 and the 2025-2050 time periods to compute the multi-year aggregates requested by EPA. Consideration was also given as to when each measure is expected to be placed into service, in terms of the multi-year aggregates.