

# Linde Applications Enable 2.7x Carbon Productivity

Linde is a company in the business of resource transformation in a world that is dealing with climate change. Below are our 2019 actual results as reported by Linde plc entities. We demonstrate that a subset of Linde applications allow our customers or their end-users to avoid more than twice the greenhouse gas (GHG) emissions of all Linde operations. In 2019, total GHG emissions were 37.5 million MT CO<sub>2</sub>e, versus 100 million MT CO<sub>2</sub>e avoided by our customers or end-users, from several applications shown below - 2.7x the GHG benefit created than depleted.

**In 2019, a subset of Linde applications enabled more than twice the GHG benefit than was emitted in all global operations.**

**100 million**  
MT CO<sub>2</sub>e benefits enabled by Linde applications for customers and end-users

20.3 million MT CO<sub>2</sub>e avoided from coatings for thermal barriers for industrial gas turbine and jet engine efficiency

57.1 million MT CO<sub>2</sub>e avoided from H<sub>2</sub> for ultra-low sulfur diesel (ULSD)

14.8 million MT CO<sub>2</sub>e avoided from O<sub>2</sub> for steelmaking

7.8 million MT CO<sub>2</sub>e avoided from Kr in windows and Ar in welding

**37.5 million**  
MT CO<sub>2</sub>e  
Linde GHG footprint

16.5 million MT CO<sub>2</sub>e Scope 1 GHG emissions:  
11.1 million MT from hydrogen production, 5.4 million from Other GHG emissions, driving and natural gas use

21 million MT CO<sub>2</sub>e Scope 2 indirect GHG emissions emitted mainly from air separation

Values are based on 2019 reported and consolidated results from Linde plc subsidiaries following Linde plc reporting standards.  
CO<sub>2</sub>e = CO<sub>2</sub> equivalents