

1178 Broadway, 3rd Floor New York, NY 10001 646-499-0083

www.CarbonVerificationService.com

July 8, 2019

## To the Management of Linde plc.

Carbon Verification Service, LLC was engaged by Linde plc to provide assurance of its global 2018 Key Performance Indicators (KPI) and other social metrics. 2018 was the ninth consecutive year that Carbon Verification Service was retained by the company to verify its KPIs. (Carbon Verification Service was retained eight years by Praxair before this year after the merger). Upon being retained, Carbon Verification Service conducted a conflict of interest review to ensure that its review would be free of bias and would be done on an independent basis. Carbon Verification Service provides only verification and auditing services to its clients, including Linde plc, to avoid conflict of interest concerns. Carbon Verification Service is not owned or operated by any other entity.

The objective of the verification was to provide limited assurance of the reported KPI values and to assess the accuracy, completeness, relevance, consistency and transparency of Linde plc's information and assertions. Carbon Verification Service assessed conformance of Linde plc's GHG emission inventory with The Greenhouse Gas Protocol. The verification protocol employed for verification of Linde plc's 2018 GHG emissions was ISO 14064-3 (2006): Specification with guidance for the validation and verification of greenhouse gas assertions, and is consistent with the requirements for ISAE 3000. Consensus protocols for the verification of the KPI metrics, other than GHG emissions, do not currently exist. Carbon Verification Service utilized the same verification principles prescribed by ISO 14064-3 to guide the verification of this data.

Carbon Verification Service, LLC reviewed selected quantitative KPIs. The verification was based on desk audits of data from 54 sites that were, as in past years, selected so as to be representative of Linde plc's global geographies and businesses. One site visit was conducted at an air separation unit in Ijmuiden, Netherlands. Site selection criteria also included prior usage of energy and water. We did not review all information and supporting documentation associated with the KPIs for all of Linde plc's global locations and facilities.

Linde plc management is responsible for the reported KPIs and for the process of assembling the data upon which the reported KPI values are based.

Based upon the verification work performed from April through June 2019, there is no evidence that Linde plc's KPI data assertions, which appear in the table below, are not materially correct and are not a fair representation of data and information and have not been prepared in accordance with accepted standards and practice.

For Carbon Verification Service, LLC

James J. Groome

President

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## **LINDE PLC'S ASSERTIONS**

Linde plc reported the following KPI values:

Metric	Praxair	Linde AG	Linde plc 2018 Value	Units of Measure
GHG Emissions Scope 1	8,325,000	1,400,000	9,725,000	Metric Tons CO₂e
GHG Emissions Scope 2	12,967,000	2,200,000	15,200,000	Metric Tons CO₂e
Proportion of reported Scope 1 and 2 emissions verified	100	100	100	%
Year-over-Year Change - Scope 2 Emissions	1.0%	Not verified	n/a	%
GHG Emissions Scope 3 - Contractor Driving	271,000	65,000	336,000	Metric Tons CO₂e
Non-renewable Electricity Consumption	25,434,000	3,621,000	29,055,000	MWh
Renewable Electricity Consumption	548,000	279,000	827,000	MWh
Steam	1,226,000	300,000	1,526,000	MWh
Non-renewable Fuel Consumption	3,087,000	3,215,000	n/a	MWh
Total municipal water supplies	23,200,000	48,700,000	71,900,000	Cubic meters
Fresh surface water withdrawal	321,100,000	34,400,000	355,500,000	Cubic meters
Fresh ground water	5,400,000	2,500,000	7,900,000	Cubic meters
Once-Through cooling water returned to the source of extraction at similar or higher quality	317,700,000	87,700,000	405,400,000	Cubic meters
Total net fresh water consumption	66,200,000	2,200,000	68,400,000	Cubic meters
NO <sub>x</sub> Emissions	1,300	1,230	2,530	Metric Tons
SO <sub>x</sub> Emissions	87	82	169	Metric Tons
VOCs	412	77	489	Metric tons
Total (Solid + Hazardous) Waste Not Landfilled from Zero Waste Program	104,360,000	n/a	104,360,000	Lbs.
Chemical Oxygen Demand	1,024	192	1,216	Metric Tons
Employee Lost Time Injury Frequency Rate	0.059	Not reported	0.145	Lost time injuries per 200,000 hours worked
Employee Lost Time Injury Frequency Rate	0.295	Not reported	0.725	Lost time injuries per 1,000,000 hours worked

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Metric	Praxair	Linde AG	Linde plc 2018 Value	Units of Measure
Occupational Illness Frequency Rate	0.012	Not reported	0.009	Occupational Illness Cases per 200,000 hours worked
Occupational Illness Frequency Rate	0.06	Not reported	0.045	Occupational Illness Cases per 1,000,000 hours worked
Contractor Lost Time Injury Frequency Rate	0	Not reported	0	Lost time injuries per 200,000 hours worked
Contractor Lost Time Injury Frequency Rate	0	Not reported	0	Lost time injuries per 1,000,000 hours worked
Tier 1 Process Safety Events	0.015	Not reported	0.015	Number of Events per 200,000 hours worked
Tier 1 Process Safety Events	0.077	Not reported	0.077	Number of Events per 1,000,000 hours worked
Community Engagement: cash raised or donated by employees and facilities.	\$281,000	n/a	\$281,000	USD
Community Engagement: cash raised or donated by employees and facilities, and including in kind donations.	\$459,000	n/a	\$459,000	USD