



1178 Broadway, 3rd Floor
New York, NY 10001
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www.CarbonVerificationService.com

August 4, 2020

To the Management of Linde plc.

Carbon Verification Service, LLC was engaged by Linde plc to provide assurance of its global 2019 Key Performance Indicators (KPI) and other social metrics. 2019 was the tenth consecutive year that Carbon Verification Service was retained by the company to verify its KPIs. (Carbon Verification Service was retained eight years by Praxair prior to 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 2019 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 ISAE 3000 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 32 sites that were, as in past years, selected so as to be representative of Linde plc's global geographies and businesses. In addition, two virtual site visits were conducted at an air separation unit in Duisburg, Germany and hydrogen plant in Toledo, Ohio, USA. (The site visits were by necessity virtual in nature due to coronavirus pandemic safety precautions). 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 July 2020, 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

A handwritten signature in black ink that reads "James J. Groome".

James J. Groome
President

LINDE PLC'S ASSERTIONS

Linde plc reported the following eKPI values:

Metric	Linde plc 2019 Value	Units of Measure
GHG Emissions Scope 1	16,461,000	Metric Tons CO ₂ e
GHG Emissions Scope 2	21,012,000	Metric Tons CO ₂ e
Proportion of reported Scope 1 and 2 emissions verified	100	%
Year-over-Year Change - Scope 2 Emissions	-0.38	%
GHG Emissions Scope 3 - Contractor Driving	577,000	Metric Tons CO ₂ e
Total Electricity Consumption	41,879,000	MWh
Active Renewable Electricity Consumption*	2,431,000	MWh
Passive Renewable Electricity Consumption*	8,933,000	MWh
Other Low Carbon Electricity Consumption (nuclear)*	4,146,000	MWh
Fossil fuel-based Electricity Consumption*	26,369,000	MWh
Steam	2,238,000	MWh
Non-renewable Fuel Consumption	21,246,000	MWh
NO _x Emissions	8,750	Metric Tons
SO _x Emissions	730	Metric Tons
VOCs	1,297	Metric Tons
Total (Solid + Hazardous) Waste Not Landfilled from Zero Waste Program	100,000,000	Lbs.
Total municipal water supplies	125,955,000	Cubic meters
Fresh surface water withdrawal	383,274,000	Cubic meters
Fresh ground water	10,728,000	Cubic meters
Once-through cooling water returned to the source of extraction at similar or higher quality	469,366,000	Cubic meters
Once-through cooling water from ground or surface source only	357,777,000	Cubic meters
Total net fresh water consumption	162,179,000	Cubic meters
Chemical Oxygen Demand	2,220	Metric Tons
Employee Lost Time Injury Frequency Rate	0.210	Lost time injuries per 200,000 hours worked
Employee Lost Time Injury Frequency Rate	1.048	Lost time injuries per 1,000,000 hours worked
Occupational Illness Frequency Rate	0.011	Occupational Illness Cases per 200,000 hours worked
Occupational Illness Frequency Rate	0.057	Occupational Illness Cases per 1,000,000 hours worked
Contractor Lost Time Injury Frequency Rate (Construction Contractor Groups)	0.09	Lost time injuries per 200,000 hours worked
Contractor Lost Time Injury Frequency Rate (Construction Contractor Groups)	0.45	Lost time injuries per 1,000,000 hours worked
Tier 1 Process Safety Events	0.037	Number of Events per 200,000 hours worked
Tier 1 Process Safety Events	0.186	Number of Events per 1,000,000 hours worked

Metric	Linde plc 2019 Value	Units of Measure
Community Engagement: cash raised or donated by employees and facilities.	400,000	USD
Community Engagement: cash raised or donated by employees and facilities, and including in kind donations.	800,000	USD

*These eKPI metrics were not fully verified; they are calculated from the verified total electricity consumption value.



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July 22, 2020

To the Management of Linde plc.

In 2020, Linde re-calculated certain of its global 2018 Key Performance Indicators (KPI) metrics to align with Dow Jones Sustainability Index reporting requirements. Linde plc engaged Carbon Verification Service, LLC to provide assurance of the re-calculated 2018 KPI metrics.

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 ISAE 3000 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 9 sites that were, as in past years, selected so as to be representative of Linde plc's global geographies and businesses. 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 in July 2020, 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

A handwritten signature in black ink that reads "James J. Groome".

James J. Groome
President

LINDE PLC'S ASSERTIONS

Linde plc reported the following eKPI values:

Metric	Linde plc 2018 Value	Units of Measure
GHG Emissions Scope 1	16,872,000	Metric Tons CO ₂ e
GHG Emissions Scope 2	21,093,000	Metric Tons CO ₂ e
Proportion of reported Scope 1 and 2 emissions verified	100	%
Total Electricity Consumption	41,549,000	MWh
Non-renewable Electricity Consumption	30,447,000	MWh
Low Carbon Electricity Consumption (including active and passively procured renewable and low carbon)	15,193,000	MWh
Renewable Electricity Consumption (active + passive)	11,103,000	MWh
Active Portion of Renewable Electricity Consumption	2,507,000	MWh
Low carbon electricity (nuclear)	4,090,000	MWh
Steam	2,203,000	MWh