# Corporate Rating
# Linde AG ('Linde')
## Germany, Specialty Chemicals

SCOPE

A+ STABLE
Corporate Rating

## Corporate profile

Linde is an integrated industrial gases and engineering company whose foundation goes back to inventor and founder Carl von Linde in 1879. The conglomerate formerly consisted of gases, material handling and refrigeration divisions, until the latter two were divested in 2006 and 2004, respectively. After acquiring two industrial gases companies, Sweden's AGA in 1999 and UK's BOC in 2006, Linde is now one of the four leading suppliers of industrial gases worldwide. It is active in about 100 countries and led the market in 2015 in healthcare, bulk and cylinders. Its engineering division focuses, among other activities, on air separation and hydrogen/syngas plants built at the customer site (onsite) to supply major customers locally; gases produced at these sites are also supplied to other gases activities. The gases division generated about 83% of group revenues and 94% of EBITDA in 2015.

**Ratings**

| | |
|---|---|
| Corporate Rating: | A+/S-1+ |
| Outlook: | Stable |
| Sector: | Specialty chemicals |
| Monitoring: | yes |

**Analysts**


| | |
|---|---|
| Olaf Tölke | (Lead Analyst) |
| E-Mail | o.toelke@scoperatings.com |
| Werner Stäblein | (Backup Analyst) |
| E-Mail | w.staeblein@scoperatings.com |


## Rating rationale

**Scope Ratings assigns an A+ to Germany-based Linde AG (Linde). The short-term rating is S-1+ and the Outlook is Stable.**
Linde's Corporate Issuer Credit Rating reflects Scope Ratings' view of the group's very credit-supportive business risk profile, owing to the industrial gases industry's limited cyclicality and high degree of protection, as well as Linde's strong market position as one of the four leading global suppliers of gases. The ratings also reflect our view of group management's extremely conservative financial policy and high commitment to the ratings assigned.

In Scope's view, the ratings are strongly underpinned by the very stable and resilient industrial gases industry, evidenced by its limited historical cyclicality. In 2009, the global gases industry declined by only a single-digit rate, significantly less than more-cyclical sectors such as automotive. In our view, this is because industrial gases are firmly embedded inputs in many industrial production processes and involve long-term contracts with take-or-pay conditions, a stabilising element in recessions. Customers in general tend to be loyal and more interested in not interrupting a working supplier relationship, namely, maintaining a service at all times. This is usually not compromised for a marginally lower price at a competitor. In addition, we believe there are significant entry barriers to potential newcomers in the form of know-how, capital resources and 'regional ownership'. It thus makes little sense for a potential new entrant to build a new plant next to a competitor's existing facility.

We believe Linde's competitive position supports the ratings even more strongly, relative to benefits gained from its industry. This is explained by Linde's dominant market positions in many countries and regions as well as across product groups. Linde is one of the four global 'gas majors', with significant market shares not only in Europe but also 'away from home', thereby differentiating it in particular from the two global US-based peers. The last two points bear a direct link to our diversification-related rating driver, which we assess as very strong in the context of Linde's ratings. Furthermore, Scope believes the company's competitive position also benefits from stable and comparatively high EBITDA margins between 25% and 30% in the gases division, enabling consistent and strong free cash flow. Given the above factors we believe Linde's business risk profile to be extremely defensive and supportive for the ratings.

Linde's financial risk profile reflects our perception of management's very conservative financial and liquidity policies. In addition, key credit metrics have been improving since 2012 – the year of Lincare's acquisition – and we expect further upside in the next two years based on the group's capacity to generate stable and sizeable annual free cash flows of above EUR 300m after dividends and interest. This enables further deleveraging on a reported basis, as in 2015, which should not be endangered even in times of potential lower growth, which is possible in 2016.

**Outlook**
The Stable Outlook reflects Scope's expectation that Linde's financial risk profile will continue to improve as it did in 2015. Specifically, Scope views credit metrics aligning with a low A category to be in line with the corporate ratings, as indicated by a FFO-to-Scope-adjusted-debt ratio of about 40% and a Scope-adjusted-debt-to-EBITDAR ratio of about 2x. In general, we believe potential future rating changes are triggered by the financial risk profile, as Linde's business risk profile is rated relatively higher and is deemed very stable. A higher rating could be triggered by a sustainable improvement in the credit metrics detailed above. A negative rating action could be the result of a more aggressive financial policy or a sustained negative deviation from ratios commensurate with the present ratings.

## Rating drivers

| Positive | Negative |
|---|---|
| Credit-supportive industry risk of industrial gases, given its limited cyclicality – even in times of extreme crisis – and high barriers to entry, coupled with a low substitution risk | Comparatively lower growth realisation compared to some peers |
| Very strong competitive position, reflecting Linde's high and stable operating margins, very high degree of diversification and global position as one of only four industrial gases producers with a significant international market share | Engineering division is suffering from low business volumes in the petrochemicals industry due to the low oil price |
| High recurring profits enable consistent and high free cash generation | |
| Conservative financial policy | |
| Extremely conservative liquidity policy | |

## Rating-change drivers

| Positive | Negative |
|---|---|
| Significant improvement in credit metrics | Sustained drainage of free cash flow as a consequence of lower margins, leading to significantly lower credit metrics |
| | Change to a more aggressive financial policy |

## Financial overview

| | EUR m | | Scope estimates* | | |
|---|---|---|---|---|---|
| | 2014 | 2015 | 2016e | 2017e | 2018e |
| **P&L**<br>Sales | 17,047 | 17,944 | 17.9bn | 18.1-18.5bn | 18.8-19.2bn |
| EBITDA (reported) | 3,855 | 3,955 | 4.1bn | 4.1-4.4bn | 4.2-4.5bn |
| Margin | 23% | 22% | 21% | 23% | 23% |
| | | | | | |
| **Cash flows** | | | | | |
| Funds from operations | 3,023 | 3,202 | 3.3bn | 3.4-3.5bn | 3.5-3.7bn |
| Free cash flow after dividends | 534 | 734 | 0.3bn | 0.3-0.4bn | 0.4-0.5bn |
| Capital expenditures (gross) | 1,957 | 1,894 | 1.9bn | 1.9-2.0bn | 1.9-2.0bn |
| **Balance sheet** | | | | | |
| Gross financial debt | 9,930 | 9,561 | 9.1bn | 8.5-8.9bn | 8.1-8.4bn |
| Cash & cash equivalents (available) | 1,458 | 1,638 | 1.4bn | 1.5-1.7bn | 1.5-1.7bn |
| Scope-adjusted debt (SaD) | 8,908 | 8,296 | 8.6bn | 8.2-8.5bn | 7.8-8.1bn |
| | | | | | |
| **Key financial ratios (Scope-adjusted)** | | | | | |
| FFO/SaD | 34% | 39% | 38% | 40-42% | 44-46% |
| SaD to EBITDAR (x) | 2.2 | 2.0 | 2.1 | 1.8-2.0 | 1.6-1.8 |
| EBITDAR interest cover (x) | 10.9 | 10.2 | 10.7 | 11-12 | 12-13 |
| | | | | | |
| Liquidity | | | > 200% | > 200% | > 200% |

Source: Linde, Scope estimates; * based on current foreign exchange rates

All ratios are based on adjusted financial data.

## Business risk profile

**Defensive characteristics**

Scope's rating reflects our positive perception of the defensive characteristics inherent to Linde's business risk profile. This is supported by our evaluation of the company's underlying industry and market position. It also takes in our view of the generally long-term contracts with minimum-volume offtake clauses Linde has with many onsite customers, as well as the less-pronounced price-elastic demand in the industrial gases industry compared to other sectors.

**Low-risk industry**

We view the industrial gases industry as relatively stable and protected by high entry barriers. While industrial production appears a valid proxy for gases demand indicating a high cyclical exposure, severe macroeconomic downturns are usually mitigated for industrial gases suppliers by multi-year contracts and the customers' focus on uninterrupted production. Thus, even the severe downturn in 2009 only led to a single-digit decline in this industry's revenues, compared to more than 30% for cyclical sectors such as automotive. We also view entry barriers as high due to the relatively high capital requirements to build networks and plant infrastructure, as well as the industry's consolidated structure.

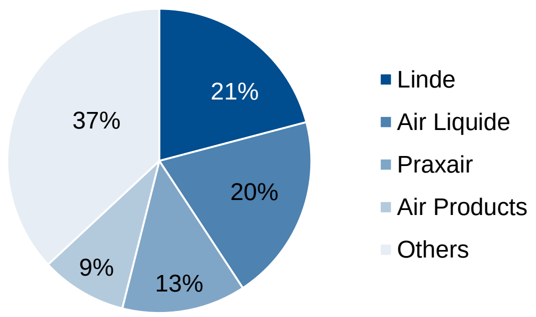
**Superior competitive position**

In Scope's opinion, Linde has an excellent competitive position in a credit-supportive underlying industry. This is based on our assessment of the three drivers under Scope's evaluation of competitive position: market share, diversification and operating margins.

**Linde among top four global suppliers**

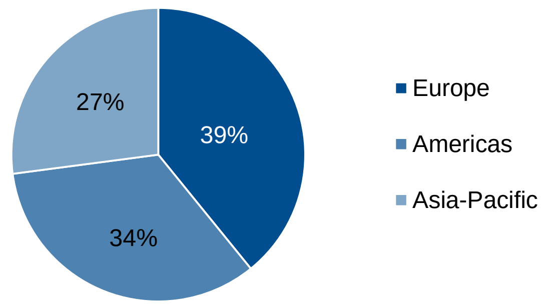
Together with Air Liquide, Praxair and Air Products, Linde is one of the four truly global suppliers of industrial gases. Linde and Air Liquide are both significantly larger on an absolute scale than the two US-based players, also for 'away from home' positions. The consolidated nature of the global industry is shown by the four largest companies accumulating a total market share of more than 60%. This degree of concentration will even rise from 2016, following Air Liquide's acquisition of US-based Airgas (USD 5.5bn of revenues in 2015, equivalent to about a 7% global market share).

**Figure 1 – Industrial gases global market shares in 2015**




Source: Scope Ratings

**Figure 2 – Linde: industrial gases division's geographic revenue breakdown in 2015**




Source: Linde

**Best-in-class diversification**

Linde's diversification is very strong, in our opinion. This is based on its geographical exposure, with the three largest continents almost evenly represented (2015 figures; see Figure 2), as well as our positive view of its products (bulk, onsite, cylinders and healthcare-designed) and exposure to a broad circle of customer industries. In 2015, Linde led the market in cylinders, bulk and healthcare (after acquiring Lincare in 2012), while Air Liquide appears to lead in the large industries/onsite area.

**Strong and sustainable operating margins**

Scope regards Linde’s operating margins as comfortable and typical for the industry. While its 25-30% EBITDA margins in the gases division are not best-in-class (Praxair makes 32%), they nevertheless enable Linde to generate very comfortable and sustainable free cash flow. EBITDA margins have tended in a very narrow range of 25% and 27% since 2007, due to a resilient and protected business risk profile, as well as, in particular, the mitigating effects of long-term contracts and loyal customers in times of recession.

**Industry growth rates of limited comparability**

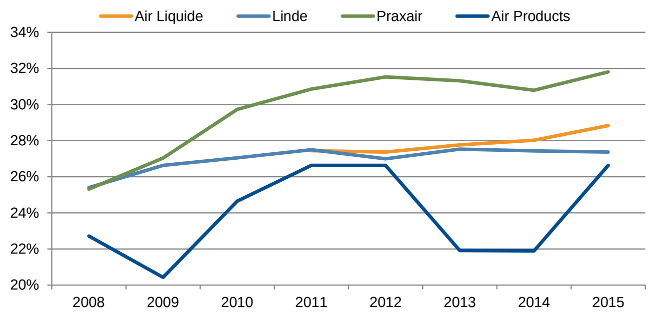
During recent quarters, France’s Air Liquide reported stronger growth rates in the gases business than Linde (Air Liquide’s gases revenues increased by 3.6% in the first half of 2016, compared to Linde’s 2.1%, on a like-for-like basis, respectively; although full comparability is difficult). While some of the difference to Linde’s biggest competitor can be traced back to the end of contracts and the default of one customer, we do not view the slightly lower sales growth as a very important rating driver, as cash flow generation in the group only correlates slightly with revenue growth. The acquisition of Airgas in 2016 will benefit Air Liquide, as it will result in a clear market leadership in the US.

## Financial risk profile

**Improving credit metrics**

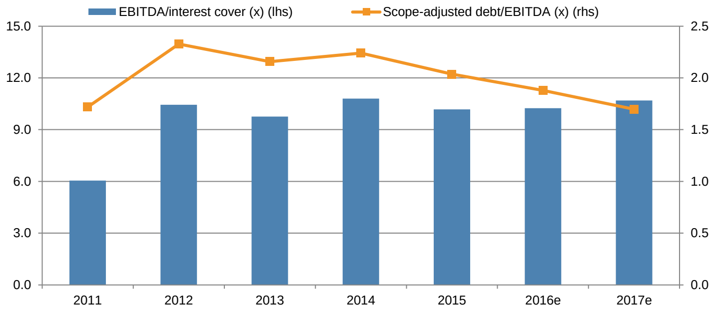
Linde’s key credit metrics have been improving since 2012, the year of Lincare’s takeover. The transaction led to gross financial debt increasing by about EUR 2.4bn in 2012, helped by a EUR 1.4bn capital increase. Linde’s consistent application of free cash has led to deleveraging since then (except for 2014, when it was held back by lower profits and a EUR 300m pension contribution), meaning it will likely almost ‘close the gap’ this year to the credit metrics in 2011 – before it acquired Lincare.

**Figure 3 – EBITDA margins industrial gas suppliers**




Source: Linde, Scope Ratings

**Figure 4 – Credit metrics improving**




Source: Linde, Scope Ratings
2017 and 2018 values reflect mid-point projections

Scope adjusts net debt by hybrids (50% equity content), operating leases and pensions (50% of the unfunded pension obligation, as pension assets cover annual payments significantly in excess of 5x, our threshold for this treatment according to Scope’s Corporate Rating Methodology). In 2015, EUR 478m of operating leases and EUR 421m of pension obligations were added to adjusted debt, while we deduct from gross adjusted debt all off-balance sheet cash and marketable securities, except for EUR 200m of cash that is deemed restricted and is therefore not centrally available. We have adjusted for hybrids (50% equity) until 2015, in line with our view that deeply subordinated and permanent instruments with flexible payment mechanisms are equity-like. However, following Linde’s announcement on 31 May 2016 to redeem hybrids, we have discontinued this treatment.

**Committed financial policy**

Scope regards Linde’s financial policy as sound and committed, underscored by its deleveraging trend since 2012. We also take the view that management’s official leverage target of a 2.5x maximum net-financial-debt-to-EBITDA needs to be seen in context. While this target does translate into a Scope-adjusted leverage of about 2.8x (2015), we believe this figure is of a more theoretical nature in order to reflect the Lincare transaction, but does not realistically apply to the future. Looking to 2018, we believe the risks for testing Linde’s official leverage target are very low as the business is very cash-generative and we do not realistically see any acquisitions at Lincare’s magnitude.

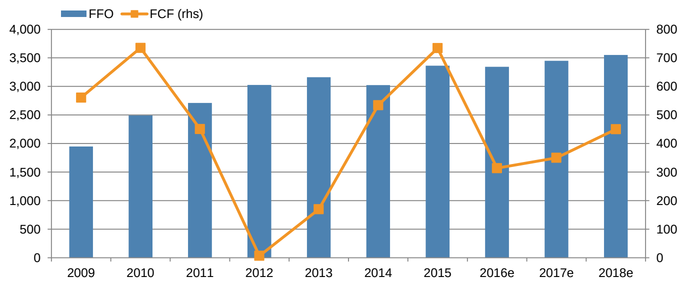
**Extremely conservative liquidity management**

We view Linde's liquidity management as extremely conservative. This is based on the significant excess cash on balance sheet – far ahead of business requirements – on a sustained basis. At the end of 2015, Linde kept balance sheet liquidity of EUR 1.8bn, of which we would qualify only EUR 200m as restricted and therefore not centrally available at all times to potentially pay back debt. In combination with an undrawn committed bank line of EUR 2.5bn and annual free cash flow of more than EUR 300m after dividends and interest, Linde's available liquidity by far outstrips its short-term financial debt maturities of EUR 1.0bn.

**Short-term rating of S-1+**

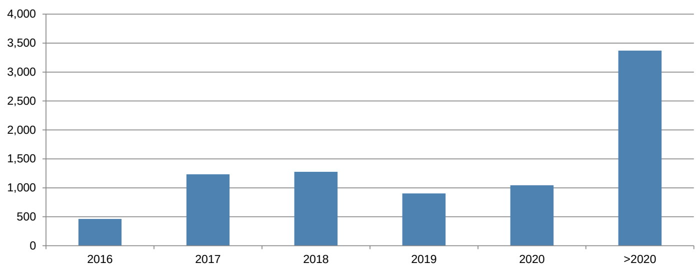
Based on the facts detailed above and Linde's solid investment grade rating, Scope has assigned a short-term rating of S-1+. This also reflects our perception of the company's protected and cash-generative business model on a sustained basis. If all internal and external sources of liquidity are included, coverage of short-term debt is 7x, a level we view as commensurate with the ratings.

**Figure 5 – Supportive free cash flow generation (EUR m)**




Source: Linde, Scope
2017 and 2018 values reflect mid-point projections

**Figure 6 – Maturing capital market debt (EUR m), 31 Dec. 15**




Source: Linde, Scope

## Outlook

**Outlook: Stable**

The Stable Outlook reflects Scope's expectation that Linde's financial risk profile will continue to improve as it did in 2015. Specifically, Scope views credit metrics aligning with a low A category to be in line with the corporate ratings, as indicated by a FFO-to-Scope-adjusted-debt ratio of about 40% and a Scope-adjusted-debt-to-EBITDAR ratio of about 2x. In general, we believe potential future rating changes are triggered by the financial risk profile, as Linde's business risk profile is rated relatively higher and is deemed very stable.

A higher rating could be triggered by a sustainable improvement in the credit metrics detailed above. A negative rating action could be the result of a more aggressive financial policy or a sustained negative deviation from ratios commensurate with the present ratings.

## APPENDIX: Definition of key financial metrics

| **Adjusted debt** | |
|---|---|
| Debt measure | The measure uses an adjusted debt equivalent and deducts equity credit resulting from hybrid debt securities that are qualified to display equity-like features. Scope adjusts the debt position for off-balance sheet debt like long-term operating lease charges, which are capitalised with an appropriate multiple of the rents or with the net present value of future lease payments. Furthermore Scope adjusts debt for pension provisions as per its Corporate Rating Methodology. |
| Interest-bearing financial debt<br>- Hybrid debt securities<br>+ Off-balance sheet debt (i.e. guarantees, operating leases)<br>+ Adjusted pension provisions<br>= Adjusted gross financial debt<br>- Cash and cash equivalents<br>= Adjusted net financial debt | |

| **FCF** | |
|---|---|
| Cash flow measure | An issuer's free cash flow (FCF) represents its FFO after changes in working capital and non-operational cash flow, capex and dividend payments. It is an operational cash flow before asset disposals. It represents the cash flow available for acquisitions, share buybacks or net debt reduction. |
| FFO<br>± Working capital<br>± Non-operational cash flow<br>- Capex<br>- Dividends paid<br>= FCF | |

| **FFO** | |
|---|---|
| Cash flow measure | Funds from operations (FFO) represent operating cash flows before changes in working capital and after dividends received, interest paid and long-term operating lease charges and other non-recurring income or expenses. |
| EBITDAR<br>- Interest paid<br>- Tax paid<br>+ Associate dividends received<br>± Other non-operating charges before FFO<br>= FFO | |

| **Liquidity (%)** | |
|---|---|
| Liquidity measure | This ratio indicates the company's ability to pay its short-term debt from its operating cash flow, unrestricted cash and marketable security position, unused committed bank facilities, unused committed factoring lines, and proceeds from committed asset sale. |
| $\dfrac{\text{Operating cash flow}_t + \text{unrestricted cash and marketable securities}_{t-1} + \text{unused committed bank facilities}_{t-1} + \text{committed unused factoring lines}_{t-1} + \text{committed proceeds from asset sales}_t}{\text{Short-term debt}_{t-1}}$ | |

| **EBITDAR** | |
|---|---|
| Cash flow measure | EBITDAR is a financial measurement of the operating cash flow from operations that is widely used when assessing the performance of companies. It enables a comparison of profitability between different companies by eliminating the effects of financing (by ignoring interest and long-term operating rent payments) and political jurisdictions (by ignoring tax). EBITDAR also excludes the noncash items depreciation and amortisation of assets. Scope will only exclude operating rent payments from the measure if not material. EBITDAR also includes sustainable core income from investments and associates. |
| Revenue<br>- Operating expenditures<br>+ Depreciation and amortisation<br>+ Expenses for long-term operating lease financing<br>+ Sustainable associates/investment income<br>= EBITDAR | |

## Important information

### Information pursuant to Regulation (EC) No 1060/2009 on credit rating agencies, as amended by Regulations (EU) No. 513/2011 and (EU) No. 462/2013

### Responsibility

**The party responsible for the dissemination of the financial analysis is Scope Ratings AG, Berlin, District Court for Berlin (Charlottenburg) HRB 161306 B, Executive Board: Torsten Hinrichs (CEO), Dr Stefan Bund, Dr Sven Janssen.**

**The rating analysis has been prepared by Olaf Tölke, Lead Analyst**
**Responsible for approving the rating: Dr Stefan Bund, Committee Chair**

**Rating history**

| Date | Rating action | Rating |
|---|---|---|
| 1 June 2016 | Initial | A+/S-1+ Outlook Stable |

**The rating concerns an issuer, which was evaluated for the first time by Scope Ratings AG.**

**The rating outlook indicates the most likely direction of the rating if the rating were to change within the next 12 to 18 months. A rating change is, however, not automatically ensured.**

### Information on interests and conflicts of interest

**The rating was prepared independently by Scope Ratings but for a fee based on a mandate of the rated entity.**

**As at the time of the analysis, neither Scope Ratings AG nor companies affiliated with it hold any interests in the rated entity or in companies directly or indirectly affiliated to it. Likewise, neither the rated entity nor companies directly or indirectly affiliated with it hold any interests in Scope Ratings AG or any companies affiliated to it. Neither the rating agency, the rating analysts who participated in this rating, nor any other persons who participated in the provision of the rating and/or its approval hold, either directly or indirectly, any shares in the rated entity or in third parties affiliated to it. Notwithstanding this, it is permitted for the above-mentioned persons to hold interests through shares in diversified undertakings for collective investment, including managed funds such as pension funds or life insurance companies, pursuant to EU Rating Regulation (EC) No 1060/2009. Neither Scope Ratings nor companies affiliated with it are involved in the brokering or distribution of capital investment products. In principle, there is a possibility that family relationships may exist between the personnel of Scope Ratings and that of the rated entity. However, no persons for whom a conflict of interests could exist due to family relationships or other close relationships will participate in the preparation or approval of a rating.**

### Key sources of Information for the rating

- ☒ Annual reports/semi-annual reports of the rated entity
- ☒ Website of the rated entity
- ☒ Detailed information provided on request
- ☒ Data provided by external data providers
- ☒ Interview with the rated entity
- ☒ External market reports
- ☒ Press reports/other public information

Scope Ratings considers the quality of the available information on the evaluated company to be satisfactory. Scope ensured as far as possible that the sources are reliable before drawing upon them, but did not verify each item of information specified in the sources independently.

### Examination of the rating by the rated entity prior to publication

Prior to publication, the rated entity was given the opportunity to examine the rating and the rating drivers, including the principal grounds on which the credit rating or rating outlook is based. The rated entity was subsequently provided with at least one full working day, to point out any factual errors, or to appeal the rating decision and deliver additional material information. Following that examination, the rating was not modified.

## Methodology

The methodology applicable for this rating (Corporate Rating Methodology) is available on www.scoperatings.com. The historical default rates of Scope Ratings can be viewed on the central platform (CEREP) of the European Securities and Markets Authority (ESMA): http://cerep.esma.europa.eu/cerep-web/statistics/defaults.xhtml. A comprehensive clarification of Scope's default rating, definitions of rating notations and further information on the analysis components of a rating can be found in the documents on methodologies on the rating agency's website.



## Rating issued by

**Scope Ratings AG, Lennéstraße 5, 10785 Berlin**