Air Liquide S.A.
France, Specialty Chemicals

A POSITIVE

Key metrics

			Scope estimates	
Scope credit ratios	**2022**	**2023**	**2024E**	**2025E**
Scope-adjusted EBITDA/interest cover	18.6x	18.4x	15.7x	17.2x
Scope-adjusted debt/EBITDA	1.8x	1.5x	1.5x	1.4x
Scope-adjusted funds from operations/debt	44%	54%	52%	55%
Scope-adjusted free operating cash flow/debt	17%	25%	12%	18%

Rating rationale

Air Liquide's business risk profile, assessed at A+, is bolstered by its position as the world's second-largest industrial gas producer, with leadership in air separation and hydrogen production patents. Despite needing profitability improvements to align with industry peers, its robust model featuring medium- to long-term contracts with take-or-pay clauses and cost pass-through mechanisms manages cost variations effectively. The company benefits from extensive geographic and customer diversification, with healthcare contributing 15% to revenue, and its industrial merchant segment providing 43% of revenue from a very granular industrial base.

The financial risk profile, assessed at A-, is further solidifying, driven by improving Scope-adjusted debt/EBITDA reaching 1.5x and Funds from Operations to debt ratios of 54%. This deleveraging trend is expected to continue through 2025, supported by strong cash flows. However, necessary capital investments which are still high compared to the broader chemicals industry, constrain free cash flows.

Outlook and rating-change drivers

The Positive Outlook reflects the expectation that Scope-adjusted debt/EBITDA will solidify at 1.5x and below over the medium term despite increased capex and higher pressure on free operating cash flow.

An upgrade could be considered if our expectations materialise and Air Liquide’s leverage (Scope-adjusted debt/EBITDA) solidified at a level of 1.5x and below. This could be the consequence of successful efforts to lift profitability, closing the gap with US-based competitors, and/or a shareholder remuneration more aligned with cash preservation goals.

A negative rating action, such as a return to a Stable Outlook, could be considered if our expectations of a strengthened leverage were not to materialise. Further pressure to a lower rating is deemed remote, due to the solid headroom within the rating category.

Rating history

Date	Rating action/monitoring review	Issuer rating & Outlook
02 May 2024	Affirmation	A/Positive
05 May 2023	New	A/Positive

Ratings & Outlook

Issuer	A/Positive
Short-term debt	S-1
Senior unsecured debt	A

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Related Methodologies

General Corporate Rating Methodology; Oct 2023

Chemicals Rating Methodology; April 2024

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Rating and rating-change drivers

Positive rating drivers	Negative rating drivers
• Ranked second in the global industrial gas sector • Strong diversification, e.g. broad customer base, solid global footprint, industrial gas consumption in multiple industries, and diversification in healthcare • Strong and stable EBITDA margin • Considerable cash generation • Disciplined financial policy in order to maintain an 'A range credit rating'	• Share of highly cyclical end-markets is roughly 45% (based on our calculations), but this is mitigated by medium- to long-term contracts, including take-or-pay clauses and clauses to pass on energy costs • Large capex requirements, inherent to the business model, but relatively high for the specialty chemicals industry

Positive rating-change drivers	Negative rating-change drivers
• Scope-adjusted debt/EBITDA solidified at a level of 1.5x or below	• Return to Stable Outlook if the Scope-adjusted debt/EBITDA were to persistently exceed 1.5x

Corporate profile

Air Liquide S.A., headquartered in Paris (France) is a producer of industrial gases such as oxygen, nitrogen, argon, hydrogen, and helium. In 2023, it achieved sales of about EUR 27.6bn and Scope-adjusted EBITDA of EUR 7.3bn. The core division (Gas and Services) is divided into Large Industries, Industrial Merchant, Healthcare, and Electronics and serves various sectors and customer types. The company also designs and constructs gas production units for the industry and technological solutions (molecules, equipment, and services) for energy transition markets and deep tech. These activities are bundled in its Engineering and Construction, Global Markets and Technologies arms.

Financial overview

			Scope estimates	
Scope credit ratios	**2022**	**2023**	**2024E**	**2025E**
Scope-adjusted EBITDA/interest cover	18.6x	18.4x	15.7x	17.2x
Scope-adjusted debt/EBITDA	1.8x	1.5x	1.5x	1.4x
Scope-adjusted funds from operations/debt	44%	54%	52%	55%
Scope-adjusted free operating cash flow/debt	17%	25%	12%	18%
Scope-adjusted EBITDA in EUR m				
EBITDA	6,757	7,055	7,833	8,306
Other items[1]	-	276	-	-
Scope-adjusted EBITDA	**6,757**	**7,331**	**7,833**	**8,306**
Funds from operations in EUR m				
Scope-adjusted EBITDA	6,757	7,331	7,833	8,306
less: (net) cash interest paid	(362)	(399)	(500)	(483)
less: cash tax paid per cash flow statement	(900)	(1,022)	(1,179)	(1,252)
add: dividends from associates	14	15	5	5
Other items	(168)	40	-	-
Funds from operations (FFO)	**5,341**	**5,964**	**6,158**	**6,577**
Free operating cash flow in EUR m				
Funds from operations	5,341	5,964	6,158	6,577
Change in working capital	(397)	(340)	(154)	(113)
Non-operating cash flow	600	697	39	36
less: capital expenditure (net)	(3,181)	(3,330)	(4,364)	(4,138)
less: lease amortisation	(249)	(240)	(240)	(240)
Free operating cash flow (FOCF)	**2,114**	**2,750**	**1,439**	**2,122**
Net cash interest paid in EUR m				
Net cash interest per cash flow statement	270	262	364	346
Change in other items[2]	93	136	136	136
Net cash interest paid	**362**	**399**	**500**	**483**
Scope-adjusted debt in EUR m				
Reported gross financial debt	13,452	12,112	12,161	11,789
less: cash and cash equivalents	(1,911)	(1,625)	(1,079)	(546)
add: pension adjustment	419	449	449	449
Other items[3]	208	219	219	219
Scope-adjusted debt (SaD)	**12,167**	**11,154**	**11,749**	**11,910**

[1] Capital gains on disposals
[2] Includes interest on leases and on contingent liabilities
[3] Annual Retirement Obligations

Table of Content

Environmental, social and governance (ESG) profile[4]

Environment	Social	Governance
Resource management (e.g. raw materials consumption, carbon emissions, fuel efficiency)	Labour management	Management and supervision (supervisory boards and key person risk)
Efficiencies (e.g. in production)	Health and safety (e.g. staff and customers)	Clarity and transparency (clarity, quality and timeliness of financial disclosures, ability to communicate)
Product innovation (e.g. transition costs, substitution of products and services, green buildings, clean technology, renewables)	Clients and supply chain (geographical/product diversification)	Corporate structure (complexity)
Physical risks (e.g. business/asset vulnerability, diversification)	Regulatory and reputational risks	Stakeholder management (shareholder payouts and respect for creditor interests)

Legend
Green leaf (ESG factor: credit positive)
Red leaf (ESG factor: credit negative)
Grey leaf (ESG factor: credit neutral)

We see Air Liquide's emphasis on cutting-edge technology and innovation as a positive factor under Product Innovation. We believe this innovative focus can lead to better material, resource, and process efficiency, as well as an overall business model more focused on the circular economy. In turn, these aspects could translate into a positive impact on credit-relevant factors such as market share, diversification, and profitability.

[4] These evaluations are not mutually exclusive or exhaustive as ESG factors may overlap and evolve over time. We only consider ESG factors that are credit-relevant, i.e. those that have a discernible, material impact on the rated entity's cash flow and, by extension, its credit quality.

Business risk profile: A+

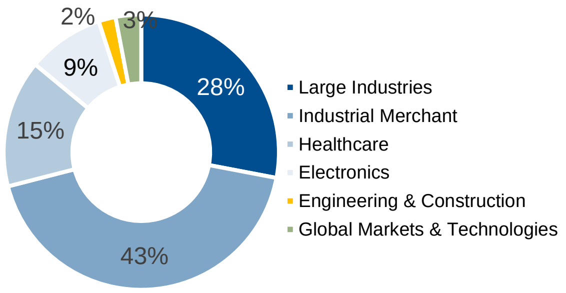
Industry risk profile: A

The specialty chemicals industry is characterised by companies of varying sizes and scopes. Specialised production expertise and deeply cultivated relationships in aftermarket segments add layers of complexity to this industry. Taken together, these elements create de facto high barriers to entry, shaping the industry's unique competitive dynamics. Our assessment of low substitution risk is based on high technical production requirements and a lack of alternative production methods. We believe specialty chemicals companies have medium sensitivity to changes in GDP, owing to the specialised nature of their products and the tendency for prices to be negotiated individually.

Number two player in a concentrated, entrenched industry with low risk of commoditisation

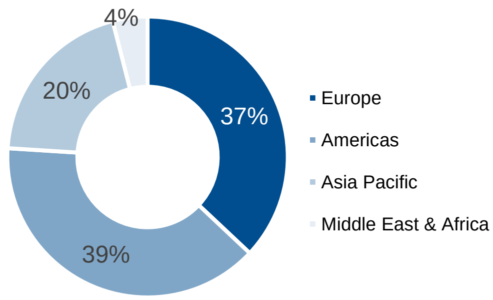
Measured by sales, Air Liquide is ranked second in the industrial gas industry, categorised as a subcategory within the Specialty Chemical sector, which corresponds to a market share of about 20%. The industrial gases industry is characterised by high entry barriers, a low risk of commoditisation and high concentration, which we deem to be strongly supportive of the company's market position. Linde, Air Liquide, Air Products, and Nippon Sanso Holdings are the dominant players, although in various regions such as China smaller local players still dominate the distribution of industrial gases.

Figure 1: Revenue Segment Breakdown YE 2023



Sources: Air Liquide, Scope

Figure 2: G&S Geographical Revenue Breakdown YE 2023



Sources: Air Liquide, Scope

Air Liquide is a global leader in the fields of industrial gases and healthcare services, serving a vast clientele of over 3.9 million (2 million industrial customers and 1.9 million patients). Driven by societal factors such as an ageing population and the rise of remote healthcare, the company has demonstrated resilience and growth. This is further evidenced by its steadily increasing backlog of industrial projects, which has grown from EUR 3.1bn in 2020 to EUR 4.3bn in 2023. This growth supports the company's operational deleveraging goals and complements its cost control programmes.

Figure 3: Top industrial gas companies (2023)

Company	Linde	Air Liquide	Air Products
Market position	No. 1	No. 2	No. 3
Sales (LCY[5] bn)	32.8	27.6	12.6
Scope-adjusted EBITDA (LCY bn)	11.8	7.0	4.0

Sources: Air Liquide, Scope

[5] LCY refers to local currency, i.e. EUR for Linde and Air Liquide, and USD for Air Products

Limited ability to enhance market position via product innovations

Air Liquide's relatively modest investment in research and development within the specialty chemicals sector only impacts our ratings marginally. Industrial gases, as a category, are largely matured products, requiring less R&D emphasis. Nevertheless, Air Liquide is actively engaged in leveraging its expertise in industrial gases to explore innovative applications in adjacent fields, which enhances its competitive position and supports a sustained credit profile.

Stable end-market diversification, wide customer portfolio, improved geographical outreach

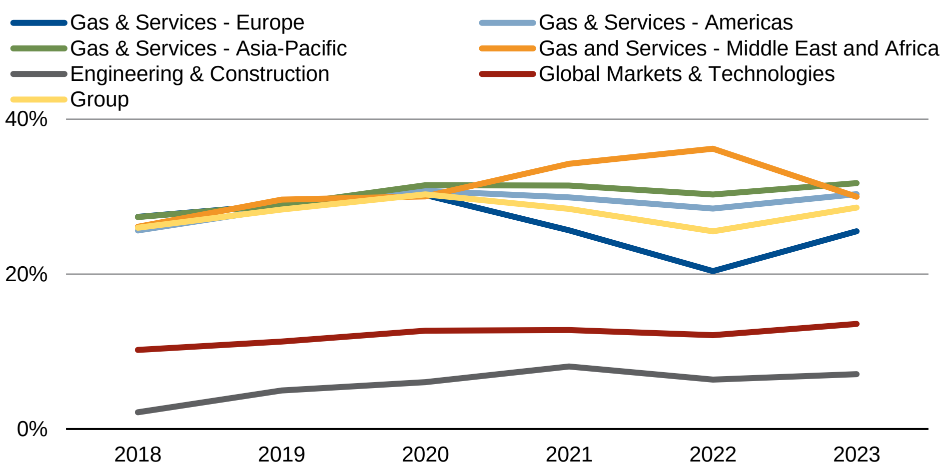
The company continues to be geared towards numerous industries, with a fairly stable end-market breakdown over the last couple of years. Air Liquide's extensive geographic reach and diversified customer base are commendable features of its robust business model. Although the company derives a significant portion of its sales from highly cyclical end-markets, this is partly mitigated by its engagement in countercyclical sectors. Notably, healthcare accounts for 15% of Air Liquide's total revenue, providing a stabilising element. The industrial merchant segment, which contributes 43% to total revenue, serves as another balancing factor, given its diverse and granular customer base across multiple industries. The company serves more than 2 million customers and caters to different types of clients by offering different supply modes. For instance, medium- to smaller-sized customers are typically served via tanker trailers or cylinders, whereas customers requiring large quantities are served via on-site supply systems installed at their production plants.

After acquiring Airgas in 2016, Air Liquide shifted its geographical focus, reducing its European sales from 46% in 2011 to 35% in 2023, underscoring its dynamic global strategy. At the same time, diversification is improved marginally by the operations grouped in the Engineering and Construction, Global Markets and Technologies divisions. Taken together, the abovementioned factors lead to strong diversification. Air Liquide operates on a global scale, spanning 72 countries and employing a workforce of 67,800. The company benefits from a diversified customer base, with no visible concentration on any single client.

Air Liquide is aiming for higher margins

From 2010 to 2023, Air Liquide's EBITDA margin averaged around 26%, and the company is considered among the best in the specialty chemicals sector, although it still lags behind direct peers in liquid gases such as Linde and Air Products. Air Liquide's profitability benefits from low volatility, driven by a robust business model that includes long-term customer contracts, such as those in the Large Industries and Electronics segments. These contracts typically have medium- to long-term structures, featuring take-or-pay clauses and clauses to pass through energy costs effectively.

Figure 4: Profitability (reported segment EBITDA margins)



Sources: Air Liquide, Scope

In 2022, profitability dipped, but it recovered in 2023 due to pricing efficiencies in the Industrial Merchant segment and cost savings of EUR 460m achieved via the ADVANCE programme. The strategic directions of the ADVANCE programme were validated within its first two years. Originally, the programme aimed for a margin improvement of 160 basis points over four years, but this target was nearly met in just two years. As such, management has revised the target to a very ambitious goal of 320 basis points over the four-year period. While achieving the same pricing efficiencies in two consecutive years will be challenging, we view management's focus on closing the profitability gap with peers as positive. Additionally, Air Liquide's industrial basin-based business model in regions like Belgium, the Netherlands and the North of France supports profitability. This model prevents profitability erosion and supports an extensive global pipeline network, spanning thousands of kilometres, primarily in the U.S., France, and the Netherlands. The model has proved resilient despite challenges like COVID-19 and natural disasters. The inherent difficulty in storing gases is another supportive factor, especially considering the overstocking situation faced by the chemical industry as a whole, as it mitigates the risk of overstocking on the client side.

Financial risk profile: A-

Key rating case adjustments include:

- 80% of provisions for dismantling (contingent liabilities) are included in SaD and 5% accrued over contingent liabilities are included in Scope-adjusted interest expense to reflect the interest proportion of these liabilities
- Half of the company's unfunded pension provisions, given the high coverage of annual pension payments through dedicated pension assets
- Interest adjusted for the (estimated) interest component of pension provisions, and contingent liabilities

Air Liquide has significantly enhanced its financial risk profile, reflecting steady progress in key credit ratios. Leverage metrics, such as Scope-adjusted debt/EBITDA and Scope-adjusted funds from operations/debt, show progressive deleveraging, aligning with our positive expectations for the years 2024 and 2025. This improvement in leverage indicates a robust balance sheet and an efficient earnings capacity, with the Scope-adjusted debt/EBITDA ratio improving to 1.5x in 2023 from 1.8x the previous year.

Air Liquide has managed to maintain stable debt costs effectively in a challenging macroeconomic environment. As of the end of 2023, 93% of the company's debt was secured at fixed rates, minimally down from 94% at the end of 2022. This strategy has significantly insulated the company from market volatility, including fluctuations in interest rates.

Focusing on investment, Air Liquide has committed to an ambitious EUR 16bn investment decision target from 2022 to 2025, underscoring its ambitious growth and expansion strategy.

The company's operational efficiency and attention to cost management have been pivotal in maintaining and enhancing its Scope-adjusted EBITDA margins. We expect these efforts to potentially yield further marginal improvements in profitability, driven by ambitious targets set under the ADVANCE programme. This commitment is further evidenced by projected elevated capital expenditures, expected to increase in 2024 and 2025 in comparison with 2023 (EUR 3.3bn), which highlight the scale of the investment phase.

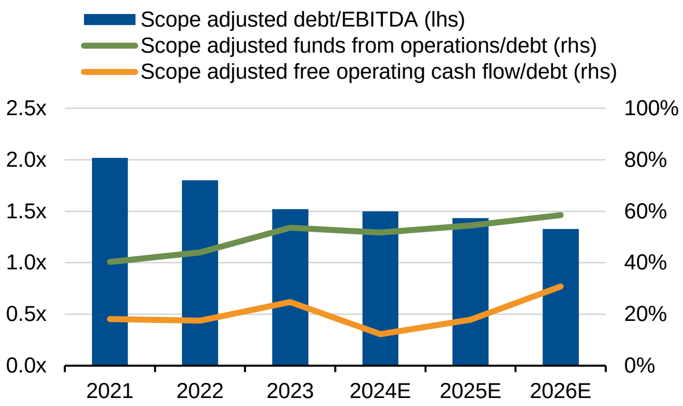
Fiscal performance in 2023 saw a robust increase in revenue on comparable terms and enhanced profitability margins, illustrating the resilience and effectiveness of Air Liquide's business model. This model's strength lies in its ability to hedge against inflationary pressures through long-term 'take or pay' contracts and cost pass-through agreements.

Operational deleverage expected in 2024 and 2025

Despite our conservative stance on Air Liquide's FOCF generation, the ratio of Scope-adjusted FOCF/debt was about 25% in 2023. However, we anticipate that this ratio will decline to around 12% in 2024 due to peak investments, with a recovery to 18% in 2025. This demonstrates a balance between intensive capital needs and stable cash flow generation, reflecting strategic initiatives geared towards long-term sustainability and financial health, including a strong emphasis on reducing CO2 emissions.

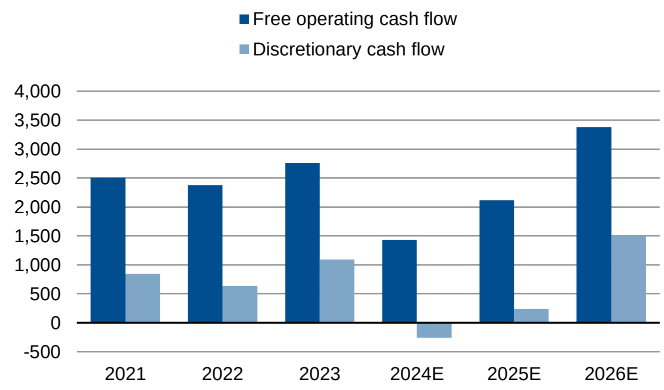
In conclusion, our Positive Outlook on Air Liquide is supported by the company's ability to close the profitability gap with its industry peers, helped by strong pricing power and rising industrial gas consumption. Additionally, the Scope-adjusted debt/EBITDA ratio has already reached our upgrade trigger of 1.5x, and maintaining or slightly improving this level could lead to an upgrade. In this context, the achievements of the ongoing deleveraging process are moderated by factors such as progressive dividend payouts coupled with capital expenditures within the ADVANCE programme framework.

Figure 5: Credit metrics



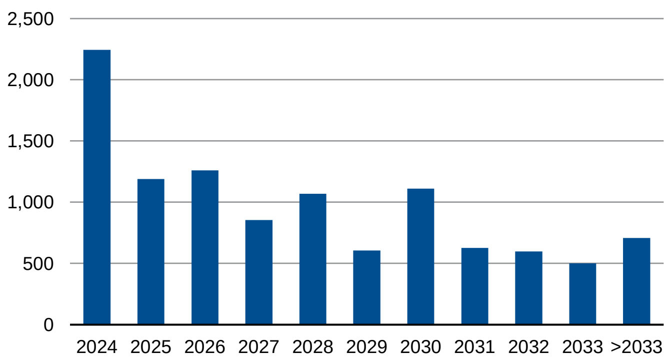
Sources: Air Liquide, Scope

Figure 6: Free operating and discretionary cash flow (EUR m)



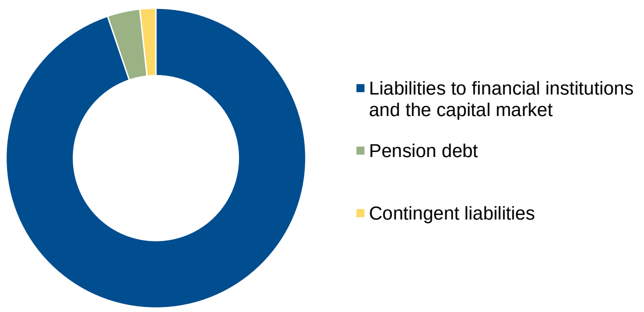
Sources: Air Liquide, Scope

Figure 7: Maturity profile of borrowings (EUR m; YE 2023)



Sources: Air Liquide, Scope

Figure 8: Composition of SaD (YE 2023)



Sources: Air Liquide, Scope

With regard to Air Liquide's SaD composition we highlight: i) pension liabilities play a subordinated role in total debt, which supports Air Liquide's ratios on interest coverage

Need for potential pension funding is low

(Scope-adjusted EBITDA/interest) and reduces the need for potential pension funding; and ii) Air Liquide's stronger business risk profile allowed it to finance the purchase of US Airgas for about USD 13.4bn in 2016 without any subordinated debt or material deterioration in its credit profile.

Furthermore, as part of the Sustainable Financing Framework, Air Liquide completed its first green bond issue in May 2021, raising EUR 500m to finance and refinance several sustainable development projects, most notably in hydrogen, biogas and oxygen.

Adequate liquidity

Liquidity remains adequate, based on solid ratios for external sources of liquidity (confirmed credit lines of up to EUR 3.795bn as of 31 December 2023), internal sources of liquidity (EUR 1.62bn in cash and cash equivalents at 31 December 2023) and debt maturing in 2024 (EUR 2.2bn) and 2025 (EUR 1.2bn). EUR 2.5bn of the credit lines is contracted with a syndicate of banks, and EUR 1.295bn comes from bilateral facilities. Air Liquide is diversifying its financial resources by engaging with different currencies and investor bases.

Balance in EUR m	2023	2024E	2025E
Unrestricted cash (t-1)	1,911	1,625	1,079
Open committed credit lines (t-1)	3,600	3,795	3,795
FOCF (t)	2,750	1,439	2,122
Short-term debt (t-1)	2,003	2,285	1,191
Coverage	**>200%**	**>200%**	**>200%**

Supplementary rating drivers: No adjustment

We have made no rating adjustment for financial policy, peer context, parent support, or governance and structure. Air Liquide's financial policy remains disciplined, in our opinion. Expected weaker but still sound discretionary cash flow generation will allow indebtedness to be reduced at a faster pace if capital allocation priorities are adjusted.

Long-term and short-term debt rating

Short-term debt rating: S-1

The S-1 short-term debt rating is based on the underlying A/Positive issuer rating and reflects the company´s strong liquidity position. We classify Air Liquide's internally and externally provided liquidity coverage, banking relationships, as well as its standing in capital markets as better than adequate.

Senior unsecured debt rating: A

The A rating for senior unsecured debt is in line with the issuer rating of Air Liquide S.A. Currently all long-term market debt is consolidated under Air Liquide Finance S.A. Debt issued by this financing subsidiary benefits from an unconditional and irrevocable guarantee from Air Liquide S.A. The company also holds localised debt in specific countries, including South Africa, Argentina, Saudi Arabia, and China.

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