Air Liquide S.A.
France, Specialty Chemicals

SCOPE A POSITIVE

Key metrics

			Scope estimates	
Scope credit ratios	**2021**	**2022**	**2023E**	**2024E**
Scope-adjusted EBITDA/interest cover	20.0x	18.6x	20.3x	20.2x
Scope-adjusted debt/EBITDA	2.0x	1.8x	1.6x	1.5x
Scope-adjusted funds from operations/debt	40%	44%	50%	54%
Scope-adjusted free operating cash flow/debt	18%	17%	17%	17%

Rating rationale

Scope Ratings published for the first time in May 2023 Air Liquide's issuer rating of A and revised the outlook to Positive from Stable. The S-1 short-term rating and A senior unsecured debt rating were also affirmed.

Air Liquide's business risk profile (assessed at A+) continues to support its issuer rating. In particular, this reflects Air Liquide's position as the second largest producer of industrial gas globally, in the context of a concentrated industry structure. Additionally, Air Liquide has a powerful position in the engineering of air separation units together with its number one position as an international patent holder for hydrogen production. Air Liquide's broad geographic and customer diversification is also noteworthy; even though highly cyclical end-markets account for a substantial amount of sales, this is partially offset by the company's exposure to countercyclical industries such as healthcare, which represents 13% of total revenue, as well as its industrial merchant segment, providing 38% of total revenue and composed of a granular base of customers from different industries. Air Liquide has strong and stable profitability for the specialty chemicals industry[1], together with good business visibility derived from medium to long-term contracts, including take-or-pay clauses and clauses to pass through energy costs, thus effectively passing through increasing energy costs.

Air Liquide's financial risk profile (A-), while remaining less robust than its business risk profile, shows improvement primarily due to credit ratios on leverage (Scope adjusted debt/EBITDA and Scope-adjusted funds from operations/debt) over the last couple of years, together with our projections for 2023 and 2024, driven positively by robust and stable cash generation, while operating and discretionary free cash flow is held back by Capex spending inherent to the business model, albeit relatively high compared to the chemicals sector in general. Furthermore, our estimation that the company will be able to maintain an acceptable level of cash on its balance sheet each year and that, together with their access to multiple financing tools in both private and public capital markets will result in sufficient internal and external liquidity coverage ratios to adequately cover debt maturing in 2023 and 2024 is also supportive of the improvement in FRP. We continue to make no adjustment for financial policy, peer context, parent support or governance and structure. As reflected in our rating scenario, we believe Air Liquide will pursue its disciplined financial policy in order to maintain a credit rating in the A category.

[1] Air Liquide belongs to the industrial gas industry, categorized as a subcategory within the Specialty Chemical corporates according to Scope Ratings

Ratings & Outlook

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

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Related Methodologies

General Corporate Rating Methodology; October 2023

Chemicals Rating Methodology; April 2023

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Outlook and rating-change drivers

The Positive Outlook reflects the expectation that Scope-adjusted debt/EBITDA will move towards 1.5x in the medium term.

An upgrade could be considered if Scope-adjusted debt/EBITDA reached 1.5x and were sustained at that level. 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 Scope-adjusted debt/EBITDA were to increase again.

Further downside may result if Scope-adjusted debt/EBITDA were to persistently exceed 2.5x, e.g., if Air Liquide's financial policy became more geared towards shareholder interests.

Rating history

Date	Rating action/monitoring review	Issuer rating & Outlook
5 May 2023	New	A/Positive

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 mitigated by medium- to long-term contracts, including take-or-pay clauses and clauses to pass through energy costs. • High 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 reaching 1.5x and sustaining that level would result in an upgrade	• 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 2022, it achieved sales of about EUR 29.9bn and Scope-adjusted EBITDA of EUR 6.7bn. 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	**2021**	**2022**	**2023E**	**2024E**
Scope-adjusted EBITDA/interest cover	20.0x	18.6x	20.3x	20.2x
Scope-adjusted debt/EBITDA	2.0x	1.8x	1.6x	1.5x
Scope-adjusted funds from operations/debt	40%	44%	50%	54%
Scope-adjusted free operating cash flow/debt	18%	17%	17%	17%
Scope-adjusted EBITDA in EUR m				
EBITDA	6,182	6.757	7,462	8,052
Other items[2]	(8)	-	-	-
Scope-adjusted EBITDA	**6,174**	**6,757**	**7,462**	**8,052**
Funds from operations in EUR m				
Scope-adjusted EBITDA	6,174	6,757	7,462	8,052
less: (net) cash interest paid	(297)	(352)	(357)	(389)
less: cash tax paid per cash flow statement	(801)	(900)	(1,074)	(1,199)
add: dividends from associates	6	14	6	6
Change in provisions	58	(168)	-	-
Funds from operations (FFO)	**5,023**	**5,351**	**6,028**	**6,458**
Free operating cash flow in EUR m				
Funds from operations	5,023	5,351	5,774	6,458
Change in working capital	377	(397)	(161)	115
Non-operating cash flow	(67)	600	(60)	102
less: capital expenditure (net)	(2,828)	(3,181)	(3,528)	(4,364)
less: lease amortisation	(241)	(249)	(249)	(249)
Free operating cash flow (FOCF)	**2,264**	**2,124**	**2,030**	**2,062**
Net cash interest paid in EUR m				
Net cash interest per cash flow statement	238	270	332	364
Change in other items[3]	70	93	35	35
Net cash interest paid	**308**	**362**	**367**	**399**
Scope-adjusted debt in EUR mm				
Reported gross financial debt	13,956	13,453	12,110	12,159
fless: cash and cash equivalents	(2,247)	(1,911)	(784)	(869)
add: pension adjustment	533	419	419	419
Other items[4]	220	208	208	208
Scope-adjusted debt (SaD)	**12,461**	**12,168**	**11,953**	**11,916**

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

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Environmental, social and governance (ESG) profile[5]

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 have identified a positive factor under Product Innovation, thanks to Air Liquide's emphasis on cutting-edge technology and innovation. This focus is seamlessly incorporated into their broader ADVANCE strategic plan. Moreover, the company is uniquely positioned to assist industrial customers in their transition towards a more sustainable, hydrogen-based economy.

Business risk profile: A+

Industry risk profile: A

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

No. 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, categorized as a subcategory within the Specialty Chemical corporates, which corresponds to a market share of 20% area. The industrial gas 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.

[5] 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.

Air Liquide stands as a global leader in the fields of industrial gases and healthcare services, serving a vast clientele of over 3.9 million (2 million of industrial customers and 1.9 million of 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 3.1 billion in 2020 to EUR 3.5 bn in 2022.

Limited ability to enhance market position via product innovations

Despite Air Liquide's relatively modest investment in research and development within the specialty chemicals sector, this aspect only marginally impacts our evaluative ratings. 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.

Figure 1: Top industrial gas companies (2022)

Company	Linde	Air Liquide	Air Products
Market position	No. 1	No. 2	No. 3
Sales (LCY bn)	33.3	29.9	12.7
Scope-adjusted EBITDA (LCY bn)	9.6	6.7	4.0

Source: Air Liquide, Scope

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 mitigated to some extent by its engagement in countercyclical sectors. Notably, healthcare accounts for 13% of the firm's total revenue, offering a stabilizing element. Additionally, the industrial merchant segment, which contributes 38% to total revenue, serves as another balancing factor, given its diverse and granular customer base across multiple industries. The company serves more than 2m 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 demanding large quantities are served via on-site supply systems installed at their production plants.

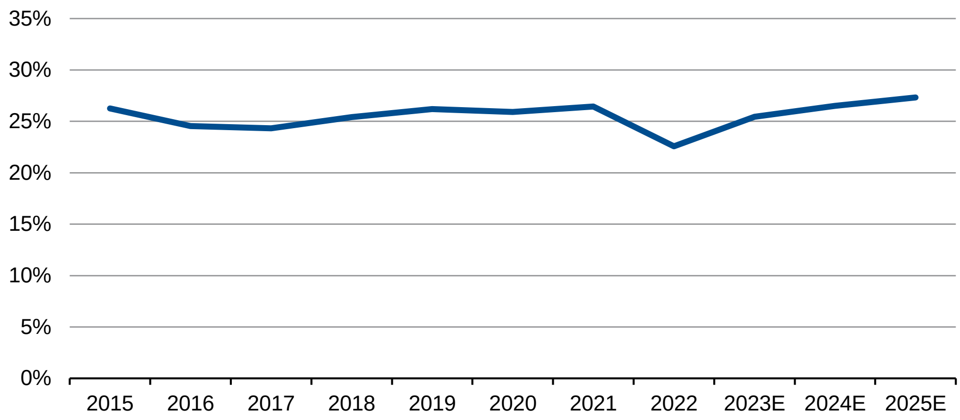
After acquiring Airgas in 2016, Air Liquide shifted its geographical focus, reducing its European sales from 46% in 2011 to 38% in 2022, underscoring its dynamic global strategy. At the same time, diversification is improved marginally by the operations grouped in the Engineering and Construction, Global Markets and Technologies divisions. Taken together, the abovementioned factors lead to strong diversification. Air Liquide operates on a global scale, spanning 73 countries and employing a workforce of 67,100. The company benefits from a diversified customer base, with no visible concentration on any single client.

EBITDA margin by segment 2022

In 2010-2022, the company's EBITDA margin averaged around 26%. As a consequence, we deem Air Liquide to be among the best-in-class in the specialty chemicals sector. Moreover, profitability is of low cyclicality thanks to Air Liquide´s robust business model, including long-term customer contracts in most business lines. For instance, contracts in the Large Industries and Electronics arm usually have medium to long-term structures, including take-or-pay clauses and clauses to pass through energy costs effectively. While there was profitability dilution in 2022 driven exclusively by the pass-through of energy costs to final customers, we draw comfort from the fact that adjusted profitability increased slightly year on year helped by cost containment measures. By employing a basin-based business model in key regions such as Belgium-Netherlands and North

France, Air Liquide has effectively prevented a decline in profitability. This strategic approach facilitates an extensive global pipeline network spanning thousands of kilometers, with the majority situated in the U.S., France, and the Netherlands. Despite facing challenges such as COVID-19 and natural disasters, the model has demonstrated remarkable resilience, ensuring a steady demand for gases.

Figure 2: Profitability (EBITDA margin)



Source: Air Liquide, Scope estimates

Financial risk profile: A-

Key adjustments of the rating case include:

- 80% of provisions for dismantling (contingent liabilities) are included in SaD and 5% of contingent liabilities 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's financial risk profile has improved in the recent years slightly, in particular the credit ratios on leverage (SaD/EBITDA, FFO/SaD) that over the last couple of years together with our projections for 2023 and 2024, reflect an uplift of one notch to the FRP to A-.

Despite navigating a challenging macroeconomic landscape, Air Liquide has maintained stable debt costs, largely attributable to 94% of its debt carrying a fixed rate as of December 31, 2022 (89% at June 30, 2023). This financial strategy has effectively insulated the company from market volatility.

Air Liquide is on track to reach its investment decisions' goal of EUR 16 bn over the 2022-2025 period. In 2022 alone, Investment decisions amounted to 3.9bn euros.

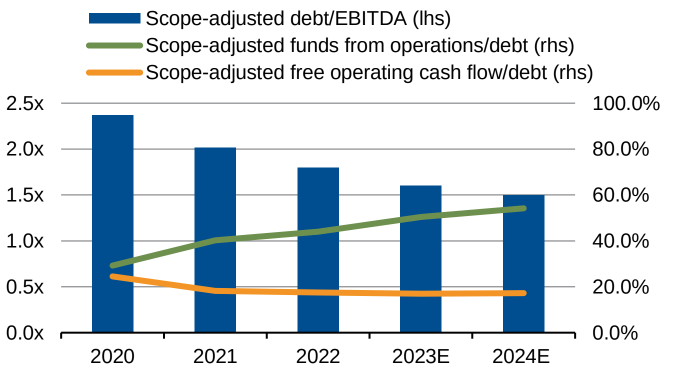
Robust performance in 2022, helped by resilience of the business model

Credit metrics in 2022 were comfortable thanks to the resilience of Air Liquide's business model that is effectively hedged against inflation thanks to long-term take or pay contracts and pass-through agreements. The most relevant annual credit metric, SaD/EBITDA, was 1.8x at 31 December 2022 versus 2.0x at 31 December 2021. For the last twelve months ended in June 2023 the metric stood at 1.7x.

Aims to close profitability gap with peers

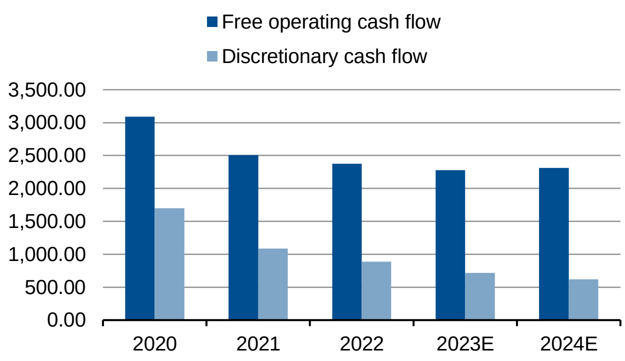
We believe Air Liquide will aim to close the profitability gap with peers, supported by continued strong pricing power, rising industrial gas consumption and cost containment, hence Sa-EBITDA margin is expected to improve in the coming years even more considering that in FY22 the profitability erosion was a technical effect of passing through the costs but that adjusting for it there was a small improvement in profitability margins already in 2022

Figure 3: Credit metrics



Source: Scope

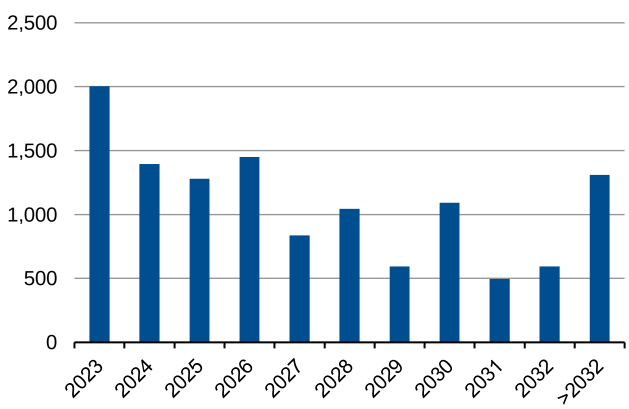
Figure 4: Free operating and discretionary cash flow (EUR m)



Source: Scope

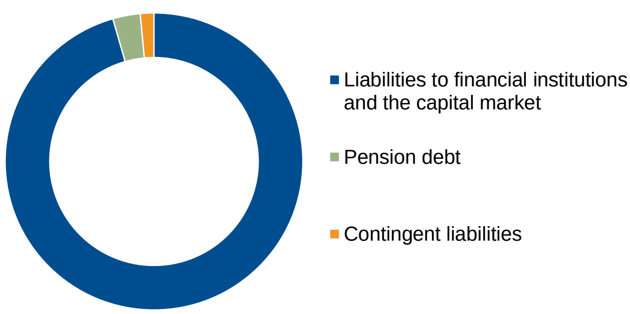
Our positive outlook incorporates the fact that Scope-adjusted debt/EBITDA is gradually getting closer to our upgrade trigger of 1.5x. While we think the deleveraging is taking place, its pace could be slowed down by: i) a progressive dividend policy, while we understand that there will be no major share repurchases examined and ii) Capex in line with the requirements of the ADVANCE program. We maintain our conservative view on Air Liquide's free operating cash flow generation. Free operating cash flow to Scope-adjusted Debt stood at around 17%, and is expected to remain at that level going forward, balancing the intensive capital needs with stable cash flow generation. These particular capital needs are especially true for Air Liquide as they will require, in our estimated base case, an increase in their capital expenditure from approximately EUR 3.2bn to EUR 3.5bn and 4.3bn in 2023 and 2024 respectively. This program is part of their investment decisions' acceleration programme in line with their growth ambitions that will have a strong focus on CO_2 reduction.

Figure 5: Maturity profile (EUR m; 31 December 2022)



Source: Air Liquide, Scope

Figure 6: Composition of SaD (2022)



Source: Air Liquide, Scope

Need for potential pension funding is low

With regard to Air Liquide's SaD composition, we want to highlight: i) pension liabilities represent a subordinated role in total debt, which supports Air Liquide ratios on interest coverage (EBITDA/interest expense) and reduces the need for potential pension funding; and ii) thanks to its stronger business risk profile, the purchase of US Airgas for about USD 13.4bn in 2016 was financed without any subordinated debt or material deterioration in the company's credit profile.

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

Liquidity remains adequate in accordance with our Corporate Rating Methodology, based on solid ratios for external (confirmed credit lines of up to EUR 3.695bn as of June 30,2023) and internal sources of liquidity (EUR 1.7bn in cash and cash equivalents at June 30, 2023) and debt maturing in 2023 (EUR 2.0bn) and 2024 (EUR 1.3bn).

Adequate liquidity

As of June 30, 2023, the company has access to EUR 3.695 bn in undrawn committed credit lines. Out of this, EUR 2.5 bn is secured with a syndicate of banks, and EUR 1.195 bn comes from bilateral facilities. Air Liquide is diversifying its financial resources by engaging with different currencies and investor bases. In September 2023 a EUR 300 million bond from Air Liquide SA matured, so currently all long-term market debt is consolidated under Air Liquide Finance. The company also holds localized debt in specific countries, including South Africa, Argentina, Saudi Arabia, and China.

Balance in EURm	2022	2023E	2024E
Unrestricted cash (t-1)	2,247	1,911	784
Open committed credit lines (t-1)	3,600	3,600	3,695
Free operating cash flow	2,124	2,030	2,062
Short-term debt (t-1)	2,417	2,232	1,560
Coverage	**>200%**	**>200%**	**>200%**

Supplementary rating drivers: No adjustment

We have made no 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 ratings

Senior unsecured debt rating: A

We have affirmed the S-1 short-term rating, as 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.

Short-term debt rating: S-1

The rating for senior unsecured debt has been affirmed at A, the level of the issuer.

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