

**François Jackow**  
Chief Executive Officer  
Air Liquide SA  
75, quai d'Orsay  
75007 Paris

Paris, March 9th, 2023

**Reference:** your letter dated 28/02/2023.

Dear ShareAction group,

We acknowledge receipt of your letter dated 28/02/23. We appreciate your attention to this most serious subject and agree that the urgency of action to tackle the threat climate change poses is intensifying. In this letter, we will address your 3 requests and shed light on the actions implemented by the Group to decarbonize its value chain.

As you may be aware, in March 2022, Air Liquide unveiled its 2025 strategic plan - ADVANCE, which places Sustainable Development at the heart of the Group's strategy and firmly sets Air Liquide on course for a comprehensive performance by combining financial performance and extra-financial performance. In addition to the financial targets (5-6% growth in sales and >10% ROCE by 2023), the Group remains resolutely committed to continue reduction of its carbon emissions intensity, as well as begin reducing its absolute CO2 emissions around 2025 on a path to achieve 33% reduction in absolute emissions by 2025 and carbon neutrality by 2050. This will be enabled by a significant increase in investments (16 Bn Euro during 2022-25), of which ~50% will be dedicated to energy transition.

*(1) Will the company set an intermediate scope 3 target covering both upstream and downstream emissions that is consistent with 1.5°C low/no overshoot pathways?*

We recognize that decarbonizing our entire value chain - upstream, our own operations, and downstream - is critical for achieving Net Zero targets by 2050. In 2022, we achieved a major milestone with SBTi validating our 2035 CO2 trajectory as qualified and aligned with climate science. As we prepare our Net Zero targets (which are consistent with 1.5 degree pathway, and cover all scopes, including Scope 3 emissions), we are participating in the SBTi led Expert Advisory Group (EAG) to develop a Sector Decarbonization Approach (SDA) for the chemical sector. This project sets out to develop standardized methods and best practices for emissions accounting and target setting, with a focus on critical Scope 3 categories, for the chemical industry, which has many heterogeneous, yet interconnected subsectors. We believe that the output of this project will inform and guide the structuring of our Scope 3 objectives using globally harmonized accounting practices.

Since 2020 we account for and report our Scope 3 emissions across the different categories, with increasing accuracy and rigor, and to progressively start taking objectives on relevant categories of such emissions. Noteworthy is our first Scope 3 objective that we have undertaken in 2022 to address CO<sub>2</sub> emissions downstream of our operations. Recognizing that our ability to decarbonize our customers' operations will require close partnerships and selectivity, we have set the objective to have 100% of Top 50 customers committed to 2050 Carbon neutrality by 2035 (75% by 2025).

We remain committed to setting objectives for additional Scope 3 categories as the standard methodologies specific to the chemical sector become available from SBTi's work group.

- (2) Will the company set out and disclose a plan over the short, medium and long term, with intermediate targets, to;
- A) phase in electrified chemical production processes, with the aim of transitioning to 100% electrified processes by 2050 (whether for your own production or where enabling third party production); and
  - B) increase energy consumption from renewable energy sources, with the aim of transitioning to 100 per cent renewable energy by 2050 (whether for your own production or where enabling third party production)?

Our assets for production of air gases are already >95% electrified. The only exception are a select few steam driven ASUs (Air Separation Units) which are integrated into customers' process, and for which we are building progressive electrification plans (with investment decisions taken in 2022), working closely with the customers, with an aim to achieve 100% electrification by 2050 for air separation processes.

As for hydrogen, the main current production process is based on reforming natural gas. The Group is developing electrification of the hydrogen production through the development of electrolysis. In that respect, we have already started electrolysis plants with increasing capacity, such as the [Becancour 20 MW plant](#) (Canada) started in 2021 and larger projects under development have been announced, such as the [Normand'Hy](#) (200 MW, France) or the [Elygator and CurtHyl](#) (200 MW each, The Netherlands) projects. In March 2021 we set an objective to invest in 3 GW of electrolysis projects by 2030.

Procuring massive volumes of renewable energy is a key pillar of our decarbonization plan, and the Group has been making significant progress on this front. Since the availability, accessibility and affordability of renewable energy will require significant infrastructure and regulatory developments, we are contributing to its development by signing Power Purchase Agreements (PPAs). By sourcing renewable electricity directly from the producers of new capacities with our long-term PPAs, we foster investment from energy producers and we are contributing to greater renewable electricity availability around the world. In 2022, we signed 4 major PPAs, such as the 115 MW [PPA with Vattenfall](#) for offshore wind in the Netherlands, and the [PPA jointly signed with Sasol](#) in South Africa to procure renewable power from Enel Green Power for a total capacity of 220 MW, representing 1.1 TWh of renewable electricity available for our operations when these projects are completed. In February 2023, we announced the signing of [another PPA with Sasol](#) in South Africa for a total capacity of 260 MW of renewable energy.

- (3) *Will the company set out and disclose a plan over the short, medium and long term, with intermediate targets, to phase in non-petrochemical feedstocks that are emissions-neutral over their entire lifecycle, with the aim of transitioning to 100 % emissions-neutral feedstocks by 2050?*

First, it is important to recall that Air Liquide's business and operations are in a very specific subsector (industrial gases) within the broader chemical sector. As such, it has a limited set of products and inputs, with a very limited share of petro-chemical inputs in our operations.

For production of air gases such as nitrogen, oxygen and argon, the primary feedstock are air and electricity. Therefore, transitioning to renewable energy for such production remains our primary focus. For production of hydrogen, while the classical process utilizes natural gas (in the Steam Methane Reforming - SMR - process), the emergence of large-scale electrolysis of water using renewable electricity is seeing increased adoption. Air Liquide commissioned the first 20 MW PEM (Proton Exchange Membrane) electrolyzer in Becancourt, Canada in 2021, and has recently been selected by the European Innovation Fund for two large scale electrolyzer projects in Europe (Normand'Hy in France, CurtHyl and Elygator projects in the Netherlands, each with a capacity of 200 MW). While we see electrolysis as the future of hydrogen production, we are also committed to reducing the footprint of existing natural gas based production units by either using alternative feedstock such as biomethane, or by using carbon capture (where biomethane availability is limited). It should be noted that as the only Industrial Gas company producing biomethane, Air Liquide is a fully committed and an active contributor to the sustainable development of alternative feedstock fuels.

If you wish additional information, details of our [ADVANCE strategic plan](#) and our 2021 [Corporate Sustainability Report](#) (2022 report will be available on March 24, 2023) are available on our website for public observation.

Yours faithfully,



**François Jackow**  
Chief Executive Officer



Air Liquide  
75 Quai d'Orsay  
Paris  
75321  
France

28/2/2023

Dear Mr. François Jackow,

We are writing to you as investors, their representatives and shareholders with USD \$4.2 trillion assets under management and under advice who, with the support of ShareAction, are engaging with European chemical companies to ensure that the sector is aligned with the 1.5°C Paris Agreement goal. We greatly appreciate Air Liquide's willingness to engage, including at our last meeting convened by ShareAction on 5 April 2022. While we understand this is a very busy time for you, we would like to arrange a meeting with you and other senior leadership members as soon as possible to seek further updates and commitments from your company.

We are aware that other investor groups, including CA100+, are also engaging with your company. Like them, and given the urgent need for action, we hope to see continued progress on the issues outlined in this letter over the coming months.

The United Nations Environment Programme (UNEP)'s recent report 'The Emissions Gap' showed that the window of opportunity to address the climate crisis is closing.<sup>1</sup> The report calls for an urgent *system-wide transformation* to avoid climate disaster. Recent analysis by Carbon Brief supports the call for urgent action; it suggests the 1.5°C carbon budget may now be exhausted in as little as six years.<sup>2</sup>

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<sup>1</sup> UNEP (2022). [Emissions Gap Report 2022 \(unep.org\)](https://www.unep.org/emissions-gap-report-2022) (Accessed online 3/1/23)

<sup>2</sup> Carbon Brief (2022). [Guest post: What the tiny remaining 1.5C carbon budget means for climate policy - Carbon Brief](https://www.carbonbrief.org/guest-post-what-the-tiny-remaining-1.5c-carbon-budget-means-for-climate-policy) (Accessed online 01/2/2023)

Without rapid and sustained emissions reductions, we are at serious risk of breaching several tipping points that would bring abrupt, severe and irreversible changes in our climate.<sup>3</sup> A global temperature rise beyond 1.5°C could trigger multiple tipping points, such as the glacial collapse of the West Antarctic Ice Sheet (WAIS).<sup>4</sup> The 10 feet of sea level rise from this event would be catastrophic, flooding major cities, causing widespread salination of agricultural land, and displacing millions of people.<sup>5</sup> This demonstrates that every *fraction* of a degree of warming matters.

As investors, we will support companies if they show strong potential for long-term value creation. The transition to net zero will be disruptive and enormously challenging; companies that do not move quickly will fall behind their peers. Therefore, it is our view that a credible strategy to align with 1.5°C is necessary to remain competitive. Companies that can reduce their emissions and adapt early will be best positioned for long-term profitability and competitive advantage.

The investment decisions that Air Liquide makes now will determine its path to 2050; inaction, delay, and prolonging dependence on fossil fuels is not a viable path for the planet, the company, or us as investors. As a hydrogen leader, Air Liquide is well placed to lead the transition to 2050. We now request an update from the company on issues related to its strategy – which we first raised in November 2021.

**1. Will the company set an intermediate scope 3 target covering both upstream and downstream emissions that is consistent with 1.5°C low/no overshoot pathways?**

As we said in our first letter of November 2021, scope 3 emissions are a significant proportion of chemical sector emissions, and of Air Liquide’s carbon footprint. We were pleased that the company confirmed in 2022 that its net zero ambition covers scope 3 emissions. However, we note that at present only 0.6 per cent of the company’s scope 3 emissions are covered by a target. We request that the company sets a comprehensive intermediate scope 3 target that is consistent with 1.5°C low/no overshoot pathways, covering both upstream and downstream emissions in its value chain.

**2. Will the company set out and disclose a plan over the short, medium *and* long term, with intermediate targets, to;**

**A) phase in electrified chemical production processes, with the aim of transitioning to 100 per cent electrified processes by 2050 (whether for your own production or where enabling third party production); and**

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<sup>3</sup> Carbon Brief (2020). [Explainer: Nine ‘tipping points’ that could be triggered by climate change - Carbon Brief](#) (Accessed online 09/1/23)

<sup>4</sup> Earth Commission (2022). [Risk of passing multiple climate tipping points escalates above 1.5°C global warming - Earth Commission](#) (Accessed online 09/1/23)

<sup>5</sup> Carbon Brief (2020). [Guest post: How close is the West Antarctic ice sheet to a ‘tipping point’? \(carbonbrief.org\)](#) (Accessed online 09/1/23)



**B) increase energy consumption from renewable energy sources, with the aim of transitioning to 100 per cent renewable energy by 2050 (whether for your own production or where enabling third party production)?**

To ensure carbon neutrality across scopes 1 and 2, Air Liquide must commit to electrify its chemical production processes and to source all electricity from renewable energy sources. As we noted in our letter of November 2021, this is a viable pathway for the sector to significantly reduce its scope 1 and 2 emissions – and several of Air Liquide’s peers are making advances in this regard. We note the company is increasing its share of renewable energy and investing in electrolysis, that the majority of its air separation units are already electrified; and, importantly, that the company’s ambition is to transition to fully electrified processes. Nonetheless, we would like to request again that the company makes a firm commitment to fully transition to electrified chemical production processes, to be powered by 100 per cent renewable energy sources, by 2050 at the latest. Further, we request that the company sets out a timeline for electrifying and/or replacing those assets that are not yet electrified.

**3. Will the company set out and disclose a plan over the short, medium and long term, with intermediate targets, to phase in non-petrochemical feedstocks that are emissions-neutral over their entire lifecycle, with the aim of transitioning to 100 per cent emissions-neutral feedstocks by 2050?**

Fossil fuels can be phased out of the company’s feedstock mix and replaced with alternative inputs; such as renewable hydrogen, produced via electrolysis powered by 100 per cent renewable energy. We welcome that Air Liquide is making significant investments in electrolysis, and the company’s recognition that carbon-free raw materials will be required to achieve their decarbonisation goals. However, as we first said in our letter of November 2021, we continue to be concerned by the company’s investments in carbon capture for hydrogen production. In response to our first letter, Air Liquide said that carbon capture would be a necessary transitional solution until electrolyzers were economically viable. We note recent analysis by Carbon Tracker that suggests that the rising cost of producing fossil hydrogen could lead to European assets becoming stranded before 2030.<sup>6</sup> We would therefore like to ask Air Liquide again whether it will commit to transition to 100 per cent emissions-neutral feedstock by 2050 at the latest and provide more details of its plans to make this transition, including a timeline to phase out grey and blue hydrogen.

We would welcome the opportunity to meet with you to discuss this further, as well as a response to this letter before 28 March 2023 with a suggested meeting date. In this meeting we can discuss the steps that Air Liquide is planning to take to address the requests highlighted in this letter. Please do also share any

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<sup>6</sup> Carbon Tracker (2022). [Green hydrogen’s place in the energy transition](#). (Accessed online 31/01/23)

recent developments or let us know if you believe we have overlooked part of Air Liquide's recent disclosures.

Please send your response to Penny Fowler, Interim Head of Climate, at [Penny.Fowler@shareaction.org](mailto:Penny.Fowler@shareaction.org)

Yours sincerely,

Heike Cosse, Engagement Manager

**Aegon Asset Management**

Eoin Fahy, Head of Responsible Investing

**KBI Global Investors**

Erica Cadbury, Chair

**Barrow Cadbury Trust**

Will Martindale, Co-head of Sustainability Group

**Cardano Group**

Joanne Beatty, Director – Engagement

**EOS at Federated Hermes**

Rupert Krefting, head of Corporate Finance and Stewardship

**M&G Investments**

Ben Dear, CEO

**Osmosis Investment Management**

Eoin Fahy, Head of Responsible Investing

**KBI Global Investors**

Mary Beth Gallagher, Director of Engagement

**Domini Impact Investments LLC**

Louisiana Salge, Head of Sustainability



**EQ Investors**

Simona Campioni, Senior ESG Analyst

**EFG Asset Management**

Julie Gorte, PhD, Senior Vice President, Sustainable Investing

**Impax Asset Management**

Maria Ortino, Global ESG Manager, Investment Stewardship

Cristy Rodriguez, ESG Analyst, Investment Stewardship

**Legal and General Investment Management**

Jennifer Law, Head of Stewardship

**Newton Investment Management**

Max-Eric Laubscher, Chief Investment Officer

**Pensionskasse-Basel-Stadt**

Claire Berthier, CEO

**Trusteam Finance**

Karin Nemec, CEO

**Grünfin Group**

Vincent Kaufmann, CEO,

**Ethos Foundation**

Matthias Narr, Head Engagement International,

**Ethos Engagement Pool International**

**Aargauische Pensionskasse (APK)**

**Accenture Executive Pensionskasse**

**ATISA Personalvorsorgestiftung der  
Tschümperlin-**

**Unternehmungen**

**AVENA - Fondation BCV 2e pilier**

**Bernische Lehrerversicherungskasse**

**Bernische Pensionskasse BPK**

**BVG-Stiftung der SV Group**

**Caisse Cantonale d'Assurance Populaire -  
CCAP**

**Caisse de pension du Comité international de la Croix-Rouge**

**Caisse de pension Hewlett-Packard Plus**

**Caisse de pensions de l'Etat de Vaud (CPEV)**

**Caisse de pensions du personnel communal de Lausanne (CPCL)**

**Caisse de pensions ECA-RP**

**Caisse de pensions Féd. int. des Stés. de la Croix-Rouge et du Croissant-Rouge**

**Caisse de Prévoyance de l'Etat de Genève CPEG**

**Caisse de Prévoyance des Interprètes de Conférence (CPIC)**

**Caisse de prévoyance du personnel de la Ville de Fribourg**

**Caisse de prévoyance du personnel de l'Etat de Fribourg (CPPEF)**

**Caisse de prévoyance du personnel de l'Etat du Valais (CPVAL)**

**Caisse de retraite professionnelle de l'industrie vaudoise de la construction**

**Caisse intercommunale de pensions (CIP)**

**Caisse paritaire de prévoyance de l'industrie et de la construction (CPPIC)**

**CAP Prévoyance**

**CAPUVA Caisse de prévoyance des travailleurs  
et employeurs du commerce de détail**

**Cassa pensioni di Lugano**

**CIEPP - Caisse Inter-Entreprises de Prévoyance  
Professionnelle**

**CPCN - Caisse de pensions de la fonction  
publique du canton de Neuchâtel**

**Emmi-Vorsorgestiftung**

**Etablissement Cantonal d'Assurance (ECA  
VAUD)**

**Etablissement cantonal d'assurance et de  
prévention (ECAP- Neuchâtel)**

**Evangelisch-reformierte Landeskirche des  
Kantons Zürich**

**Fondation de la métallurgie vaudoise du  
bâtiment (FMVB)**

**Fondation de prévoyance Artes & Comoedia**

**Fondation de prévoyance des Paroisses et  
Institutions Catholiques (FPPIC)**

**Fondation de prévoyance du Groupe BNP  
PARIBAS en Suisse**

**Fondation de Prévoyance Edmond de  
Rothschild**

**Fondation de prévoyance professionnelle en  
faveur de AROMED**

**Fondation de prévoyance Romande Energie**

**Fondation Interprofessionnelle Sanitaire de  
Prévoyance (FISP)**

**Fondation Leenaards**

**Fondation Patrimonia**

**Fondazione Ticinese per il secondo pilastro**

**Fondo di Previdenza per il Personale dell'Ente  
Ospedaliero Cantonale**

**Fonds de Prévoyance de CA Indosuez (Suisse)  
SA**

**Fonds interprofessionnel de prévoyance (FIP)**

**Gebäudeversicherung Luzern**

**Gebäudeversicherung St. Gallen**

**GEMINI Sammelstiftung**

**Istituto di previdenza del Cantone Ticino**

**Liechtensteinische AHV-IV-FAK**

**Luzerner Pensionskasse**

**Nest Sammelstiftung**

**ÖKK Berufliche Vorsorge**

**Pensionskasse Römisch-katholische  
Landeskirche des Kantons Luzern**

**Pensionskasse AR**

**Pensionskasse Bank CIC (Schweiz)**

**Pensionskasse Bühler AG Uzwil**

**Pensionskasse Caritas**

**Pensionskasse der Basler Kantonalbank**

**Pensionskasse der Diözese St.Gallen**

**Pensionskasse der Schweizer Paraplegiker-  
Gruppe Nottwil**

**Pensionskasse der Schweizerischen  
Nationalbank**

**Pensionskasse der Stadt Biel**

**Pensionskasse der Stadt Frauenfeld**

**Pensionskasse der Stadt Weinfelden**

**Pensionskasse der Stadt Winterthur**

**Pensionskasse der Stadt Zug**

**Pensionskasse der Technischen Verbände SIA  
STV FSAI USIC**

**Pensionskasse des Kantons Nidwalden**

**Pensionskasse Graubünden**

**Pensionskasse Pro Infirmis**

**Pensionskasse Schaffhausen**

**Pensionskasse SRG SSR**

**Pensionskasse Stadt Luzern**

**Pensionskasse Stadt St. Gallen**

**Pensionskasse Unia**

**Personalvorsorgekasse der Stadt Bern**

**Personalvorsorgestiftung der Accenture  
Schweiz**

**Personalvorsorgestiftung der Ringier Gruppe**

**Personalvorsorgestiftung der Würth-Gruppe  
Schweiz**

**previva, fonds de prévoyance des  
professionnels du travail social**

**Prévoyance Santé Valais (PRESV)**

**Profelia Fondation de prévoyance**



**Prosperita Stiftung für die berufliche Vorsorge  
Raiffeisen Pensionskasse Genossenschaft**

**Rentes genevoises - Assurance pour la  
vieillesse**

**RP - Fonds institutionnel**

**Secunda Sammelstiftung**

**Spida Personalvorsorgestiftung**

**St. Galler Pensionskasse**

**Stiftung Abendrot**

**Stiftung Auffangeinrichtung BVG**

**Stiftung Personalvorsorge Liechtenstein**

**SVA Zürich**

**Swissbroke Vorsorgestiftung**

**Symova Sammelstiftung BVG**

**Terre des hommes Schweiz**

**Unfallversicherungskasse des Basler  
Staatspersonals**

**Université de Genève (UNIGE)**

**Verein Barmherzige Brüder von Maria-Hilf  
(Schweiz)**

**Vorsorge SERTO**

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