



Air Liquide Virtual Sustainability Day

Tuesday, 23rd March 2021

Introduction

Speaker: Hello, everyone. It's a great pleasure to welcome you for the Air Liquide Digital Sustainability Day. We are very pleased that so many of you decided to join us, virtually of course, and we really hope you will enjoy the event. Be assured that we have all necessary sanitary protocols in place here at the studio, including the appropriate social distancing, and that's why we took off our masks. We really want you to see our commitment on our faces.

During the presentation, you have the opportunity to ask questions through the chat. It will be followed by a Q&A session. We will answer these questions as well as direct questions as by phone, by sell-side analysts. This way we should be able to address most of your requests.

As our goal is to be effective and impactful, let's start immediately with Benoît and then Guy, who will accompany you along the presentation.

Our commitments

Benoît Potier – Chairman and Chief Executive Officer

Hello everyone and thank you for joining us today. As you all know, 2020 was a one-of-a-kind year, disruptive in many ways, but the group's business model has proved once again its resilience. All in all, the group improved performance and shareholder return while being more than ever engaged with society, fighting the virus through our healthcare activity and tackling climate change through accelerated project development for the energy transition.

Sustainability

Sustainability is now embedded in our long-term performance and also is a lever for value creation. It grounds our actions, developments and thinking with a long-term view and relies on regular and strong performance to become a reality. At Air Liquide, we are also convinced that now is the time to act for a sustainable future. Our deeply resilient and diversified business model allows us to perform in the present while preparing for the future.

Long-term performance and sustainability are absolutely intertwined as demonstrated in our growth history. It is our ambition to make a meaningful difference. Our conviction is that the future is a question for which we all, governments, companies and citizens, share responsibility.

A deeply civic-minded company

Air Liquide is a deeply civic-minded company driven by the aim of having a positive long-lasting impact. This drive includes the way we manage activities, as well as the will to contribute to address major challenges facing society wherever we can make a meaningful difference. Inventing and shaping the future to accompany the progress of our customers

and patients has always been in our DNA. But it is clear today, especially with a backdrop of a global pandemic, that we must challenge ourselves to go beyond and give our future a stronger sense of purpose. It is in this period that Air Liquide is proud to present today its ESG strategy, including very ambitious commitments.

New ESG strategy

Back in July 2016, during our Capital Market Day Presentation, we stated our ambition to lead our industry, to deliver long-term performance and to contribute to sustainability. This is part of our successful customer-centric NEOS transformation. Today, we extend our ESG ambition from contributing to sustainability to committing to sustainability. What it means will be presented in more details here, today, by the different teams mobilised for this event.

ACT

To lay the groundwork of today's presentation, I will summarise our ESG commitment by using the mnemonic ACT, which covers three main priorities. A for 'abatement' of CO2 emissions, both direct and indirect, to strengthen our role in the energy transition. C for 'care' for patients around the world along with shaping healthcare transformation, and T for 'trust' as it needs to be the base to fully engage with our employees and the base to build and maintain a best-in-class governance.

Making a difference in environment, social and governance topics

We have clearly focused our presentation today on the environmental dimension, meaning an abatement of CO2 emissions, but we also wanted to give you a broader understanding of where we can make a difference in both social and governance topics. So, regarding the abatement of CO2, our major commitment is to reach carbon neutrality before 2050. This is a very challenging objective for an energy-intensive industry like ours, and here are the key milestones in this trajectory.

The ultimate goal of carbon neutrality

Firstly, what we already committed to in 2018 was a 30% reduction in carbon intensity by 2025 compared to 2015. We maintain this objective. Secondly, around the year 2025, you will see the absolute value of our CO2 emissions starting to decrease, all the while continuing to grow our business overall. And thirdly, by 2035, we commit to decrease scope one and two CO2 equivalent emissions in absolute value by 33%. This will put us back on track to reach our ultimate goal of carbon neutrality. These are all very ambitious commitments, and they will drive our strategy and actions for the years to come. They will be also embedded in our management system.

A critical part of our plan relies on the tremendous potential of the hydrogen ecosystem. This will be a cornerstone of the energy transition, not only for us but also for most of the industrial sectors. By the time we, as a company, reach carbon neutrality before 2050, about 18% of global energy demand in the world might be met with hydrogen. At Air Liquide, we will leverage our expertise to develop a competitive low-carbon hydrogen and decarbonisation offer at large scale, helping our customers to decarbonise their own processes.

We are positioned as a key enabler of the hydrogen society thanks to our assets, technologies and expertise all along the chain. This represents both a huge growth potential and a

significant contribution to sustainable society. We will present our strategy and clarified objective to you later today.

Healthcare commitment

Our second commitment today is related to healthcare, as we are a significant player in this field, both in hospitals and at home. Where we can make a difference is in the care for patients, in particular at home. Beyond the contribution of our traditional healthcare activities, we want to take a further step and have a positive impact on society. In mature economies, our engagement is to improve the quality of life of chronic patients at home through value-based care by combining human and digital support. In low and middle-income countries, we commit to facilitate access to oxygen for rural communities. This is something we have already started in Africa, in Senegal, in 2017, but we wanted to go one step further.

Safety

Trust is the base to engage with our employees. In our group, safety is a prerequisite for action and has always been. In addition to safety, our commitment is to provide 100% of our employees with a common basis of care coverage package by 2025. It is our responsibility to create a safe, engaging and inclusive workplace. We promote diversity and equal opportunities, and we keep our existing commitment to reach 35% of women among managers and professionals by 2025.

The right conditions for engagement

By developing trust and supporting our employees, we create the right conditions for engagement, but trust is also the base to build a best-in-class governance, and I want to reaffirm some principles. Air Liquide benefits from a diversified and independent board, and we maintain a close relationship with all our shareholders, whom we highly value for their loyalty. Ethics in business is a must. It is part of our culture and the way we interact with both internal and external parties. We promote a responsible dialogue with our business stakeholders, customers, patients and suppliers.

A positive impact on societies where we operate.

And finally, we continue to develop a close link with local ecosystems, institutions, NGOs, associations, local public actors and through Air Liquide's foundation with the goal of making a positive impact on societies where we operate.

This was the introduction to our new ESG commitments, and I would like to now hand over to the team to give you more details on how we will achieve our ambitions.

Creating value for a low-carbon society and setting a trajectory to reach carbon neutrality

Guy Salzberg – Executive Vice President

Thank you, Benoît and hello to everyone. I will have the pleasure today to further explain our commitments in terms of CO₂ emission reduction and also to be your master of ceremony. You have the agenda for this presentation on this slide. As you can see, we have purposely chosen to make a specific zoom on the environmental dimension of our ESG objectives.

When acting for a low-carbon society, we will one, reduce the CO₂ emissions of our assets, two, bring low-carbon solutions to our customers and for industries and three, develop low-carbon hydrogen as a key enabler for the energy transition. To present this part, I will be joined by Ashutosh, François, Matthieu and Fabienne. But before that, let me introduce now the overall trajectory we intend to follow to reach carbon neutrality by 2050 for both our direct and indirect emissions or what is called scope one and two.

Reaching carbon neutrality by 2050

As said, by 2050, we target to be carbon-neutral. Our decrease of CO₂ emissions will not only and cannot be just a simple straight line between 2020 and 2050. The business model of the industrial gas sector is highly energy-intensive and is based on long-term contractual commitments and large investments. Therefore, it will take a few years before our emissions decrease, but our commitment is to reach an important landmark by 2035 of -33% emissions compared to 2020. This is both very ambitious and very voluntary, again given the specificities of our activities and markets.

A change in reporting methodology

The 2020 starting point for this trajectory will be adjusted for a change in reporting methodology. Now, let me explain to you briefly the reasons behind it. Our emissions of scope one and two for 2020 reached 27.5 million tonnes of CO₂. As of 2021, we have decided to move to market-based reporting rather than location-based for our scope two emissions. Now, our location-based methodology reflects the average emissions intensity of grids on which such energy consumption occurs. On the contrary, a market-based method reflects emissions from electricity that companies have purposely chosen to source. The latter is, therefore, more precise, more transparent and is intended to push companies towards more renewable and lower-emitting sources of electricity.

Now, we recognise that it is a more complex method to apply, and it facially increases the value of our reported emissions by plus 12%, but we have considered that it was the right time now to roll it out at Air Liquide, as it will allow us to fully reflect all the actions on renewable and low-carbon energy sourcing. By doing this, we also align with the approach recommended by the greenhouse gas protocol. With this and other clarifications mentioned in this slide, our objective is to put in place the most effective and fully transparent KPIs and reporting to drive our actions towards carbon neutrality.

Implications of the new reporting methodology

Now that the methodology aspect has been clarified, I would like to come back on what it means for our existing carbon intensity KPI which was previously reported using a location-based methodology.

First, you remember that we had committed in 2018 to reduce our carbon intensity measured in kilos of CO₂ per euros of EBITDA by minus 30% between 2015 and 2025. Switching to a market-based methodology, the minus 30% reduction goal is, of course, unchanged. But the 2015 base intensity is recalculated. Therefore, our new carbon intensity goal for 2025 expressed in market-based is now 5.1 kg of CO₂ per euro instead of 4.2 – 4.4, excuse me.

Again, these are exactly the same levels of ambition but formulated with a different methodology. If you have followed our 2020 annual results, you will have likely also seen that we have reached this minus 30% reduction level already in 2020. However, please keep in mind that this result does not yet integrate the Sasol takeover, which is expected to temporarily increase this indicator in the coming years, before dropping again by 2025 to reach our commitment on this KPI.

Modest increase in CO₂ emissions over the next years

Over the next years, our CO₂ emissions will post a moderate increase. This is a result of both high levels of investment decisions in the past years and the natural ramp-up of the backlog of projects. However, this short-term increase will be partially offset by energy transition initiatives, which will start contributing, and mostly in Europe. As a result, we project for the group an inflection point around 2025 when absolute emissions should begin to decrease.

Reduction of CO₂ emissions of over 10 million tonnes per year by 2035

Now, after this first period, our CO₂ emissions trajectory will start to effectively decrease, leading to a reduction of CO₂ emissions by over 10 million tonnes of CO₂ per year in 2035, compared to our current situation of 2020. We believe this trajectory is well aligned with the ambition of the Paris agreement on climate. And by the way, it is our intention also to research a third-party scientific and independent validation of that.

Takeover of third-party production assets

A point of clarification also to be mentioned around the topic of takeovers of third-party production assets such as issues or HyCO units. As this is just about a change of control from a customer to Air Liquide, this is not adding any new emissions to the planet. Therefore, in such cases, and applying the greenhouse gas protocol, we will report them as a change in perimeter, adjusting the 2020 baseline accordingly with the 2020 emissions of the takeover site. These will de facto also become subject to our one-third reduction target by 2035. At the time that Sasol emissions are integrated into our scope two, we should apply this methodology.

A clear trajectory aligned with the Paris agreement

In conclusion, I think we can say that we have now not only an ambition to reach carbon neutrality but also a clear trajectory aligned with the Paris agreement. Very importantly, we have established clear mid-term milestones for that trajectory, against which we shall be reporting on a periodic basis with a transparent methodology. To fully demonstrate our

commitment to this ambitious roadmap, we shall now share with you the key levers to achieve this plan.

Ashutosh will be addressing the decarbonisation of our assets. François and Matthieu will be speaking about our customers and markets, and Fabienne will be addressing the financial and governance aspects. Now, we recognise there are many unknowns in that plan and that adjustments will likely be necessary, but our goal will remain to act for a sustainable future. So, let me now hand over to Ashutosh, who is based in Houston.

Assets - Decarbonizing through energy management, carbon capture, and zero-emission technologies

Ashutosh Misra – Group Vice President, Sustainable Development

Thank you, Guy. To begin with, we need to understand the emissions of our asset base. We have developed a precise view of our carbon footprint, both for direct and indirect emissions in order to develop a robust climate strategy.

Scope one

The graph on this slide shows our current CO₂ footprint related to our operations. Our scope one, which are the direct emissions, are shown in shades of purple, and our scope two, which are the indirect emissions, are shown in blue. Our direct emissions represent about 47% of the total and are coming from operations like hydrogen production via SMR technology, our cogeneration plants as well as our trucking fleets. Our indirect emissions are coming from electricity and steam consumption in our plants and represent 53% of our total.

I would like to highlight two points. First, more than 85% of our core emissions come from our large primary production assets that supply all the businesses. Therefore, we have a well-identified portion of our industrial footprint where we can focus our decarbonisation actions.

Second, more than 80% of our assets are already electrified. We can, therefore, rapidly apply the benefit of growth and low-carbon electricity as a decarbonisation lever for these assets, provided such low-carbon electricity is available. I will now provide details of our actions on scope one and two and introduce our enhanced disclosures on scope three and avoided emissions.

Detailed analysis of scope one, two and three emissions and avoided emissions

So, how do we decarbonise our assets that contribute to direct emissions? Let us look at the key levers. The first lever is to capture CO₂ on our hydrogen production assets using our proprietary carbon-capture technology. Our ten largest SMRs represent around 40% of our scope one emissions. So, by focusing on targeting these top ten, we anticipate significantly reducing our direct emissions by 2035. Our limited number of cogen units represent the second-largest contributor to scope one. Today, these units are efficient ways of producing steam and electricity, and we see them having value as transition assets.

Second, we will increase the use of bio feedstock such as biomethane on smaller SMRs, with no additional investments required at our production facilities. To do so, we will leverage our position as biomethane producers in several geographies.

Third, we will leverage our expertise and partnerships in electrolyser technology to accelerate substitution of conventional hydrogen production in select basins with electrolysers that are powered by renewable and low-carbon energy.

Finally, we will take focused actions to reduce the emissions associated with our truck fleets. This will be done first of all, by leveraging digital tools to reduce the total number of miles driven and second, by continuing to convert our trucks to alternative fuels such as biogas and, of course, hydrogen.

Now I turn it over to Frédéric Despréaux, who's the cluster Vice President for Northern Europe and CIS countries, to talk to us about our energy transition activities in large industrial basins in Western Europe and how our proprietary carbon-capture technology is helping reduce CO2 emissions.

Frédéric Despréaux: Hi, everyone. It's a pleasure to be with you today to talk about CCS. The energy transition in Western Europe has accelerated and especially in Belgium and in the Netherlands, which are home of two of the largest industrial basins worldwide: Anvers and Rotterdam.

In this area, we operate our largest hydrogen pipeline network and our second-largest hydrogen production capacity. Most of this production capacity is based on the reforming of methane, which is the most competitive way to produce hydrogen for large consumers such as the chemical and the refining industries, but it's also our first source of scope one CO2 emissions.

Improving the efficiency of assets

For the past decades, Air Liquide has worked to improve the efficiency of its assets and the competitiveness of its solutions, such as the SMR-X technology, which we commissioned in Anvers for the first time at the end of last year in the world. All those actions contribute to improve the carbon footprint. However, no more than 10% reduction can be achieved.

Two main ways to abate CO2 emissions

In order to make a step-change in the abatement of the CO2 emissions from our current assets, there are two main routes. The production of green hydrogen via water electrolysis and powered by renewable electricity, and the production of blue hydrogen by capturing and storing the CO2 of our current assets. In order for the blue hydrogen to become economical at scale, it will require about a decade. The CCS route for blue hydrogen can be implemented much earlier and is the most relevant way to act now and massively abate CO2. At Air Liquide we consider, that by adapting our assets to the CCS, we will be able to run them until the end of their industrial lifetime while ramping up with mega-electrolysers. It will be a two-phase transition that may be accelerated if the markets in general, and our customers in particular, call for an earlier shift.

Flagship projects

Over the past couple of years, we have been developing in the Anvers, Port of Rotterdam area a handful of flagship projects which aim at massively reducing the carbon footprint. Among those ones, we have two CCS projects named Porthos and Antwerp@C. In each of those projects, Air Liquide will invest into a Cryocap unit to capture the CO₂ that will then be compressed and transported in gaseous or liquid form to a hub, which then will be injected in a sequestration field, several kilometres below the bottom of the sea.

For all those projects, Air Liquide is partnering with key leaders of their industries such as BASF, Exxon, Shell, Total, Equinor, Dow or ArcelorMittal. We are also partnering with key local stakeholders like Port of Anvers, Port of Rotterdam, Fluxys or Gasunie. In the energy transition, it is essential to join forces.

Scope two

Ashutosh Misra: Thank you, Frédéric, for illustrating some of the concrete steps we are taking to reduce our direct emissions. Now that we have illustrated how we address our direct emissions, we will move on to scope two, which are our indirect emissions that take place outside our operations but are emitted, introducing the energy we consume. We will reduce our indirect emissions by first consuming less energy, and second, by consuming cleaner energy.

Let us keep in mind that more than 95% of our ASUs are electrified. Therefore, the conversion to cleaner energy is mainly a question of sourcing. To increase energy efficiency, we will continue to expand our smart innovative operations deployment, which optimise energy consumption and procurement through centralised operation centres. We will roll out our proprietary Alive technology, which is designed, for instances where we purchase large shares of intermittent renewable energy.

Geographies with the highest decarbonisation potential

In our efforts to consume cleaner energy, our initial focus will be on a handful of geographies where we have the highest decarbonisation potential by sourcing low-carbon electricity through PPAs. In 2020, we have signed two new PPAs in Europe. Low-carbon electricity already represents one-third of our electricity purchases, and we anticipate it to grow significantly. In the case of the takeover of 16 ASUs at Sasol in South Africa, we will apply these levers, including technology, renewable sourcing and efficiencies, to reduce CO₂ emissions by 30-40% by 2030.

Let me now hand it over to Cristina Ballester and Augustin Guillemont to illustrate how our expertise in energy management helps us with our CO₂ footprint reduction ambition. Cristina is the Vice President of our Large Industries business in Europe and Augustin, who until recently served as the director of our energy sourcing in Europe.

Cristina Ballester: Hello. We would like to talk to you about our main feedstock: the energy. Managing energy is key for Air Liquide. Indeed, we are an electro-intensive industry.

That's why we have developed world-class capabilities in energy management throughout the production chain. We do this around three pillars.

Augustin Guillemont: First, we leverage our large portfolio of energy consumers with centralised teams, which are experts in energy sourcing. Second, we improve the design of our assets through innovation with our research and development and engineering departments to improve efficiency and reduce energy consumption. And third, we continuously improve the use of energy in our operations, making the most of big data in our smart and innovative operations centres.

Cristina Ballester: Today, we can say that Air Liquide is taking a leading role in energy transition by supporting the development of renewable energy. What we did in the Netherlands is a very good example.

Augustin Guillemont: Indeed, we recently signed our third long-term renewable power purchase agreement after the one in Texas and the one in Spain. This agreement will secure a renewable energy supply for our Dutch production plants from the first subsidy-free offshore wind farm in the Netherlands. But renewables, because they are intermittent, will require more flexibility from electricity consumers. And that is why in the next air separation units that will be close to Rotterdam, an innovative and proprietary solution for renewable energy storage will be deployed by us.

Cristina Ballester: We have all the capabilities in energy management that will facilitate the inclusion of more renewable power in our portfolio. So you see, we are well prepared to face the energy transition challenge and reduce our CO2 footprint. Thank you.

Augustin Guillemont: Thank you.

Transparency for the full scope of emissions

Ashutosh Misra: Thank you, Christina and Augustin. For any industrial activity, the overall greenhouse gas emission footprint is not limited to scopes one and two. Our commitment is to bring transparency to the full scope of our emissions, and we are therefore developing a comprehensive view on our other indirect emissions along the value chains that we operate in.

For the greenhouse gas protocol, there are 15 categories in which scope three emissions can be classified. In our 2020 URD, we have reported on all relevant categories except one, which is the processing of sold products for which there is a lack of reporting standards, and we will seek ways to drive methodology standardisation.

In 2020, our scope three emissions are estimated at 19.5 million tonnes of CO2 split as 44% upstream and 56% downstream. This precise assessment will allow us to understand what levers we have at our disposal to reduce these emissions, whether it's through a change in our operations or through engagement with our suppliers and customers.

It is important to note here that our CO2 emissions footprint is part of the footprint of our customers. Therefore, by reducing the emissions, we are able to reduce the overall carbon

footprint of our customers. It is clear that by reducing our emissions, we reduce the emissions of our customers.

Products and application technologies contributing to a greener Earth

The other positive contribution we make towards a greener Earth is through our products and application technologies, which help avoid reliance on processes that emit higher volumes of CO₂. This is a very important aspect of how we contribute in the long-term and should therefore be one of the most important metrics for driving actions for a sustainable future.

Measuring avoided emissions

Despite its importance, there is a lack of globally harmonised and standardised methodologies for measuring avoided emissions. On this topic, there are two methodologies in use, and they do not measure the same thing as they are non-comparable methods. The first method, which you see in the graphic on the left, calculates avoided emissions, for example, by using the efficiencies generated by our over-the-fence business model or by the use of oxygen, especially in steel plants. This is what we report in our 2020 URD, as we have been reporting in the past. Since there are no standard methodologies for calculating avoided emissions, one can use a different calculation method, which is what you see on the right.

In the second method, avoided emissions that are further down in the value chain are taken into account in the calculations. So you can see that depending on the method used, one can derive vastly different estimates of avoided emissions. There is clearly a need for a globally harmonised method for this KPI.

We will, therefore, continue to work on establishing standards to capture avoided emissions for the future. Going forward, in line with our commitment to neutrality, there will be an increasing contribution of our new offers, such as hydrogen mobility, new use of hydrogen in the industry, and CO₂ management services.

Recap of the three levers

To recap our plans to decarbonise our assets, we are focused on three main levers to accomplish our 2035 emission reduction goals. First is asset management. Second is carbon-capture, usage and storage. And the third lever is low-carbon electricity sourcing. Each of these levers are expected to contribute roughly one-third towards the objectives. Each of them are focused on a limited and already identified number of assets. Thank you very much for your attention.

Guy Salzberg: Thank you, Ashutosh. I hope that by now, you have a better idea of our major commitments regarding climate and reduction of CO₂ emissions, as well as the main levers we can activate to decarbonise our assets. So now, let's turn around to our customers and markets, which are, of course, key partners in this journey. And let me hand it over to François. François?

Customers - Support hard-to-abate industrial sectors with low carbon offers

François Jackow – Executive Vice President

François Jackow: Thank you very much, Guy. Hello, everyone. We are not alone in this low-carbon journey. Let's see how we can support our customers and benefit by creating value for a low-carbon society.

Market leaders in consumer products like Toyota or Apple were early to take commitments to lower emissions. Since the 2015 Paris Agreement, this first wave has accelerated and has turned into a groundswell for a number of European and global companies.

In line with the growing end-customer expectations, these brands now have to adapt their manufacturing processes and raw material sourcing. When looking at the number of industrial companies taking action, they really get the message loud and clear. They take actions to meet customer requirements to meet stricter regulation and also to meet the interests of investors and public in sustainability. Our own customer base, who represents many leaders in manufacturing basic materials for B2C companies, is also engaged in this transformation; 85% of our top 20 customers, representing around 15% of our sales, have committed to emission reductions, more than half of them with clear short-term objectives. As an illustration, let's hear directly from two of them.

[VIDEO]

ST creates technologies for a sustainable world in a sustainable way. Our innovative technologies play an important contribution to overcome environmental and societal challenges of the planet today. In particular, ST responsible products are enablers for healthier, safer and greener world, deployed all across our homes, our cities, our workplaces, our cars.

We design solutions taking into consideration their impact on the environment and society throughout their full lifecycle, from responsible sourcing to end-of-life processing, and we do this collaboratively. To reach our long-term sustainability goals and, in particular, our carbon neutrality 2027 goal, we have built comprehensive programmes in partnership with key leaders in a collaborative approach.

Air Liquide is a long-standing strategic partner of ST. We count on Air Liquide's advanced material and innovative solution to continue to support a number of our long-term goals. And, of course, this is not just about technology. It's also about innovating in our processes, in our business model. It's about our behaviour and working together all across the complete ecosystems. Let's accelerate sustainability together. Thank you.

[VIDEO]

Thank you very much, first of all, for making us part of your Sustainability Day. We really congratulate you to that dedicated climate strategy of Air Liquide, and that resonates with Covestro very well. We have called – we will be fully circular, our vision, and we see the movement to a circular economy addressing the most challenging topics of our current times. It's resource protection, but it's also climate neutrality.

For us, it's not really even supplementing our business; it's at the heart of our business and really driving our business to move from a linear to a circular economy. And with that also reach climate neutrality.

I mean, circular economy already implies that we build a circle along the whole value chain. So I think we have to work together with our customers and suppliers and the whole value chain actually even more nowadays to be successful in a circular economy.

So customer requirements were always important to us, but they grow even in importance, moving to a circular economy and with them, the requirements of their customers, the offerings of our suppliers, that the whole value chain actually cannot see each other only as suppliers and customers; we have to work together across the value chain. I think that is an important topic they have to realise all together.

And what is clear already now is that no one company can achieve that alone. That has to be done in partnerships. They have to bring the competencies together across the value chain. And that is why that value chain thinking and that cooperation upstream and downstream is so important going forward. I think we need the trusted partnerships not only in the organics area but also in the gases area that you feel a sort of resonance with when meeting Air Liquide people, and that's really nice to see.

Helping our customers to reduce their emissions

François: We help our customers reduce their emissions in different ways. The first option is to supply low-carbon industrial gases with our own assets, as explained earlier by Ashutosh. More and more, this capability triggers also the opportunity to take over the customer's existing oxygen or hydrogen production units and decarbonise them. This is what we will see later on with the Sasol project.

The second option is to work with our customers to upgrade their own process, to make it more carbon virtuous.

In addition, for the hard to abate CO₂ emissions, we are able to provide carbon capture and usage or storage. This is the third option.

Finally, as we see a surge for new products supporting the low – the low-carbon society like batteries, advanced electronics, construction materials, we develop new applications and solutions with our Large Industries, Industrial Merchant or Electronics business lines to support those emerging markets.

As mentioned, we are proactively decarbonising our own assets. We also see an acceleration of companies who own their industrial gas production units and turn to Air Liquide to benefit from the over-the-fence model. They do this to create value in terms of safety, reliability and

cost, but also to decarbonise their industrial gases supply. Let's look at the ongoing Sasol project as an illustration.

[VIDEO]

Hello, I'd like to introduce Bernard Klingenberg, the EVP Energy Operations at Sasol. I think you're going to see the depth and power of our collaboration.

It's founded in a shared view, in sustainability, and I hope long-term trust. Only this long-term trust enabled us to develop this project over the last year without any face-to-face meetings. Everything was done virtually. I really think that you'll see Air Liquide is willing and able to dramatically reduce carbon emissions in existing assets. Thank you very much.

[Bernard Klingenberg]: *Sasol values Air Liquide as a strategic business partner. Air Liquide's global leadership position in gases and speciality gases and also a leader in sustainability and the challenge to reduce greenhouse gases makes Air Liquide a wonderful partner for Sasol. We have ambitions to reduce the greenhouse footprint of our own operations in South Africa and particularly in Secunda. When last year, we decided to consider selling our oxygen plant and the air separation units, it was obvious that we had to do this with Air Liquide, and we approached Air Liquide, and we've put together a deal now where Air Liquide will buy and operate the oxygen plant in Secunda and supply us with oxygen. Air Liquide's ambition and commitment to reduce the greenhouse gas footprint associated with the oxygen plants complements our own ambition to reduce the greenhouse gas footprint of the Secunda complex.*

When we put the deal together, we agreed that we could not progress the relationship without having a compelling shared vision to decarbonise the Secunda complex, and the first step of that is the joint procurement of 900 megawatts of renewable energy that we're pursuing together. These certainly are exciting times for both Sasol and Air Liquide as we explore groundbreaking opportunities not only to reduce greenhouse gases but also to explore the hydrogen economy for South Africa. Thank you.

François Jackow: Let's keep in mind that this project is pending competition authority approval. However, when we consider that two-thirds of the world's industrial gas production is still captive, we see the significant growth potential there is to valorise our expertise.

The Renewable Energy Directive

Let's look now at refining. An industry where we find many large Air Liquide customers using hydrogen now for desulfurization of fuels. A new market for low-carbon hydrogen is emerging. In Europe, refiners are already providing 7% of renewables into their fuels due to the current Renewable Energy Directive, which is called RED. As of the end of 2021, member states will have to comply with the RED 2 regulation and double the amount of renewable energy in fuels to reach 14%. Most of that gap will be closed with advanced biofuels, more specifically for road transportation and aviation fuels by hydrogenated vegetable oils, HVOs.

Making HVOs requires large amounts of hydrogen, more than in crude oil processing. And when using renewable hydrogen, refiners will get additional contributions to their RED 2 quotas. The project to build a 200-megawatt electrolyser in Normandy announced in January targets exactly this market and will create piggyback opportunities in mobility as Matthieu Giard will explain later on.

Steelmaking

Let's see now how we can help our customers to reduce the carbon footprint of their own industrial process. Steelmaking, which is another important customer segment for us, due to the very large quantity of oxygen we supply, generates 1.8 tonnes of CO₂ per tonne of steel, making globally around 8% of the world's carbon emission.

Steel producers have clearly launched initiatives to lower their emissions as it becomes a licence to operate, but also, they see value in clean steel branding. There are many technology options to lower emissions. In the first steelmaking route called integrated production that you see on the right-hand side of the slide, hydrogen can replace coal injection into the blast furnace. We will see more of this with the ThyssenKrupp example in just a few seconds.

In this route, which is the main one worldwide, CO₂ can also be captured at the exhaust of the blast furnace. This route can also sometimes require additional oxygen injection to maintain the energy balance.

The second route, involving electric arc furnace, is 75% less carbon-intensive and uses today mostly scrap steel as a feedstock. But there will not be enough scrap supply. So Direct Reduced Iron (DRI) using natural gas today, but hydrogen tomorrow is considered as a feedstock in several sites in Europe.

Having at least ten years investment cycles, leading steelmakers are developing now roadmaps to gradually implement the various options. The announcement we made last week with ArcelorMittal for the Dunkirk site is an illustration of this.

As mentioned before, let's look at the ThyssenKrupp collaboration for the largest European steel plant in Duisburg in Germany.

[VIDEO]

Hello, everybody. I'm happy to share with you the three phases of our partnership with ThyssenKrupp Steel on their path towards green steel production and carbon neutrality. Here in Duisburg, Germany, you will find the biggest steel production site in Europe owned by ThyssenKrupp Steel. ThyssenKrupp is Air Liquide's biggest customer in Germany that we have been supplying since 1998 via our oxygen pipeline. The blast furnace behind me has 28 tuyères for which coal was injected as a reducing agent. ThyssenKrupp Steel wants to replace this coal by hydrogen so that the CO₂ emissions are replaced by water vapour only.

In 2019 and 2020, in the so-called phase one of the project, ThyssenKrupp has successfully injected hydrogen into one of the 28 tuyères. The hydrogen was supplied by Bulk trailer from Air Liquide. Now we are entering phase two, in which all 28 tuyères will be converted into

hydrogen mode. With this conversion, up to 20% reductions are already possible. The oxygen consumption will remain stable, by the way.

For this phase two, we are connecting the steelworks through a hydrogen pipeline. This is expected to be operational by 2022, and phase three is already at the horizon. ThyssenKrupp intends to go for carbon-neutral steel production using DRI technology and green hydrogen. We signed an LOI with ThyssenKrupp. This green production facility will be connected to our hydrogen pipelines and to our oxygen pipelines as well, to ensure a reliable supply to our customers on a 24/7 basis in large quantities.

You see, we want to invent the future together with our customers and partners. The decarbonisation of the industry is key for the long-term performance of Air Liquide. This project is the first of its kind for low-carbon steelmaking and offers a huge opportunity for Air Liquide. Thank you.

François Jackow: It is not always feasible to modify an existing process to lower emissions. This is why carbon capture will play an important role. Thanks to our portfolio of proprietary technologies, we can offer solutions for the various concentration of CO₂ to be captured.

We then develop the schemes to either store or use the CO₂ molecules as a feedstock again. We are, of course, active in this field with existing customers in steel, chemicals or refining, but also with new ones like cement makers. Our presence in major industrial basins is creating a number of opportunities, positioning us as an aggregator of the CO₂ stream to capture.

The beginning of a transformation

I could go on with many other examples in refining, chemicals or steel, but we have to recognise that we are just at the beginning of this transformation, with multiple process schemes and opportunities.

What is true for large industrial sites is also true for our merchant and electronics customers. As an example, about 85% of the world glass furnaces are still operated with air instead of pure oxygen. When this will change, it would save 20 million tonnes of CO₂ per year.

We have been a long-term supplier of most of these industries, becoming a natural partner to support them in their low-carbon journey. At last, we should additionally consider the opportunity being offered by new markets. They are not being addressed by us today, like construction with cement and are craving for climate-virtuous solutions and opening blue oceans markets for us.

Conclusion

To conclude, we see that our industrial customers who generate more than a quarter of the world's CO₂, are more and more committed to reduce their emissions. We are very well positioned to support them in this effort at every step of the low-carbon chain. This is today mostly visible in Europe but will soon extend to other parts of the world where Air Liquide is also present. I firmly believe that the combination of our technologies, our strong customer

relationships and our local footprint in industrial basins are positioning us very well for a significant and sustainable growth. Thank you.

Guy Salzberger: Thank you, François. Before we move on to talk about hydrogen, which we believe to be most central for the development of a low-carbon society, I propose now we stop here for a ten minutes break.

Ecosystems - Developing a HYDROGEN society, a unique growth ambition for AL

Matthieu Giard – Vice President

Guy Salzberger: Welcome back, everyone. I will now ask Matthieu to introduce our strategy on hydrogen, which will both contribute to our carbon neutrality goals and provide Air Liquide with some exciting growth opportunities.

Matthieu Giard: Hello, everyone. Air Liquide has been producing and handling hydrogen for more than 50 years. We produce 1.2 million tonnes of hydrogen per year, have over 1,800 kilometres of dedicated hydrogen pipelines and 50 plus large hydrogen production facilities. And let's not forget that we already operate around 40 smaller merchant and electronic on-site electrolyzers. This generates around €2 billion of annual sales.

Over the last decades, Air Liquide has been pushing for the development of a hydrogen society, working to master its supply chain and its new applications. Our effort to drive the development of the hydrogen ecosystem include the establishment of the Hydrogen Council back in 2017. The Council is a Co-led initiative of over 100 leading companies. It has a united vision and a long-term ambition for hydrogen to foster the clean energy transition.

This type of collaboration is absolutely needed to drive such a monumental transition. You see here a snapshot of the various initiatives taken by Air Liquide in the areas of clean hydrogen production, carbon capture, innovative applications, supply chain, as well as mobility.

We took a leading role in developing hydrogen mobility infrastructure with close to €600 million of investment decision since 2014. We have now more than 60 assets deployed worldwide across the full mobility chain, including consortiums and partnerships. We believe that we have achieved a lot to-date, but more importantly, let's see how the future looks like for us.

In this new hydrogen economy, we intend to focus our investment on production and distribution. It is where we can create more value, building on our mastery of the full value chain, in a safe and efficient way. As with the atmospheric gases, our first step is to secure access to clean energy sources, leveraging our sourcing expertise and purchasing power.

Then to the second step. We will continue to build, own and operate production and distribution assets, signing long-term offtake contracts, securing our investment returns. We will build on our existing footprint to provide a competitive and reliable supply of low carbon

hydrogen. It will combine supply from existing assets and networks with additional new low-carbon production. We will then accompany our customers who need to decarbonise their existing hydrogen needs and to shift some of their processes to low-carbon solutions. Finally, we will leverage this industrial baseload to develop new hydrogen applications, such as refuelling networks and mobility solutions in collaboration with our partners.

We believe that the supply chain challenges are often underestimated by new entrants in the hydrogen industry. Our 50 years of experiences have shown us just how difficult it is to handle, store and transport hydrogen at the very high-pressure or extremely low temperatures. Air Liquide has anticipated the specific needs for many, many years as a frontrunner in this industry. We have developed a very strong technology road map along the full value chain. It will provide us with a superior competitiveness and expertise. We understand that hydrogen needs to be low-carbon and water electrolysis plays naturally a key role in this evolution around three axes.

On the topic of low-carbon and renewable hydrogen, we have already mentioned the importance of securing large quantities of low-carbon electricity. Two, we will leverage our existing pipelines for increased competitiveness, as we do today. But this value is likely to be even greater in the future. Our pipes will indeed allow us to convert more intermittent sources of production to stable baseload delivery.

And, of course, we are in a unique position to develop markets for the low carbon oxygen coproduced by electrolysis. Whichever way you look at this, it is clear that electrolysis is a pivotal technology in the energy transition. And Air Liquide has acted on this. Our key technological partnerships with Hydrogenics in North America and Siemens Energy in Europe will support our scale-up to three gigawatt of electrolysis capacity by 2030.

Our hydrogen sales will shift from close to 100% grey today, to the already more than 50% of renewable and low-carbon in the next decade. This is a fundamental shift.

As an illustration, at the end of last year, Air Liquide started the largest membrane electrolyser in the world in Bécancour, Québec. It is a quick scale-up in the PEM electrolyser size from a first 1.2 megawatt unit in Denmark two years ago, up to this 20 megawatt one.

The next step will be to quickly get above 100 megawatts to supply steel mills and refiners, and that's what we are targeting for our project in Normandy. Let me share a short video detailing this accomplishment.

[VIDEO]

Because creating a hydrogen society will not happen overnight, we need to initially focus on the right geographies and basins. It is where we can be competitive and have the biggest impact in the early development days and then expand.

Frédéric touched earlier on the Belgium-Netherlands key basin. Let me explain in more detail how things are going to dramatically accelerate.

From an industrial point of view, this is one of the busiest basins in the world. It has a strong renewable energy production potential. It is also a major global industrial and transportation hub, backed up with strong national and EU support for emissions reduction.

Air Liquide already has a very solid and integrated infrastructure of seven hydrogen production units, six air separation units and over 900 kilometres of hydrogen pipeline supporting 60 large industries customer sites. We are involved in many flagship projects, aiming at reducing both industrial and transportation emissions in this key region.

We are among a few leading companies that have signed a collaboration agreement to move towards the development of CCUS notably with the Port of Antwerp and also in Rotterdam. Air Liquide is also investigating the development of two large-scale electrolysers using renewable power to be connected to its existing cross-border hydrogen network.

These projects will enable the development of competitive infrastructure for mobility, leveraging the power of the industrial baseload. This is the goal of the HyTrucks project aiming at getting a 1,000 hydrogen-powered zero emission trucks on the roads connecting the Netherlands, Belgium and Western Germany.

Now let me share with you what is happening in South Korea and their commitment towards hydrogen mobility.

Somie Kim: Hello, everyone. The Korean government has an ambitious vision for hydrogen mobility development. It plans to deploy about 850,000 hydrogen cars and 700 hydrogen stations by 2030, thanks to these active moves, as of 2020, 11,000 hydrogen cars are running on the road and above 70 hydrogen stations are in operation in the world's most active and largest hydrogen mobility market, which is Korea.

We, Air Liquide, are well recognised as a great contributor to the development of our Korean hydrogen ecosystem in the downstream market. We are participating in the HyNet Consortium with certain companies which aims to build up 100 hydrogen stations for passenger car by 2022. Focusing on heavy-duty market development, in August last year, we invested in Incheon Airport flagship project and signed a contract of 10-year hydrogen supply to the largest hydrogen bus station in Korea.

And then in March of this year, as the only industrial gas company, we joined another consortium for hydrogen, which targets to build a 35 heavy-duty hydrogen station by 2028 for buses and trucks. In order to accelerate the transition to a low-carbon hydrogen economy and become a leading country in the world, the Korean government declared the Green New Deal and 2050 carbon neutrality last year.

Therefore, we are seeing a new hydrogen era opening. And I am really excited to make a contribution to such a great change in Korea. Thank you.

Matthieu Giard: Korea is only one example. We see true momentum growing around the world for hydrogen ecosystems, using industrial demand as an anchor to develop low-carbon production and clean mobility corridors. Air Liquide is therefore accelerating its growth in some key basins such as Europe, of course, but also North America, in Asia, particularly in China, South Korea and Japan.

We're also looking at expanding our partnerships with key stakeholders. It includes logistic companies and municipalities, with the goal to develop clean vehicle fleet and provide hydrogen supply, but also biomethane for transport.

All in all, that is what we mean by developing a hydrogen ecosystem. Developing low carbon and renewable hydrogen, supporting new applications, new technologies, offering carbon management as a service and participating in the development of hydrogen for mobility, relying on a very strong technological and operational expertise.

Over the next decade, we expect to invest approximately €8 billion in hydrogen-related capital. And through this, we will grow our hydrogen revenues from less than €2 billion today to €6 billion by 2035, at least tripling in size in less than 15 years. And it will accelerate thereafter.

The value of our molecule will shift fundamentally almost doubling. It will now contain the value of this low emission energy vector. The marketing of this new form of value creation is one of the key challenges and opportunities ahead of us. It will enable us to change the intrinsic business contribution of our solutions with a societal impact. This hydrogen shift to green and clean is a tangible vector of our climate strategy.

Thank you for your attention. I like now to hand over to Fabienne.

Wrap-up

Fabienne Lecorvaisier – Executive Vice President

Fabienne Lecorvaisier: Thank you, Matthieu. I would like now to wrap up on our climate objectives and to reassure you on the fact energy transition is now fully embedded in our business and financial strategy, and that it is one of the main pillars for our ambition to lead our industry and deliver long-term performance.

No doubt that we will be creating values through energy transition. Our commitment to carbon neutrality will be the backbone of growth acceleration in the years to come with a strong will to pursue our transformation into an energy transition leading performer.

We are already deploying our ESG programme within particular an extended network of climate champions and climate ambassadors all throughout the world. However, we will go a step further leveraging on our relationships with our customers, our strategic footprints in key industrial basins, as well as our extended innovation capacities.

This does not hamper at all our commitment to accelerate margin improvement or to get back to double-digit return on capital employed. And as you know, we will share with you more precise objective during our 2022 Capital Markets Day.

To be noted as well, our balance sheet now is significantly deleveraged from the Airgas acquisition, gives us a solid basis for this new challenges. And we will publish soon our Sustainable Financing Framework for emitting green bonds with a first issue later this year.

In fact, energy transition is already supporting growth. We shared with you the first numbers during our 2018 Climate Day. In 2021, the main evolutions come from Electronics and new markets, with more than €200 million of sales, which did not exist two years ago.

In terms of decarbonisation usages by our customers, several projects are signed and will deliver also in the two to three years to come.

In fact, the demands from customers and the content of our portfolio of active projects is giving us a lot of confidence in our strategy. In just one year, the percentage of energy transition driven projects moved from less than 30% to 44%. This does not mean, of course, that we will compromise with our business model or investment criteria. They have more than proven their validity during this recent crisis.

Our hydrogen ambition, just shared by Matthieu, with sales multiplied by three, or in other words €4 billion of additional sales before 2035, supported by €8 billion of CapEx, is of course strongly contributing to the acceleration. But I hope that you understood from this presentation that it goes far beyond hydrogen. Given our business model and our customer portfolio, we will be a major player in decarbonising the full gas offer in order to be able to supply low-carbon gases but also to offer solutions and services, which are going to be key in the decarbonising process of our customers.

However, we need to recognise that the ramp-up pace is not fully under our control. Our environment needs to evolve as well at a sufficient speed. In the ramp-up phase, a number of the projects we are working on with customers will require public support in the form of subsidies, carbon contracts for differences to close the cost gap and/or strict carbon regulations in order to make them affordable at the beginning.

We will also need to have access to more renewable energy or low-carbon electricity, which is highly dependent on the build-up of decarbonised power sources and decrease in the grid CO₂ content. We master the carbon capture technologies as well as purification and carbon usages, where needed. However, in the transition phase, carbon storage capacities will also be requested to absorb the captured volumes.

It is also obvious that the progress may be contrasted depending on the geography, Europe clearly being ahead for the moment.

That said, we are ready to assume and even more be extremely proactive for what is under our control. Climate is now fully embedded in our investment decision process with a detailed assessment of the environmental impact and risks associated with each of our projects, including the assessment of sustainability of such project under various carbon regulation scenarios.

For all our new projects above a certain level of emissions, a decarbonisation road map is now mandatory. We are also fine-tuning our CO₂ emissions reporting and starting to manage our CO₂ emissions envelopes on a semester basis to make sure we remain aligned with the desired trajectory.

The climate objectives are cascaded down in the operations and their fulfilment is part of the managers compensation. Our commitment is strongly relying on our ability to innovate and master the technology supporting low-carbon developments. Our innovation capacities are now organised as a worldwide network, with one-third of innovation expenses dedicated to energy transition.

We also recognise and we need to accelerate and gain scale through partnerships as the one we have announced for electrolysis with Hydrogenics in North America and Siemens in Europe, or with Thyssenkrupp and ArcelorMittal for low carbon steel production.

And to finish with, I would like to reconfirm that we are committed to sustainable growth, but we also remain committed to profitable growth. Our improvement performance plan is now well deployed, thanks to better price and mix management, efficiencies, supported by digital, mutualisation of assets on logistics, as well as active portfolio management. This means that the cost of new developments will be more than compensated by our pursued performance effort.

We are confident that energy transition will open us huge growth opportunities while preserving our ability to grow our margins and returns.

Thank you for your attention.

Guy Salzgeber: Thank you, Fabienne. We have now finished the part of this presentation dedicated to our commitment and contribution towards a carbon neutral society. As indicated at the start, our ESG objectives also include two other essential dimensions, which we will now address.

First, Diana is going to explain what we mean with our objective of care for patients and how we are looking to contribute to society, leveraging our healthcare activities around the world. Diana?

Care for patients

Diana Schillag – Vice President

Diana Schillag: Good afternoon. Let me start by sharing a brief video illustrating the outstanding role of our healthcare teams throughout the pandemic.

[VIDEO]

During the pandemic, all our activities contributed, undertaking necessary actions in record time alongside customers and patients. We did this by servicing hospitals with medical oxygen and providing services to increased storage capacities and piping. We even support the installation of greenfield hospitals and bring oxygen over long distances to isolated areas with no local oxygen production, like Manaus, the Amazonas region in Brazil.

We did this by multiplying our production of ventilators. And through our continued support to our 1.8 million chronic patients at home with strict safety measures. We even take care of COVID patients after hospitalisation needing oxygen at home. As a consequence of this pandemic, Air Liquide is recognised as a reliable partner and major actor in healthcare, providing solutions to address healthcare system issues.

We strengthened our relationships with healthcare authorities, customers and patients, which will open opportunities beyond the crisis. The crisis has as well confirmed the accuracy of our

patient and customer-centric strategy to support the continuum of care and the transformation of healthcare systems.

In addition, it accelerated the need for digital care and value-based offers. Driven by these trends, we will, first, innovate in medical gases and services for hospitals. Second, increase the number of chronic patients treated at home and expand home healthcare to new therapies like diabetes and Parkinson's disease. Then, accelerate the use of digital and its combination with human support to optimise interactions with chronic patients. And finally, be a leader and driving force in the adoption of value-based healthcare.

In conclusion, we are well-positioned to continue to deliver profitable, sustainable growth, and contribute to society, which is already deeply embedded in our DNA.

To illustrate the positive impact on society of our healthcare activities in mature economies, let me show you a short video on our value-based healthcare approach.

[VIDEO]

Patients are at the heart of what we do. Our actions improve the quality of life of chronic patients at home, especially those suffering from respiratory diseases and diabetes in mature economies. Therefore, our first ESG objective is to increase the value of care for patients and contribute to the sustainability of healthcare models.

How? Well, first by leveraging our proximity and understanding of patients expected outcomes, for example, through initiatives with stakeholders and partners like patient associations, scientific societies, medical experts, the objective being to increase awareness on chronic conditions.

Secondly, through the development of personalised care by combining digital and human support. To improve patient adherence to treatments, we monitor the treatment's efficiency and quality of life outcomes for patients, as well as their caretakers. This is based on the understanding of patient's clinical and lifestyle conditions. We adapt our services to the patient's individual profile, such as the frequency and format of interactions, adapted educational content and the profile of our nurses and technicians interacting with them.

One example is the PIMA study in Spain. It is the first individualised programme for managing adherence of sleep apnea patients, which has demonstrated significant improvements on patient outcomes like quality of life, their mood and social behaviour. From a business standpoint, the societal contribution will allow us to differentiate ourselves from other players, and it will feed the medico-economic evidence of the value we generate for the healthcare system.

Our second societal objective in healthcare is to facilitate access to oxygen in rural communities in low and middle-income countries. This is in line with the UN 2030 SDGs, and Air Liquide contributes through the Access Oxygen Programme, by equipping primary care facilities in villages with oxygen.

More recently in 2020, a contract was signed with UNICEF to support the pilot project of UNICEF's international SPRINT programme. It targets child pneumonia with amoxicillin and oxygen. So far 82 rural health posts in Senegal have been equipped. It is estimated that

close to a million people now have access to proximity oxygen in rural parts of Senegal. We want to go further and reinforce our contribution through partnerships with relevant stakeholders, bringing our expertise in coalitions to support local communities.

In order to follow the progress on access to oxygen in low and middle-income countries, we will follow as indicator the population facilitated with oxygen.

To conclude, for Air Liquide Healthcare, we consider that the ESG approach is an opportunity that will reinforce the collaboration with payers, and more broadly, deepen our relationships with healthcare stakeholders and partners, sharing the same will to shape the future of healthcare. Thank you.

Guy Salzgeber: Thank you, Diana. And finally, I would like us to address now the third but not least priority of our ESG commitments. We have encapsulated this one in the word of trust. Trust as the base to engage with our employees and trust at the base to build a best-in-class governance. For this, I will now hand over, first, to Armelle Levieux, to share the employee aspect of this commitment. Armelle?

Trust as the base to engage with our employees

Armelle Levieux – Vice President

Armelle Levieux: Thank you, Guy. Hello, everyone. To reinforce and build upon what Benoît said near the beginning of his presentation, we value as our most prized asset, our employees. Believing in our employees and making sure they are engaged starts with creating the right conditions for them to deliver their best.

It is our responsibility to create a safe, inclusive and engaging workplace. For that, we reinforce existing commitments and take new ones in four areas I'm going to detail now.

First, safety at work and beyond. Safety is a prerequisite to any action at Air Liquide with one ambition, zero accident. In everyday life and more than ever in the exceptional circumstances we are living, Air Liquide aims to minimise the exposure to professional and industrial risk. And this, for our employees, our customers and our suppliers.

In 2020, Air Liquide's lost-time injury frequency rate dropped to 0.9, the lowest rate in 20 years. But we must go beyond safety at work and address the well-being of employees beyond the workplace as well.

We are a global company present in more than 70 countries with very diverse cultures. And we historically faced very different situations. But we are now announcing a new commitment to having 100% of our employees under a common basis of care coverage by 2025, and this beyond local legislation. This includes life insurance, health coverage and 14 weeks maternity leave.

Second, diversity as a source of performance. It means creating the conditions for equal opportunity for all and promoting a culture of inclusion. To support the targets we have set

internally, we are leveraging a behavioural economics approach to raise awareness on bias and develop inclusion nudges in our processes.

At Group level, our first commitment remains to have 35% of women in our managers and professionals population by 2025. We encourage all our affiliates to develop the workforce representative of their local environment. Many local initiatives are happening around the Group and are shared in our internal social media platform.

And let me illustrate with two of them. Our North American clusters, inclusion and diversity strategy, is supported by seven business resource groups. And each resource group internal networks have an executive sponsor. And thanks to them, Air Liquide US was recognised as an Employer of Choice for LGBTQ+ and for veterans.

Another example in Asia, a women's leadership forum was launched in 2018 with various actions, including in 2020 a co-development approach providing a support network.

Third, engaging people for today and tomorrow. It means trusting that development potential and offering learning experience to make them future fit. We encourage lifelong learning. In 2020, more than 7,500 employees from 70 countries participated in worldwide virtual campuses. And in 2021, we will also be launching a new programme for sustainability and energy transition to support the deployment of our ESG objectives.

Now, last but not least, engaging people in the company but also for society. It means giving them the opportunity to engage into initiatives anchored in their local ecosystems. And let me share two examples. Airgas in the US faced with a growing shortage of qualified welders, designed a programme to teach high school teachers and students advanced new welding skills. Since 2019, 30 schools have benefited from Airgas expertise and 31 new schools have been selected for the 2021 programme.

Another example in Asia, starting in 2017, Air Liquide in Taiwan and TSMC a key Air Liquide client have worked together to launch a school education programme. For the past three years, more than 100 employees of Air Liquide Taiwan have held a gas science and safety education workshop for aboriginal students. It was conducted more than 60 times so far.

And now let me share with you a short video to illustrate all of this.

[VIDEO]

Trusting, engaging, supporting our employees creates the right conditions for all of us at Air Liquide to deliver our very best. We see this every day year-after-year. And when times are particularly challenging, as the last 12 months, we watched our people rise to the challenge. And what you, investors, saw was very resilient top line results, continued improvement in operating performance and a very well positioning for future growth of our company.

What we saw was employees engaged, trusted, performing exceptionally in an exceptional environment, caring for each other, caring for their customers and patients, the Air Liquide teams are demonstrating every day what being an engaged team means. And thanks to them for that.

Guy Salzgeber: Thank you, Armelle. And to finish, I will now hand you over to Benoît for the last part on governance, the conclusion and a Q&A session. Thank you very much.

Trust as the base to build a best in class Governance

Benoît Potier – Chairman and Chief Executive Officer

Benoît Potier: Thank you, Guy. And that leaves the last portion of the day to me. As I mentioned in my opening remarks, we also use trust as the base to build a best-in-class governance at Air Liquide.

Looking deeper in the composition of our Board, you will find a high level of independents, in fact, 82% of our Board are Independent Directors. We also have two Employee Directors and one Independent Lead Director.

Additionally, we have a great deal of diversity among our Board with today 55% of Directors being non-French with five different nationalities as well, as the gender ratio of 55% female. This composition helps align the interest of shareholders, employees, as well as other stakeholders with that of our business.

Regarding the ESG front as the main topic for today's event, we have four committees, including a dedicated environmental and society committee formed in 2017. ESG is part of our regular discussions at the Board, and I assure you we have a very engaged and professional group of directors focused on ESG.

This ESG focus starting at the Board level cascades throughout the organisation. We have an Executive Vice President in charge of sustainable development, who leads the sustainability department. The organisation, as a whole, has a collective commitment and rolls out its ESG ambition in hubs and clusters through our internal climate champions.

Our updated investment process includes CO2 emission objectives and control to ensure our future growth is well-aligned with our very ambitious commitment in emission reduction. And we incentivise employees to align momentum toward climate objectives, by including ESG criteria into both the annual variable of managers and the long-term incentive plan.

Governance extends from our Board to our organisation to all our stakeholders. As stated earlier, together with ethics, integrity and transparency govern our behaviours and actions, with appropriate controls in place through our ethics committee control department and ethics officer.

Air Liquide promotes a responsible dialogue with external stakeholders such as customers, patients and suppliers. Since 2017 as initiated by our NEOS customer-centric strategic programme, we actively measure and record customers' feedback and assessments, helping us make progress. Today, 88% of them declared to be satisfied or very satisfied.

Critical suppliers also go through CSR assessments. And finally, we align with ESG reporting standards, such as those put forth by the TCFD, the Task Force for Climate Disclosure, and SASB, be the Sustainability Accounting Standards Board, along with ongoing work with the SBTi, which is the Science-Based Target initiative.

Conclusion and key takeaways

Benoît Potier – Chairman and Chief Executive Officer

In conclusion, I'd like to recap some of the salient points of the day. Reducing carbon emissions and addressing climate change is key, and it is time to act now for a sustainable future. Clearly, we have articulated what we, as a company, can and will do to play our part as responsible citizens of our world.

We've laid out in detail the steps we will take to accomplish our three main priorities today. One, abatement of CO₂ emissions will be achieved through the deployment of a detailed action plan, in particular, in the hard-to-abate industrial sectors. Hydrogen will play a leading role in the energy transition as a key energy vector.

Second, care for patients around the world will be a driving force to improve patient quality of life and to address healthcare system issues. Air Liquide will be part of it. And third, trust will be the base to fully engage our employees and maintain a best-in-class governance.

Our major commitment is to reach carbon neutrality before 2050. We presented you the key milestones in this trajectory. Short-term, around year 2025, CO₂ emissions will start decreasing in absolute value. Mid-term, our commitment is to reduce by 33%, Scope 1 and 2 emissions by 2035. Meanwhile, we remain committed to our objectives set in 2018 of a 30% reduction in carbon intensity compared to 2015.

These are extremely ambitious commitments, and they will drive our actions for the years to come. Not only is our approach to climate change the right thing to do, but it is a very serious growth opportunity, especially for our hydrogen business. Before the year 2035, we expect to invest approximately €8 billion in CapEx and forecast to grow our hydrogen sales threefold compared to where we stand today.

By 2030, we will have three gigawatts of electrolysers capacity fuelling the energy transition. This is for hydrogen, but through the examples we presented to you today, I hope you are convinced now that growth opportunities in the energy transition go far beyond hydrogen. And we will come to you with quantified ambition next year during our CMD.

To see this growth, we are uniquely positioned and we will build upon our strength, our broad global basin footprint, our unmatched innovation and portfolio of technologies, our strong and resilient business model and our customer long-lasting relationships.

I will end with this slide, which reiterates our major commitment.

Questions and Answers

Fabienne Lecorvaisier: Thank you, Benoît. We will now open the Q&A session. So to give the analysts the necessary time to connect to our conference call, I suggest that we start to have the questions from the chat. So the first question is the following. Will the pace of CCS

project depend on whether customers are prepared to pay the premium for blue hydrogen? Or if so, what are your expectation for the cost premium versus grey hydrogen?

So it's clear that, for the moment, CCS is just developing, and therefore the cost is not the same. You know that for the primary production of the molecule, we estimate the costs depending on the regions from €1.5 to €2 kilo of hydrogen. Then if you add the CCS, the carbon capture, you more or less double this price at the timing. Of course, as it will develop, this price is going to decrease.

What we see with our customers, and maybe François will be able to complement, is that more and more the customers are claiming for low-carbon hydrogen sourcing, and therefore, they are ready to share the premium with us at the beginning and to work on an industrialisation plan, so that this premium reduce.

A lot of our customers are also applying for subsidies programme either at the country level or at the European level for the moment. François?

François Jackow: Thank you, Fabienne. So, yes, indeed, we are seeking to valorise them in the blue hydrogen and the CCS, of course. And it depends on the customer application, which really, I mean, depends on the end market they are targeting. So the specific premium depends very much on the industry, which is using the hydrogen and the end product that they can valorise with their end customer.

So steel, refining are probably the most advanced today, steel to be able to make green steel, which is an added value product, which starts to find its application in cars, for example, because end customer are ready to pay a premium. But for refining, as I mentioned before, it's more regulation to meet some European regulation.

But we see also an interest with chemical company who tried to find niche for the time being, but they are going to be mainstream product in soon after to find a way to valorise the low carbon content of those products. So the premium that we are able to generate and to valorise with the customer is definitely going to impact the pace of the CCS, but there are also regulations topics.

There are also, in several cases, subsidies, because some of those project will require subsidies. So there are different factors. But the premium and the economics indeed is something to take into account.

At the end, we want to be able to develop a sustainable business which can stand on its own without subsidies and create value for our customers and their customers.

Fabienne Lecorvaisier: Well, thank you, François. Maybe a second question from the chat. Can you share with us more about your process of innovation? Can you also give insights into new application development for existing sectors, as well as new sectors?

Benoît Potier: Thank you, Fabienne. I can take this question. Everything starts with R&D, no surprise, but you must realise that we have actually three major organisations for innovation. One is R&D. The second one is technologies, what we call GM&T, which is Global Markets & Technologies. Most of the time these organisations based in Grenoble ecosystem in France is developing new technologies that are introduced into the market and most of

them today are aimed at reducing emissions or treating the energy transition issues. The third component is E&C, Engineering & Construction, which is in charge of building the large solutions for big customers.

So we try to put the three organisations together in under working groups and under defined themes, so that they can actually think about the full supply from production down to the application and put together the – what we call the technology road map, the technology bricks that will be used and translate them into what we call the product road map, so real products so that those products can actually help us to produce or help our customers to decarbonise. This is the process.

Now insights on new application developments. We have taken, during this presentation, the example of the steel industry by mentioning two big customers. You saw that ThyssenKrupp in Germany has already tested the usage of hydrogen in the blast furnace. This is one example of the new application of hydrogen in the steel industry, which is very familiar to us, because we sell them oxygen today.

But there is another interesting example is the recent announcement of the partnership with ArcelorMittal in Dunkirk in France, where the name of the game is not only to be supplier of hydrogen but it will also be capturing CO2 downstream, purifying it, and packaging it, so that in the long-term it can be sequestered.

So we see that for existing sectors, we are both at the upstream with hydrogen but downstream with CO2.

The new sectors. New sectors, I can take two. One is the cement industry. The cement industry is emitting a lot of CO2. So naturally, they come to specialists about CO2. And Air Liquide is one of them. So we try to develop processes or applications with them to be able to sequester, to capture and sequester more efficiently CO2.

Another example of a new sector is aerospace. We normally supply products and technologies to rockets, to aviation, but if we think about mobility and clean mobility in the future, the airplanes will need hydrogen. So how do you build the full hydrogen supply chain for aviation? This is more or less a new application for us and definitely a new application for this sector.

So those are the examples of potential cooperation with existing or new customers. Every time it's about trust between a sector, a customer and us, and most of the time, it's about partnership, because we cannot be alone and it is most of the time also a partnership with several players in the same partnership. So that's what is happening right now in the process of innovation and new markets.

Fabienne Lecorvaisier: Well, thank you, Benoît. I suggest that we now take our first question from our analysts on the call.

Operator: Thank you. And if you are connected by phone and you would like to ask a question, please press star one on your telephone keypad. To withdraw your question, please press star two. You will be advised when to ask your question. And the first question comes from the line of Tom Wrigglesworth from Citi. Please go ahead.

Thomas Wrigglesworth (Citi): Benoît, Fabienne, thank very much for your team's presentation and your own presentations, very thorough today. Couple of questions from me. The first one kind of more of a high-level one around your hydrogen initiatives. How are you factoring in government subsidies? I think a number of the steel companies have said that they are looking for government subsidies. We've heard of a fertiliser company is seeking ammonia subsidies. What are your assumptions around government involvement?

And then secondly to that, three gigawatts. Is that what you anticipate your customers will demand? Or is that led by what Air Liquide needs to hit its CO2 abatement targets? There are couple more, but I'll stop there. Those are my two.

Fabienne Lecorvaisier: Maybe about hydrogen, Matthieu?

Matthieu Giard: Yes, thank you, Thomas, for your questions. So first of all, on the subsidies. So indeed subsidies are something to take into account, especially in Europe today, but it's only one aspect. And we look at project on one-by-one basis. But you have many factors to look at when you look at the project.

So customers are looking at the number of molecules they need. They are looking at their profile, at their backups and the likes. So we do look at subsidies as we speak, but we – long-term, we expect our business to be free of subsidies. That being said, again, in the short-term we need to reduce our CapEx for electrolysers to be competitive and it will take some government support. We are looking, as you know, today in Europe has a massive plan to have a green Europe and the subsidies are part of that.

And as you know, we are working with our technology supplier to have giga factories in Europe to meet that demand.

Then you then have question of OpEx and again it depends by country and by regulations. The end goal for us is to be competitive and with the techno road maps that we have in place, as Benoît mentioned, we are confident that in the short-term hydrogen will be competitive in the marketplace.

So when it comes to three gigawatts, so these are clearly for our customers. So as we speak, we see we have a pretty healthy pipe of projects. Fabienne mentioned the 44% of our investment that are linked to energy transition. So in the next ten years, clearly we see this gigawatts needed for our customers starting from hard-to-abate sectors and then going into the mobility value chains. So these are clearly for us. And the decarbonisation of our assets will also be part of that, but to a lesser extent.

Fabienne Lecorvaisier: François, do you want to complement on the customer alignment?

François Jackow: No, I think we are very well aligned with customers to go and seek for some subsidies, but overall what is very important is we want to build a sustainable business which can be business without subsidies. So we are not seeking subsidies just for the sake of getting subsidies. As mentioned by Matthieu, we are looking for a project that makes sense and that can build this roadmap with economies of scales and also with multiplication of opportunity that we can leverage later on.

So that's important in this phase of the subsidies, but again long-term we are building a business that can rely not on the subsidies.

Fabienne Lecorvaisier: Thank you. Another question from the call?

Operator: Of course. Thank you. The next question comes from the line of Alex Stewart from Barclays. Please go ahead.

Alex Stewart (Barclays): Hello. Good afternoon, and thank you for your interesting presentation. I have two hopefully straight forward questions, both on hydrogen. You make – you said about 1.2 million tonnes of hydrogen today, which is going to increase by, let's say, 2.5 million tonnes over the next 15 years on the basis of a tripling in revenue. The Hydrogen Council, of which you are a founding member, expects hydrogen demand to increase by 30 million tonnes over the next ten years. So your 2.5 million tonnes of incremental hydrogen is a very small proportion of what the Hydrogen Council expects demand to move to. Could you possibly talk about why you expect to take such a small share of that incremental demand, or perhaps I got something wrong on my numbers?

The second question related to that is you've said that that incremental €4 billion revenue will come from €8 billion of investment, which is a roughly 2 times capital intensity compared to your guidance historically on hydrogen of 1 to 1.5 times. Could you maybe explain the increase in capital intensity and whether that's related to shifting production pathway for hydrogen, would be really useful. Thank you so much.

Fabienne Lecorvaisier: Maybe I'll take the second one, but I'll give you the floor for the first one, Benoît.

Benoît Potier: Yes. The Hydrogen Council have been working with the sort of consolidation of all the data that were available from the different players, different sectors. And we made projections in 2050, 2040 and we try to sort of extrapolate what could happen in between 2020 and 2040. It is clear that the increase in hydrogen market is not going to be linear. It is clearly an exponential.

Now, we don't exactly know what the first market segments will be developed. We all think that, of course, the feedstock market segment, which is the one we supply today, is going to increase pretty soon and this is very much linked to what has been presented today.

The other segments, in particular, the mobility market, which will make a big difference, will start most probably with the heavy-duty applications and only in the second time on the passenger cars. So volumes are smaller, but density is much higher. So this is good news for the economics. This is probably a less good news for volumes, volumes of hydrogen.

So today, when we look at the numbers that were presented by the Hydrogen Council, and what we can see in '25 and 2030, I take your point. You're right. This is under what we may expect from the Hydrogen Council, but there's nothing – number one, nothing wrong and nothing worrying in that. It is just the adjustment of the exponential increase that we may see in the different parts of the world.

But I personally think that the numbers that were put forward with the Hydrogen Council for 2050 and 2040 are credible. Even if they are ambitious, they are credible, but they are not incompatible with what we see today.

Now, the 1.2 to 2 million tonnes for Air Liquide is in the next years. It means that the projects that are linked to those one million are more or less already launched, or will be launched in the next two or three years. So that's why there's always a lag time between the ambition of the market and what we see in real in the field. So I think that explains the gap.

But overall, we abide by what has been said by the Hydrogen Council.

Fabienne Lecorvaisier: So in terms of capital intensity, it is true that if you try to connect the €4 billion of sales on the €8 billion of CapEx, it gives you a capital intensity which is higher than the 1.5 we usually mentioned for the primary production of hydrogen molecule via SMR, methane reforming. You need to understand that this €8 billion of CapEx, include of course the primary production of the molecules, but also carbon capture installation, carbon capture and storage installation, as well as supply chain.

In the €8 billion, approximately 50% is primary production and carbon capture and a little bit less than 50% is the supply chain. You need also to understand that this €8 billion of CapEx will concur to create new sales, but also to substitute some existing volume by low carbon hydrogen. But it includes the global value chain.

Next question from the call?

Operator: Of course. Thank you. The next question comes from the line of Charlie Webb from Morgan Stanley. Please go ahead.

Charlie Webb (Morgan Stanley): Afternoon, everyone, and thank you for taking our questions. Maybe two from me. Maybe one first high level one around carbon capture, but more importantly, perhaps storage. It's perhaps one of the limiting factor that was a little bit out of your hand in terms of the development of carbon capture. So just trying to understand who will take the risk around the carbon liability in storage, would it be yourselves, would it be countries? How do you see that unfolding, because clearly if carbon prices keep rising, you've got a rising liability. So just trying to understand how that storage you think may work?

And then just reverting back a little bit to the three-gigawatt number, perhaps coming to Alex's question but from a different angle. Obviously, the European Union targeting 40 gigawatt hours of installed electrolysis of green hydrogen, so I should say by 2030, and that's just Europe. So just thinking that number must be bigger on a global basis. How do we think about that in the context of your three gigawatt-hour target? Is it a conservative target? Is it the case of that 40-gigawatt hours is somewhat aspirational? Just trying to understand little bit how you're seeing it and how that differs from, I guess, the kind of top-down targets? Just trying to get a better sense on that, that would be great. Thank you very much.

Fabienne Lecorvaisier: Thank you. So about the storage issues, François, do you want to elaborate?

François Jackow: Yes, of course, today, I mean, the CCS value chain is still, I would say, overall a work in progress. Even if some projects are quite well advanced. Keep in mind that Air Liquide is positioned mostly on the capture, on the aggregation of the different CO₂ streams in basins, especially, in the liquefaction step. And then potentially in the transportation, but not in the sequestration in itself.

So we are working with partners, who have the know-how. And for the sequestration it's more the oil and gas companies, who have these know-how, who own the fields or the rights to the field.

If you are talking about the liability, which is something which is very important, this is a topic which is being addressed today, but overall, I mean, the liability for the storage and the long-term storage is likely to be held by the countries who are the entity who are able basically to stand with this kind of commitments.

Fabienne Lecorvaisier: Matthieu?

Matthieu Giard: So when it comes to the three gigawatt target, Charlie, so your question was is it an aspiration? I guess the answer is no, it's not an aspiration. It's a solid plan. When we look at the numbers, so just to put it in perspective, as you rightly mentioned, Europe is targeting 40 gigawatts by 2030.

It's 60% of the existing hydrogen demand or it's 10% of the EU electronic production. So the numbers are big and we need to take position into that. So to do that, and as mentioned by Fabienne during our presentation, we need few roadblocks to be taken away. First one is to have accessibility to renewable energy. So we need that. And this 40 gigawatts – again, if you do the math, it represents the entire French nuclear electricity production.

So we need the utility providers to supply us with this energy to run our electrolysers to have green hydrogen or low carbon hydrogen.

So then when it comes to the next step, we need real customer projects and that's what we are doing. And as Benoît mentioned, these projects are already in the pipe today or they are in development tomorrow. So this three gigawatts are today a firm number. So we expect to have two out of the three in production by 2030, 2035 and the last gigawatts to be decided and in construction.

So this number for us looks solid. And there may be more, but again it's an exponential. So let's see in 2030 where we are in this exponential. There is probably more to come indeed.

Fabienne Lecorvaisier: Thank you, Matthieu. Next question?

Operator: Of course. Thank you. The next question comes from the line of Marc Bianchi from Cowen. Please go ahead.

Marc Bianchi (Cowen & Co): Thank you. Regarding the three gigawatts, I'm curious what the composition of that would be. Perhaps you could break it down by end market or types of applications?

And then in terms of the size of electrolysers, I think you mentioned a plan to have over 100-megawatt project. I know there's some gigawatt scale projects that are being planned for export, where there's low cost renewables. I'm just curious how you see that part of the

market developing? Is it an area that Air Liquide would be interested in? And do you see an ideal size for your electrolyzers? Thank you.

Matthieu Giard: Maybe I will start, and François, you can complement, if needed. So the three gigawatt. So again, I think let's go back to your customer and let's try to segment who they are. You have the one with existing demand. You have the one that are going to need hydrogen to decarbonise their processes. We mentioned already few times the steelmakers. There are others. And then you have the new – the blue oceans. So I think this three gigawatts will be spread over this type of customer not to forget the mobility.

So we will start with the hard-to-abate sector because they're already demanding this demand. And from there, we are going to expand further down these new markets. So this electrolyser sizes. So as I mentioned during the presentation, we see clearly a scale-up in the size of project. So we did 1.2 giga in Denmark two years ago, 20 megawatts this year, the largest one. And we are working on 100-megawatts module basically for the next one.

So we have already announced that we will be working on Normandy in H2V 200 megawatts range. We couple of projects in the Benelux, more or less the same range, not to mention Germany, that is really active today. So we believe that these projects are going to start mostly in Europe today. And Asia is following pretty closely.

This export project is indeed something that is pretty hot these days and we see some markets or some countries that are taking a geopolitical position and they want to use their access to renewable energy to export hydrogen. So you've probably heard of Chile, North Africa, the Middle East, Australia. So we are looking at this project. They are very interesting. They are probably further down the road. Many things needs to happen.

Again, we need the energy. We need the electrolyzers. We need the boats to supply all of that. So this project, we are looking at them and hopefully we'll take our share. François?

François Jackow: Well, I think – clearly, I mean, refining and steel will be the biggest consumer in Europe. I think the order of magnitude of the steel industry demand is very significant. One large-scale DRI plant could consume the equivalent of 500 megawatts of electrolyser. And then you can see, I mean, different modules. So those will be definitely the greatest volume.

I'd just like to mention about the geography. This is true that today many things are happening in Europe and in Western Europe, but we start to see even in Eastern Europe, I mean, some very strong interest for similar schemes. And we have to keep in mind North America, which may, in the next few months, if not years, also, I mean, follow the same trajectory.

So for the time being, it's mostly European-centric with some position in Asia, but clearly the rest of the world will follow.

Fabienne Lecorvaisier: Okay. Next question?

Operator: Thank you. The next question comes from the line of Martin Roediger from Kepler Cheuvreux. Please go ahead.

Martin Roediger (Kepler Cheuvreux): Thank you. Two questions from my side. Regarding your target for carbon neutrality by 2050, just for clarification. This is based on Scope 1 and Scope 2 emissions only, correct? And what is the 19.5 million tonnes of Scope 3 emissions? Don't you need to reduce them as well towards zero?

And the second question, we hear more and more oil companies who want to become green, and thus want to reduce massively the number of refineries. What does that mean for your existing steam methane reformers, which are connected to these refineries when the take-or-pay contracts will run out? Do you need to invest heavily in carbon capture to switch your production to low carbon hydrogen for these facilities? Thank you.

Fabienne Lecorvaisier: Thank you, Martin. Carbon neutrality is for you, Benoît.

Benoît Potier: I can take both, if you want. The 2050 is definitely based on Scope 1 and 2, but we need to care about Scope 3. The difficult – the difficulty we have today is really to assess accurately the Scope 3. And we are working very hard not just internally but also with science-based institutions to assess precisely the Scope 3 in particular for the applications.

And we gave, during the presentation, an example of 15 million tonnes that we could assess for Scope 4. That was for Scope 4 for avoided. And 78 on the other method. So it gives you really a feel about how difficult it is to assess both Scope 3 and Scope 4. So what we think today is that as we go forward, the upstream of Scope 3 and the downstream of Scope 3 will be reduced naturally as all industries will actually tackle climate change themselves.

So we will be buying cleaner products and we will be supplying cleaner products to customers that themselves will have cleaner processes. So if the system works well, Scope 3 should more or less disappear naturally, if it is not the case. And if we still remain with some sort of Scope 3 by 2050, we will have to find ways to reduce that remaining Scope 3 to carbon neutrality. That's the best answer and the most transparent answer we can make today.

On your second questions about the oil companies wanting to reduce their own emissions. This is very true. CO₂ today is emitted in refineries and those refineries are supplying gasoline diesel to trucks, planes and cars that will not be allowed to run on combustion engines in the future. So there is a sort of catch-22 because we cannot supply hydrogen to a customer that will stop producing their own products.

But we also said in the presentation that the HVO as in one example, which is the bio-based fuels will be developed significantly and they will consume hydrogen. So there will be a sort of shift between the traditional cracking of oil molecules to mobile feedstock that will also need to be cracked with hydrogen.

Now in the future to be clean altogether, we need to supply clean hydrogen to refineries. But if we just take the discussions we have today with our customers, it is very clear that their problem is CO₂, and if hydrogen can be a solution, they will be delighted to actually buy hydrogen, but this hydrogen needs to be decarbonated and as clean as possible. But we don't see a sort of deadlock for refineries in particular in the supply of hydrogen in the future.

Fabienne Lecorvaisier: Okay. We'll take a question from the chat. Do you consider nuclear electricity as carbon-free and suitable for green hydrogen?

I think I will keep this one for me, because the best way to answer it is to answer it with figures. If you look at the CO₂ footprint, in the production of hydrogen, meaning the kilogram of CO₂ emitted by kilogram of hydrogen. The traditional production, natural gas reforming is creating for one kilo of hydrogen, 11 kilograms of CO₂. If we look now at the same with carbon capture and storage, it goes down to three.

If now we move to electrolysis, electrolysis that would be fed by wind energy, offshore wind in particular because it's the most regular one. Then the CO₂ footprint for 1 kilo of hydrogen would be 0.9.

Now if you look at nuclear electricity, it's 0.4. So we're not saying that nuclear is the energy of the future, but no question that today, triggering electrolysis with nuclear electricity produces very low carbon or nearly zero carbon hydrogen. François?

François Jackow: Yes, maybe just to complement what Fabienne mentioned, I mean, green hydrogen, this is kind of a marketing term. So we have to be careful because depending on the sector and depending on the country, what could be called green hydrogen is quite different. And then what we will need to see is the grade of hydrogen fit for a certain purpose.

For example, as we mentioned before for the regulation, the RED 2 regulation today depending on the countries, there are different discussion to include or nurture nuclear electricity as a way to generate a low carbon hydrogen or, quote-unquote, 'green hydrogen'. So it's not only a technical topic, it's also a political topic that likely will depend on the country to implement the specific regulation.

Fabienne Lecorvaisier: Another question from the chat. Climate scenario analysis is increasingly considered by investors and corporates when assessing the business models. Is this strategic shift to green and low carbon hydrogen driven by internal scenario analysis performed at Air Liquide? And if so which scenarios are applied?

Benoît Potier: it is both because we base all the reflections and the studies on the International Energy Agency scenarios. We, of course, take into account the Paris Agreement and the need for less than 2 degrees or even better less than 1.5.

So we have been fed actually by all those scenarios which triggered the internal reflection, but there was no particular internal scenario developed at Air Liquide. The second input was from customers. As we say during the day, we had so many customer requests in the past 12 month, probably even more after the two waves of the COVID pandemic, which has nothing to do except that people stop thinking about their future and they all recognised that they had to act, they had to do something.

So combining all the scenarios available in the marketplace from the best reputed institutions and the input from customers, we have now the conviction that it's coming and using hydrogen will be a reality, but this hydrogen needs to be low-carbon or renewable. And I'd like just to make a comment because we had this discussion about green blue. We have tendered to abandon the colour codes and use the European Commission terminology, which is the renewable hydrogen and there is a definition for that. And the low-carbon hydrogen and by the way nuclear is actually part of low-carbon because this is actually low-carbon, and

the third category is fossil-based hydrogen. So there are three types of hydrogen, and this is what we use. But clearly, the future will be in between renewable hydrogen and low-carbon hydrogen, but we need both to ensure that transition is let's say smooth enough and economical enough so that we can afford investing in low-carbon hydrogen.

Fabienne Lecorvaisier: Thank you, Benoît. Not much to add, maybe we will complement with the next question from the chat. When can we expect low-carbon hydrogen to have the same cost as grey hydrogen? Matthieu?

Matthieu Giard: I will take that one. So where are we starting from? So today in 2020, if you look at grey, let's say €2 per kilo, blue even if you don't like the colour probably times two and green another, now so two, four, six roughly euro per kilos.

The next milestone for us is clearly that 2030-2035 window where we expect the cost of blue and green to be in the same price range depending on the electricity costs, so we are targeting a decrease by 2, and a capex reduction also by 2 driven by the massive investment that we have discussed on earlier in Europe and elsewhere that are going to drive down the cost of electrolyzers. So then the big question is how is it going to compare to the grey hydrogen cost then the question is what about the CO2 cost at that time?

And we hope by then that again it's going to be a level playing field in that everything is going to be comparable. So on that, the big question the other one, we have is what about the technologies.

So today, we tried to be technology agnostic, so we are bidding on PEM, but you also keep a close eye on alkaline. There is a robust technology today and you have other technology that are probably lower in term of readiness that may come by then, and that may help to overall reduce this cost to have again, a cost, that is probably a balance between the different colours.

Fabienne Lecorvaisier: Thank you, Matthieu. Maybe we'll go back to our analyst on the call for the next question. Question from the call please? Okay one more from the chat? Is the hydrogen opportunity big enough to assume that all global industrial gas players would be able to at least triple their revenues as well in 2035? Will Air Liquide be gaining market share? Gentlemen?

Benoît Potier: The answer to it, will it be big enough? Yes, definitely. There's a huge market ahead of us. And I think even if we wanted the three of us, the three industrial gas players would not be big enough to really seize the whole market.

Are we going to keep our market share, increase/decrease our market share? Hard to say. At the beginning, I think we are the players so we will be, I mean, the leading players, but as the different market sectors or market segments will develop, we may see for very specific applications other players taking their share.

So I think amongst the players, we are all going to benefit from this market, but the market share – by the way the market share today is small because we have about, Matthieu, 75 million tonnes of hydrogen consumed in the world, and we at Air Liquide supply 1.2. So this is pretty small if we look at the amount of hydrogen we supply compared with the consumption, and why essentially because our customers are self producers.

So this gives us opportunities for taking over existing plants for improving the CO₂ situation for those plants, but also replacing those plants with cleaner plants. But we also have the opportunity to develop new market segments. So I think in the end, we may gain market share, but you have to realise that our market share is tiny today. Matthieu, do you want to supplement?

Matthieu Giard: No, I think as you mentioned, Benoit, market is mostly self produced today. So we have major takeover opportunities and that's where we bring the different element that we touch on. On the customer of piece, we can help customer decarbonise the assets. We can help them to look at their carbon footprint.

So I think we'll be able to be in a strong position to talk to them. The other elements is the speed of these opportunities and where they're going to start, so we believe that starting with Europe today we are in a good position. We've made couple of announcements in the recent weeks and we have a lot of prospect that we are working on.

So are we going to gain market share as Benoît said? I don't know. Are we well positioned today? The answer is definitely yes.

Fabienne Lecorvaisier: Thank you, Matthieu. The next one from the chat as well, at which speed can we deploy Cryocap in our facilities and what could be the slowing factors? François?

François Jackow: So as you know we have already today a facility, which is working and which is at the industrial scale. So the technology is proven. We have completed already several engineering studies on our facilities in Europe. And today, the most advanced projects are clearly the one in Antwerp and the one in Rotterdam.

Those projects are really in the development phase. We are working with partners and other customers, who can supply CO₂ to find economies of scale. We do expect some decisions subject to some positive support from the different governments in 2021, so this year or maybe next year for start up in 2024 or 2025.

So you see it's pretty close as mentioned by Benoît earlier. This is already in the pipeline and should contribute to the 2025 objectives. So those are the one which are the most known, but we have several other opportunities we are working on in Europe right now, so maybe you will hear more about others in some months.

Benoît Potier: Maybe I'd like to add just one insight when we think about Cryocap. We have developed Cryocap for hydrogen plants, and this is what we call now Cryocap Hydrogen. And this is the well fitted for hydrogen plants that have a CO₂ content in the stream, in the upstream of about 45-50% of CO₂.

There's a second application for Cryocap, which we call Cryocap fuel gas. It's the same, but it's optimised less for hydrogen and more for fuel gas. Now these Cryocap second one fuel gas is the right technology for streams where the CO₂ content is lower between 25% and 30%.

And when we talk about CO₂ capture, there are a lot of sites in the world where these Cryocap fuel gas might be applied, and in that case there's nothing to do with hydrogen. This

is different. So the Cryocap technology is actually more generic than you may thought. It may apply to hydrogen production, but also to decarbonisation of plants at customers. So I think that's an interesting perspective to have on technology.

Fabienne Lecorvaisier: Okay, maybe we will try again to connect to the call. Do we have a question on the call?

Operator: Apologies for that. Yeah, our next question comes from the line of Adam Collins at Liberum. Adam, please go ahead.

Adam Collins (Liberum): Yeah, hi there, two questions please on air gases. Firstly, air gas production is also pretty energy intensive. Can you discuss what plans you have to adopt more efficient oxygen and nitrogen production?

And then also on the distribution side using a lot of road transportation today based on diesel trucks, what plans do you have to decarbonise the transport fleet? And then just finally, at the very beginning you talked about the pure oxygen flow from electrolysis, which is in volume terms actually pretty substantial, do you see that having a commercial use looking forward?

Fabienne Lecorvaisier: Plans to improve the production in the air gases facilities? François, to insist?

François Jackow: Of course, I mean, we will continue to improve the process to manufacture oxygen and nitrogen. This has been at the core of our technology development for many years. It's not only technology for new plants, but it's also improvement of the operation through either a new equipment that we can add and retrofit in some of the units, but also the advanced way to operate our plants.

And the fact that today we have seven centres globally, which help us to manage our plants to optimise and to find the best operating mode for every plants is really contributing to generate year after year several percent of energy savings in those plants, and we will continue to do that. And it's likely that with the development of both internal and external tools that we are using the use of artificial intelligence, we will go further even in the optimisation of the plants that we are operating. So that's for the new technology and the existing asset base.

I think there was something on the transportation that maybe I can touch a little bit at least for Europe and maybe Matthieu want to comment globally. Overall, transportation of the air gases is something, which is important. Even if in term of volumes, 85% of our volumes is being delivered to customer are not being delivered through the road, so either through pipelines or onsite.

So this is already a source of efficiency and to reduce the carbon footprint related to the delivery of the plants, and we have plans to increase even these share in several countries. For road transportation whenever it's necessary to have liquid oxygen or liquid nitrogen being delivered, we have a plan to convert part of our fleet to low-carbon emission trucks.

And for Europe, we want to convert 50% of the fleet to low-carbon emission, so this is something which is ongoing. Matthieu?

Matthieu Giard: So maybe to complement on what François said, so first of all, you heard it in terms of weight, it is very small now. So we have a part of our fleet that is reporting in scope 1, the one that we drive ourselves and the part that is in scope 3. So overall, it's pretty small, but we need to walk the talk.

We cannot say to all of you that we want to move to a hydrogen mobility and heavy-duty fleets and not doing it for ourselves. That being said, we see for us what we are seeing in the market is that the technologies are not always ready, are available on a worldwide basis. So what we are looking at is first of all efficiencies of our fleet compared to what we have today.

Second one is better routing, so we try to drive less kilometres and then we can convert to alternative fuel being biogas, being compressed natural gas and then hydrogen. So we have that in the pipe and hopefully, by then, we will have more and more, so hydrogen coming from our own production.

So maybe I can go on, on the oxygen from electrolysis. So clearly, you know that oxygen is a byproduct of the electrolysis. It's a high purity. The question is can we valorise it? So for us Air Liquide, the answer is yes. Looking at the size of this electrolyser and the proximity to our customers and existing pipe, it is a byproduct that we can leverage and put in our networks to offer to our customer. Not everybody can do that, of course.

Then you have more remote installation; that becomes a bit more difficult because you've got the oxygen, you need to liquefy it, you need to transport it and then the economics are not that easy. So if you are very close to an industrial site that need oxygen, it may work. Water treatment, fish farming, you name it, but in the big scheme of things, this opportunity are not that big.

So for us, it's really where we are back to this basins where we can create value overall for hydrogen, oxygen, CO₂ and everything in the basins to offer our full portfolio of decarbonisation to our customers.

Fabienne Lecorvaisier: Thank you. Next question?

Operator: Thank you. The next question comes from the line of Chetan Udeshi from JPMorgan. Please go ahead.

Chetan Udeshi (JPMorgan): Yeah, hi, thank you. I had three questions. First question was when we think about the rollout of hydrogen across multiple existing applications, do you see any revenue attrition or reduction on any of your other industrial gases demand? I mean, I was just thinking about, for instance, DRI for steel, at the moment for cooking coal based production process my understanding is you need a lot of oxygen, but maybe with hydrogen, we'll not need oxygen for steel production anymore. So how should we think about the potential attrition in some of the other existing applications for other industrial gases from rollout of hydrogen for different applications?

But second question I had was, I think it goes back to the previous question not so much about market share, but just in terms of competitive landscape for low-carbon and green hydrogen. We've seen number of projects been announced by utility companies where actually they are working with some of the existing industrial customers of say Air Liquide or industrial gases companies trying to start to use green hydrogen and sell it to say a chemical

company or a fertiliser company or an oil and gas company. And so how do you see the competitive dynamics in green hydrogen production not only for mobility but in general for industrial production basis and how critical in your opinion is the pipeline network that you guys have for instance, in some of the key bases, but also the pipeline network that might exist for the transport of natural gas in most part of the world, can that be used to supply hydrogen in the future?

And last question then would be, do we expect to overall over the next few years I know the formal plan will come in Q1 next year, but just looking at the investment target that the capex to sales for Air Liquide at least for the foreseeable future will remain at the top end of that 10-14% range? Thanks.

Fabienne Lecorvaisier: Okay, so the first question is about the potential cannibalisation of existing sales by the new hydrogen applications.

François Jackow: So overall, we don't see, I mean, a huge threat in the existing supply of industrial gases. You mentioned, I mean, the steel industry. What we see today is that there is a clear need for increased volume of hydrogen, very large quantity of hydrogen.

And as I mentioned before, it could be for the blast furnace or it could be for the DRI route. Keep in mind that within the DRI route, I mean, you have after that electric arc furnace, which consume large quantity of oxygen. When you inject also hydrogen in the blast furnace, it's very much case-specific, but in most of the cases, the oxygen consumption is constant or could increase to maintain the energy balance.

So all in all, we see some adjustment potentially on some sites, but not a big decline in anything in the steel industry. What is going to decline is probably, I mean, the product where the end market is changing, and one of them is clearly, I mean, the refining for the, quote-unquote, 'traditional' road transportation fuels as we discussed before where we see that, overall, the demand especially in the most advanced countries is going to decrease for gasoline and for diesel.

So it's likely that some of those capacity, which is using hydrogen for desulfurization today is going to decrease. Probably, it's going to be the case for the less competitive refineries. Again, this is for the most advanced economies. Keep in mind that in many economies, the level of sulphur in those transportation fuel is still quite high, so there will be a need in those countries to add hydrogen to be able to produce clean diesel, probably, again in a transition phase, but it could compensate, I mean, some of the decline in the most matured countries.

Fabienne Lecorvaisier: Well, thank you, François. The next question was about competitive advantage towards other competitors in the hydrogen field utilities in particular. Benoît if you want to take that one?

Benoît Potier: Yes, I can take this one, thank you. Well, yes, we've seen a lot of announcements. This is worldwide. And when we look at the number of projects that have been announced. Recently, we had a CEO meeting for the Hydrogen Council and we counted 228 projects that have been announced already, so a lot of announcements.

Out of them, I mean maybe, only a portion representing more or less 80 billion of capex as opposed to 300 being the total 228 projects. 80 are mature. The other ones are more big announcements, but not really concrete today.

Utilities are part of the industries and sectors that have announced. And this is rather natural because as they produce electricity, it's one step further to produce hydrogen from electricity. The real issue for me is the fact that the whole world will need electricity, and so we will probably soon be in a position where the pressure will be on utilities to produce electricity because well that's what the world needs rather than diversifying downstream, and I think it's coming.

In the next ten years, we'll see that we need, I would say desperately need new renewable capacities being invested. In that context what is our advantage? Well, clearly, we have half a century of experience. We have technologies. We have the know-how on how to operate, how to distribute, how to use, and we know the economics on how to deal with the byproducts that we have in this field. I mean, that's the business, the core business of industrial gas companies, and I think we have a lot of assets existing and presence in the highest and the densest basins in the world, where we can actually leverage our assets.

Pipeline networks is one. You mentioned it, it's a true advantage, but it's also the byproducts to the industrial merchant. So I think we know how to deal with this portion of the supply chain from production, packaging and distribution, and we need upstream renewable power to be invested, and I think that's more the core business of utilities.

And we also need the downstream players like the car industry that will develop the mobility, but also aviation and maritime and other sectors that will be actually the users of hydrogen. But the portion of the supply chain that we master is clearly production and distribution, and we think we have a big advantage.

Fabienne Lecorvaisier: In terms of Capex, we've been discussing since the beginning of the session, the increased opportunities that energy transition is creating for us, so no question. The investment decision will continue to increase. You've seen that in the last three years, but that's going to continue.

And the Capex are going to continue to increase as well. For the Capex in terms of percentage of sales, I'd suggest that you come back next year. Time is running unfortunately, and I think we are now going to take the last question from the call.

Operator: Thank you. The next question or the last question comes from the line of Jean-Luc Romain with CIC Market Solutions. Please go ahead.

Jean-Luc Romain (CIC Market Solutions): Good afternoon. My question relates above to CO2 and hydrogen. On hydrogen, should we expect operating margin generated from your much increased sales to be comparable to Air Liquide's current operating margin? That's the first question.

The second question is, what will be the impact of the integration of Sasol in terms of CO2 emissions for Air Liquide? Can you quantify or are you not allowed to do that?

Fabienne Lecorvaisier: Maybe I can take the question on operating margins. For few months still, it's clear that our investment criteria as our request in terms of returns remain the same. The business model remains the same.

In our traditional projects, I think we master pretty well the ramp-up time. Those new project, new hydrogen production, electrolysis, mobility, the ramp-up period is more uncertain because it's new. However, no question that after the ramp-up phase this business would continue to contribute to the group operating margins and to the group operating margin improvement, which is going to be supported as well by our other improvement measures. The impact of Sasol, François, this is yours.

François Jackow: Thank you very much, and thank you, Jean-Luc for the question. So Sasol, let's keep in mind that the project is still pending competition authority approval, so it's not concluded yet. It's work in progress of course.

But if we are looking at the CO₂ emission, and here we are talking about the CO₂ which are related to the use of electricity to drive the oxygen plant, so this plant is the largest oxygen facility in the world now with more than 40,000 tonnes per day of oxygen and the associated carbon emission, so it's going to be scope 2 emission is in the range of 6 million tonnes per year of CO₂. The reason for this is because it's large, and because today, most of the electricity is coming from the grid and the local production, which is in great part generated from coal.

What we want to do is exactly what we discussed before is to decarbonise this operation. So we will include this in our own scope 2 of emission, but we are committed to reduce by 30% the amount of CO₂ emission that will be emitted or related to those facilities. And again, it's going to be technology improvement-based operation investment, but also in a significant part sourcing of renewable energy, which do not exist today in South Africa, and that will be made possible with our commitment with Sasol as you have seen in the video.

So clearly, is going to be added to the scope. And what we are going to do is to reassess the baseline because those emission were existing before, I mean, we took over, and we will include that in our baseline and apply basically the same objective in term of carbon reduction as we are applying to the rest of our base business.

Fabienne Lecorvaisier: Well, thank you, thank you François. Benoît, maybe your last word?

Benoît Potier: Yes, thank you very much for attending, asking questions and being interested in our ESG strategy. This ESG Day came with a big E and a smaller s and g, but that was our choice.

Your questions proved that the interest in hydrogen, CO₂ and environmental issues is very high. It's probably a little bit frustrating for you because you had more questions, but it's also frustrating for us because we had more answers. So let's just make sure that we maintain this dialogue. This is very important to us.

We believe in that. You have understood that it's not just about hydrogen, it's about hydrogen, it's about CO₂, it's about abatement, it's about Air Liquide, but it's also about customers, and it's about stakeholders at large. And we have now embarked on a very ambitious plan, carbon neutrality for a company like Air Liquide is a big challenge because we

consume so much energy directly or indirectly, so that's really a commitment and that's why we wanted to make a big announcement today.

It was done. Thank you for being with us, and I'm sure that we'll have further opportunities as we go. Not just us, but the whole company to interact with you and answer your questions. That said, hand over to Fabienne.

Fabienne Lecorvaisier: Well, I think all that being said, thank you again for joining us listening, asking questions. We've really enjoyed sharing with you our commitment for long term sustainable and profitable performance, so thanks again and have a good day. We will talk again soon.

[END OF TRANSCRIPT]