

Climate activists disrupt Air France-KLM AGM



Letter from François Robardet

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(Raison d'être of the Air France-KLM group)

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Editorial

Dear readers,

The Annual General Meeting of Air France-KLM was held on Wednesday June 5, 2024.

I would like to thank all the employee and former employee shareholders who sent me their proxies.

This week, as every year, I will be attending the Paris Air Forum, organized by La Tribune, whose theme this year is "Avenir & Performance".

A number of round tables will be tackling themes regularly developed in my newsletter:

- Decarbonization, geopolitics, growth: what kind of air transport in 2035?*
- Freedom, flexibility, sustainability: how will we travel in 2035?*
- Will AI be the new Eldorado of air transport?*
- Recruitment: social issues, strategic issues.*

Thank you for your trust and loyalty.

Happy reading

Monday's Press Review

> Climate activists disrupt Air France-KLM AGM

(source Les Echos) June 5, 2024 - Even before entering the Hilton Hotel near Charles-de-Gaulle airport, where Air France-KLM was holding its Annual General Meeting of Shareholders on Wednesday June 5, it was clear that the atmosphere would be tense. Imposing security had been deployed outside the building and, above all, inside. Anne-Marie Couderc, Chairman of the Board of Directors, began by reviewing the company's financial performance for 2023.

(...)

" The challenge for 2023 was also to repay in full the state aid granted by France and the Netherlands during the health crisis. We finalized and announced this on April 19, 2023. These results and the restructuring of our debt are essential to prepare for the future", commented the Chairman of the Board, emphasizing the Group's role in bringing cultures and peoples closer together, while limiting its impact on the climate.

"Our top priority is to increase our revenues and control our costs," confirmed CEO Ben Smith, **stressing the renewal of the aircraft fleet** (A220, A320 and A350) essential to meet the triple objective of reducing unit costs, CO2 emissions and noise pollution. "We want to pave the way for a more sustainable industry", he insisted. And he recalled the group's ambition to reduce its CO2 emissions per passenger-kilometer by 30% by 2030 compared with 2019. **"We are the leading consumer of SAF"**, sustainable aviation fuels, he continued. By 2023, Air France-KLM has integrated more than 20% of new-generation aircraft and incorporated 87,000 tonnes of SAF. All this clearly failed to convince... Barely an hour after the start of the AGM came the question-and-answer session, quickly devoted to environmental topics.

"Hey KLM, what is your plan?"

"Why should we believe you?" challenged a young Dutch activist, pointing to **the availability of SAF**, its competition with other uses and its impact on deforestation. Another young woman questioned: "KLM's plan will not reduce CO2 emissions but, on the contrary, increase them, all to make a profit on people and the planet.

Will KLM reduce its emissions by 48% by 2030 compared with 2019 in absolute terms?"

"We want to fly greener and more efficiently," replied Marjan Rintel, head of KLM, soberly. We take the subject seriously, but KLM is also contributing to a positive form of connection."

(...)

" By 2030, we will have 100% Neo aircraft at Transavia, and the low-cost airline has the same SAF incorporation targets as the Group," added Anne Rigail, Air France's CEO. In 2019, Transavia accounted for some 5% of the Group's emissions, the bulk of which are managed by long-haul operations.

Not enough to persuade the activists, who turned out in greater numbers than last year, to the chant of "Hey KLM, what is your plan?" New chants ("Fly, cry and die", "Stop flying") punctuated an eventful resolutions voting session, forcing the security services to intervene to remove the demonstrators from the hall amidst paper airplanes being thrown into the air.

All the resolutions were adopted, including the appointment of Florence Parly (former Minister of the Armed Forces) to the Board of Directors to replace Isabelle Parize until 2026. This is the first step towards Anne-Marie Couderc's succession as Chairman of the Board of Directors, by the 2025 AGM at the latest.

The remuneration of CEO Ben Smith for 2024 was also approved. "It has been calculated on the basis of market practices", it was explained. His fixed remuneration will therefore rise from 0.9 million to 1.044 million euros, an increase of 16%, while the variable portion will rise from 150% of the fixed to 180%. The maximum long-term variable is in shares, with a fixed value of 2 million euros, or 191.6% of the fixed, subject to the achievement of ESG performance, in particular. This represents an overall increase of 15.3% for the target and 15.8% for the maximum.

(...)

My comment: Air France-KLM's Annual General Meeting marked an important turning point with the appointment of Florence Parly to succeed Anne-Marie Couderc as Chairman of the Group (see the following article).

Almost all resolutions were overwhelmingly approved (over 99%).

However, the two resolutions concerning Ben Smith's remuneration (+15% in 2024, with a maximum of 4.9 million euros) were approved by 80%, with the Dutch government voting against.

For comparison, here are the 2022 remunerations of the top executives of the major US airlines:

- Delta Air Lines CEO Ed Bastian earned \$34.2 million in 2023, compared to \$9.6 million in 2022
- American Airlines CEO Robert Isom earned \$31.4 million in 2023, compared to \$4.8 million in 2022
- United Airlines CEO Scott Kirby earned \$18.6 million in 2023, compared to \$9.8 million in 2022
- Southwest Airlines CEO Bob Jordan earned \$9.3 million in 2023, compared to \$5.3 million in 2022

But what particularly impressed me was the question-and-answer session, rich in interesting exchanges.

Air France's future at Orly was discussed. General Management reaffirmed that from 2026, all domestic routes (mainland France) departing from Orly would be operated by Transavia France. It should be noted that the agreement of the SNPL (Air France pilots' union) was a prerequisite.

Dutch environmental activists raised questions about the future of Schiphol airport in the Netherlands (read the third article entitled Ms Rintel, KLM CEO: dismantling Schiphol's hub function will not prevent climate change).

These activists also asked about Sustainable Aviation Fuels (SAF), wondering whether they are greenwashing or whether they will compete with food.

The responses are well transcribed in the article above.

It's important to note that the public debate on the environmental impacts of air transport is relatively recent, having gained momentum in 2018 following the interventions of Greta Thunberg, a Swedish environmental activist committed to the fight against global warming.

In just a few years, the airline industry has responded by adopting numerous technological innovations and operational improvements to reduce its carbon footprint.

Precise targets have been set worldwide. Europe has set a timetable for the gradual incorporation of Sustainable Aviation Fuels (S.A.F.), stipulating that they must not be produced from crops intended for human or animal consumption.

My main reservation concerns the lack of global consistency in the decisions taken. If European airlines continue to be the most constrained, this could distort the market to their disadvantage, with no significant effect on global CO2 emissions.

> Florence Parly takes the first step at Air France-KLM

(source Le Figaro) June 4, 2024 - **This Wednesday, Florence Parly will have a front-row seat at the Hilton Hotel at Roissy airport to attend the Annual General Meeting of Air France-KLM, a company she has known well.** She joined the company in 2006, only to leave eight years later in disagreement with her superiors. After an initial position in the finance department, she had wanted to move into the heart of the business with an operational function: head of cargo, then short and medium-haul... Loss-making activities that had to be restructured with clear cuts

in staff numbers. It was a time of harsh and costly disputes between pilots and management. She had failed to reorganize the short- and medium-haul routes for which Group CEO Jean-Cyril Spinetta had put her in charge. In retrospect, it wasn't a good idea," admitted Florence Parly of the post when she was on her way out. It was a daunting mission. The company's situation had deteriorated overall. The executive then left for the SNCF, where she stayed for two years.

But now, Florence Parly's hands are free, and she's got a head for heights. **Appointed as an independent director of Air France-KLM last December**, she should be officially confirmed after the shareholders' vote. **This is essential if she is to take the next step and become non-executive Chairman of the Board next year, when Anne-Marie Couderc's term of office comes to an end.**

"Since her arrival in December, she's been in an observation phase, listening and getting to grips with the issues," says a Group executive. Air France-KLM has come a long way in ten years, and so has she. So has she (...)

Beyond her achievements, her entourage praises the team spirit that reigned in her office. Despite a certain stiffness that may have seemed appropriate to the military, she is described as "funny" and even "nice", qualities that her natural reserve does not at first reveal. I'm the only dircab in the whole government to have served five years," says Martin Briens. I think that says a lot about her personality," he sums up.

Today, she's getting to know the new management team and **Ben Smith**, the Canadian boss chosen **and** recruited by **Anne-Marie Couderc**, the current Chairman of the Board. The two **have forged strong ties** since his arrival in France, a country where he knew no one. **Florence Parly will have to build a new companionship with this executive who is passionate about air transport, but who is not always easy to decipher. They have a year to learn to move forward in tandem.**

My comment: *Taking over from Anne-Marie Couderc is a real challenge.*

The success of the Florence Parly - Ben Smith duo will be decisive for the Group's future.

It is worth noting that the significant increase in annual remuneration (from 200 to 350 K€) refused by current Chairman Anne-Marie Couderc, should apply to her successor.

> KLM CEO Rintel: dismantling Schiphol's hub function will not prevent climate change

(source ANP, translated with DeepL) June 5, 2024 - **A scenario in which Schiphol**

ceases to operate as an aviation hub would not help combat climate change.

So said **Marjan Rintel**, CEO and Chairman of KLM's Management Board, on Wednesday at the Air France-KLM Group's annual shareholders' meeting. She was responding to a question from the environmental organization Milieudefensie, which claims that KLM's CO2 emissions will increase rather than decrease.

Milieudefensie asked this question on the basis of a study carried out by Breda University of Applied Sciences. **The researchers calculated that KLM's emissions will increase by 6% until 2030.** This is due to the expected increase in the number of connecting passengers at Schiphol. According to the report, **these connecting passengers often have to travel by plane, which generates far more CO2 emissions than people taking direct flights.** "KLM puts profit before people and the planet," said the questioner. "KLM needs to understand that it needs to change. "I understand the concerns about climate change," Ms. Rintel replied. But in her view, **removing Schiphol's hub function only shifts the problem.** "It doesn't decrease the amount of CO2 emitted, but shifts it to other countries. Transfer passengers will go through another airport, and the Dutch will be forced to do so if the connections are no longer there."

Air France-KLM CEO Ben Smith stressed at the meeting that the Franco-Dutch group was pursuing "aggressive and ambitious" climate targets. For example, by 2030, the group aims to reduce CO2 emissions per kilometer flown and per passenger carried by 30% compared with 2019.

To achieve this goal, **Air France-KLM is spending €2 billion a year on quieter, cleaner aircraft, among other things. The group is also the largest purchaser of the more sustainable SAF jet fuel,** according to Mr. Smith.

(...)

***My comment:** Reflections, debates and decisions are underway concerning the limitation of traffic at Schiphol airport. The question is whether its hub function should be maintained at its current level.*

I'm skeptical that reducing traffic or the hub function will actually reduce CO2 emissions, for two reasons:

Firstly, connecting passengers can use many other hubs in Europe (and Turkey) for their transits.

Secondly, even if direct routes are operated by smaller aircraft, this will not necessarily lead to a reduction in the total number of movements (take-offs and landings) at the airport.

> SAS: an express change of alliance before the marriage with Air France-KLM

(source Les Echos) June 3, 2024 - It's the transfer of the decade in air transport, and one of the main events at the general meeting of international airlines this Monday in Dubai. **For the first time, one of the founding members of one of the world's three major airline alliances is set to change sides.** And as quickly as possible.

After twenty-seven years in the Star Alliance, which it co-founded in 1997 with Lufthansa and United, SAS is set to join the Skyteam alliance of Air France-KLM and Delta on September 1. As of this date, SAS customers, and in particular its 8 million frequent flyers, will be able to earn and use miles with the 19 Skyteam member airlines, and gain access to Skyteam airport lounges.

This is the first concrete consequence of the ongoing takeover of the Scandinavian airline by a consortium of investors led by Air France-KLM. The deal, which will see Air France-KLM take an initial 19.9% stake in SAS, **has yet to be validated by the European Commission and the US authorities.** But the Scandinavian airline did not want to wait for the deal to be finalized before changing alliances.

(...)

However, the SAS boss made no secret of the fact that **integration into Skyteam was only the very first step in a wider project, aimed at making the Scandinavian airline a full member of the virtual transatlantic joint venture formed by Air France-KLM and Delta.** "This is the world's first joint venture, and we want to be part of it," he stressed.

With the closure of Russian skies to European airlines, which has lengthened Asian services by two to three hours, **the North Atlantic market has become even more important for SAS.** The best way for a medium-sized airline like SAS to continue to grow in this market is to operate its transatlantic routes jointly with Air France-KLM, Delta and Virgin Atlantic, through joint marketing and revenue and cost sharing.

(...)

The deal still has to receive the green light from Brussels, which could impose conditions, as it recently did for Lufthansa's takeover of Italy's ITA Airways. At SAS, we believe that **the low level of Air France-KLM's initial stake - 19.9% - should place the operation below the Commission's barrage.** This is probably why Air France-KLM has not set its sights any higher in the immediate future, **although the group has already announced its intention to become a majority shareholder in SAS in a second phase,** once the two-year period provided for in the agreement has elapsed.

At this stage, however, Air France-KLM and SAS remain competitors, and cannot legally agree on fares or capacity on their respective networks. Only once Air France-KLM has acquired a majority stake in SAS, in two years or more, can the second phase of its integration begin, with a request for antitrust immunity from the US authorities. This will finally enable SAS to become a full member of the

transatlantic JV. The Scandinavian airline will have to wait and see.

My comment: Air France KLM's proposed investment in SAS, with a 19.9% stake, is considerably smaller than Lufthansa's 41% stake in ITA Airlines.

SAS is very confident that the European Commission will approve this project, at least in its first phase.

> Lufthansa and two other airlines forced to repay \$1 billion after Covid-19 cancellations

(source AFP) June 4, 2024 - The bill is looking steep on the other side of the Atlantic. **The U.S. Department of Transportation (DoT) has ordered three airlines, including Germany's Lufthansa Group, to reimburse nearly \$1 billion to passengers for flight cancellations or major changes due to the Covid-19 pandemic.**

(...)

In detail, **Lufthansa has agreed to refund \$775 million and pay a penalty of \$1.1 million**, while its Dutch competitor KLM has agreed to refund \$113.3 million and pay a penalty of \$1.1 million. In addition, South African Airways has agreed to refund \$15.2 million and pay a penalty of \$300,000.

On April 24, the U.S. Department of Transportation announced that airlines in the U.S. were now subject to stricter regulations on refunds and compensation for passengers in the event of flight cancellations, changes or delays, or lost baggage. The flight cancellation rate was below 1.2% in 2023 in the U.S., the lowest level in over a decade despite a record number of scheduled flights.

(...)

Not only must these refunds be automatic, but **the Ministry has also, among other things, precisely defined what constitutes a "significant change"**: a change in arrival or departure time of more than three hours for a domestic flight and more than six hours for an international flight; departure from or arrival at a different airport; more stopovers; downgrading in relation to the class booked, etc.

Lufthansa lowers annual targets

Flight cancellations due to Covid in 2022 had already weighed on Lufthansa's expenses last year. But for 2024, tensions in the Middle East and strikes will have a greater negative impact on the company. Europe's leading airline group has already lowered its operating profit forecast to 2.2 billion euros, following a first-quarter loss of 849 million euros. From an

operational standpoint, the group - which includes Austrian, Swiss, Eurowing and Brussels

Airlines alongside Lufthansa - suffered a "higher-than-expected" loss from January to March, due to various strikes" by employees within the group and at partner airlines. In all, these strikes had a negative impact on earnings of "around 350 million

euros", according to the press release. The Group expects second-quarter operating profit to be 100 million euros below the previous year's figure. The reasons for this include the consequences of wage disputes that have now been resolved, notably at Lufthansa Airlines, weak demand for short-term bookings, and ongoing disputes at Austrian Airlines.

Nevertheless, overall, bookings are "in line with initial expectations, particularly for the summer vacation months, which supports the Group's outlook for the second half of the year", which alone should post a better performance than in 2023.

My comment: *Returning property means returning something to its rightful owner, which is not equivalent to a fine.*

The penalty imposed on Lufthansa represents a modest 0.14% of the sum to be reimbursed.

By delaying repayment to passengers, Lufthansa benefited from a temporary cash flow improvement at minimal cost.

> **Boeing presents its quality improvement plan to the FAA**

(source Journal de l'Aviation) June 3, 2024 - **Boeing** has just taken an important step in the process of regaining the confidence of the FAA. The aircraft manufacturer **presented its safety and quality plan to the agency on May 30**, outlining the measures that have been and will be taken to restore lasting quality on its assembly lines. Based on the results of audits carried out by the FAA since the beginning of the year, the recommendations of its panel of experts and internal surveys based on feedback from its employees, the plan identifies four types of action to be taken: investing more in employee training, simplifying processes, eliminating defects and reinforcing the safety and quality culture. **FAA Administrator Mike Whitaker warned Boeing that "the FAA will ensure that [these measures] are implemented and corrected effectively.** This is not the end of our enhanced oversight of Boeing and its suppliers, but it does set a new standard for how Boeing runs its business." He said that **the increased presence of FAA agents on Boeing and Spirit AeroSystems production lines was not about to stop**, and that the **production cap imposed on the 737 MAX program since the Alaska Airlines incident on January 5 would not be lifted until the government agency was satisfied** (it is officially at 38 aircraft per month). A door plug detached in flight from a 737-9 due to the absence of several rivets, causing cabin depressurization.

Boeing's plan includes the introduction of six new performance indicators. The first will measure the proportion of employees deemed fit in core competencies. Another, called Notice of escape, will measure the number of hours required to deal with non-conforming work by the manufacturing division and suppliers, while Rework hours per airplane will measure the number of hours of correction required per

aircraft on the final assembly line. Supplier shortages will identify and count the parts in short supply each day. An indicator will measure unfinished work leaving the assembly line. Finally, Ticketing performance will measure quality defects per certified aircraft before delivery. In

addition, **Boeing will further encourage employees to speak up by improving the system enabling them to report problems confidentially and anonymously.** The aircraft manufacturer reports a six-fold increase in reports in the first two months of this year compared with last year. It is also implementing a system that introduces a safety risk assessment before each assembly line section change and a resolution plan, a measure that should be extended to all its civil programs.

It is also announcing increased monitoring by its teams of its tier 1 suppliers, notably Spirit AeroSystems and Daher. This should be replicated for Tier 2 and Tier 3 suppliers, with the support of Tier 1 suppliers. Progress has also been made in verifying the conformity of the production system, particularly in the areas of FOD controls, tools, parts and materials, and compliance with work instructions.

***My comment:** Boeing is obliged to cooperate with the FAA and provide precise, quantified results.*

For its part, the FAA fully assumes its role as supervisory authority.

At last, I'm tempted to say.

> **Airlines head for a record year**

(source Le Figaro) June 3, 2024 - The convalescence will have lasted four years. Hardly. Empty airports, companies racking up losses and calling on governments for help, like Air France-KLM and Lufthansa to name but a few in Europe...: the Covid pandemic brought air transport to its knees. Worse still, some felt at the time that traffic would never return to pre-Covid levels, not least because of the development of videoconferencing between companies. Some also thought that flygskam, or "shame of flying", would grow in a post-pandemic world that was supposed to be more ecologically aware.

Reality belied the scaremongers. Today, **airlines are so buoyed up that in 2024 they expect to beat the number of passengers carried in 2019: 4.96 billion this year**, compared with 4.54 billion five years ago, according to forecasts by the International Air Transport Association (IATA), which groups 320 airlines representing 83% of global traffic. The estimate has even been revised upwards from last December's forecast.

(...)

"In 2024, **we are forecasting record revenues** of nearly \$1,000 billion. However, **expenses will also reach a record level of \$936 billion. Net profit will be \$30.5 billion. Not a record**, unfortunately, and representing a net margin of just over 3%.

But considering the situation we were in a few years ago, it's a major achievement," said Willie Walsh, the former British Airways boss who took over as IATA's head in 2021. The losses calculated by IATA reached \$183 billion between 2020 and 2022.

Nevertheless, before the Covid pandemic, profits were higher than they are expected to be in 2024: \$33.8 billion in 2018, \$38 billion in 2017. Despite the companies' efforts to cut costs - by 34% in ten years - **profit per passenger - \$6.14 - remains modest.** "The price of a coffee at the hotel bar," Walsh points out. It was \$7.76 in 2018.

In his view, the fault lies largely with governments, IATA's pet peeves.

"Governments who like to look to our sector for new tax revenues need to understand that our margins are thin and we rarely earn our cost of capital,"

Willie Walsh reminded us. Nevertheless, we deserve to celebrate the hard work that has brought our industry back from the brink, while recognizing that we remain trapped between a fiercely competitive downstream environment and the lack of competition from the oligopolistic upstream supply chain (aircraft and equipment manufacturers Editor's note). On top of this comes onerous regulation.

While **IPCC scientists recommend a reduction in traffic** to achieve the goal of zero carbon emissions in air transport by 2050, IATA's **CEO asserts that it will not be necessary to reduce this growth. However, the investments required over the next few years will be colossal.** To achieve "zero net emissions" of CO₂, IATA is banking 65% on sustainable aviation fuels (SAF), which cost two to three times more than kerosene. The balance of the reductions will be achieved through new technologies, including hydrogen-powered aircraft, optimized ground and air operations, and carbon offsets. "The expected tripling of SAF production in 2024 compared with 2023 is encouraging," said Willie Walsh. This time, **the organization is counting on the support of states to set up raw material supply chains, get involved in production technologies...** By combining all possible political measures, we can produce sufficient quantities of SAF", insisted the IATA director. From one continent to the next, will efforts be aligned to decarbonize air travel as promised? One thing is certain: the industry's geographical panorama is set to continue transforming. According to IATA estimates, an additional 4 billion passengers are expected by **2043**, compared with the 5 billion expected by 2024. **North America and Europe are expected to decline slowly, while Asia-Pacific, already in the lead, will far outstrip these two continents, accounting for 46% of market share in 2043 versus 34.1% in 2023.**

To measure their growth ambitions, we need only look at the largest orders taken in recent months by a number of airlines and shareholder states.

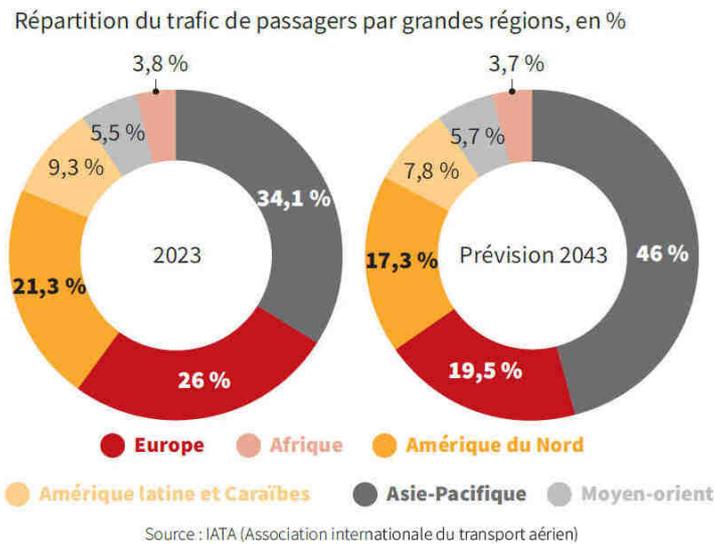
(...) Indian low-cost carrier IndiGo (...) placed an order for 500 A320 neo aircraft last year. Last April, (...) 30 A350-900s, (...).

Turkish Airlines added 220 Airbus aircraft to its already full order book (...), increasing the fleet from 435 to 810 aircraft.

(...)

Saudia Airlines ordered 105 A320 neo. Previously, the country's sovereign wealth fund had ordered 78 Boeing 787s.

(...)



My comment: *Despite growing awareness of ecological impact and the "shame of flying", demand and growth prospects for air traffic have never been higher.*

However, traffic development strategies vary considerably from one region to another.

European (and U.S.) markets are already relatively mature, and offer little scope for growth.

As a result, national or European policies aimed at imposing taxes, moderating traffic or promoting sobriety have a heavily negative impact on airlines on our continent, which is already heavily regulated.

Article Bonus

> Hydrogen: the great disillusion?

(source La Tribune) May 29, 2024 - February 24, 2022. Russian tanks cross the Ukrainian border, triggering a war between Moscow and Kiev. Taken by surprise, the European Commission is scrambling: how to replace the 155 cubic gigameters (Gm³) of gas that Russia supplies to the Old Continent, should Vladimir Putin turn off the tap?

To find a solution, she asked her advisors to draw up a strategic plan in...eight days. They came up with a patch: why not replace a large part of this gas with low-carbon hydrogen, obtained from "green" electricity? "In the rush, they simply converted the

volumes of gas to be found by the equivalent volume in hydrogen," explains an informed source to La Tribune. The REPowerEU roadmap calls for 20 million tonnes to be developed each year between now and the end of the decade, half of which would be imported. A "mistake", admits today behind the scenes the head of cabinet of Frans Timmermans, then Vice-President of the European Commission.

Two years on, these ambitions already seem to have withered. In early 2024, a study by the French Commissariat à l'énergie atomique et aux énergies alternatives (CEA) predicted consumption of only 2.5 million tonnes of decarbonated hydrogen per year by 2030. "There was a folly of grandeur, but we now realize that this molecule will not replace all gas, far from it," stresses a senior executive of a company that has invested in hydrogen. "Ludovic Leroy, business engineer at IFP Énergies nouvelles, adds: "We were ignoring physical principles; the soufflé was bound to fall back at some point.

Targets revised downwards

In fact, the current period seems to be one of a sudden return to reality... or even a form of disillusionment? In a report published in January, the International Energy Agency (IEA) points out that of the 360 gigawatts (GW) announced between now and 2030, only 12 GW are under construction or have reached a final investment decision. Last year, 1,400 projects were announced, of which 10% have been committed. This figure rose slightly in the second half of the year, but remains "too low", laments Pierre-Etienne Franc, Managing Director of Hy24, the manager of the world's largest fund dedicated to low-carbon hydrogen infrastructure. In fact, the IEA has revised its projections downwards: according to the organization, 45 GW of new green hydrogen production capacity will be operational by the end of 2028, i.e. only 7% of what previous projections forecast! The reason: a "lack of buyers", linked, among other things, to "uncertainties about the development of an international green hydrogen market" and "the impact of rising prices on production costs".

Even in the United States, the famous Inflation Reduction Act (IRA) investment plan, which attracted the interest of many manufacturers by promising subsidies of \$3 per kilogram of hydrogen, has still not been approved. And on the Old Continent, installations of electrolyzers (machines that extract hydrogen from water using an electric current) are still lagging behind: Europe has around 300 MW of capacity - including 30 MW in France - still a long way from the target of 6,500 MW by 2030 set out in the national strategy.

"There was some hype, but that's a classic phenomenon for a new technology. Hydrogen was expected to do in 10 years what liquefied natural gas has done in 50, and what renewable energies will deliver in almost 35. We've seen over-optimistic estimates, and now we're seeing new negative forecasts; the truth will be somewhere in between," says Pierre-Etienne Franc.

In Germany, where the government is extolling the virtues of this molecule, the unexpected is also happening. While the ruling coalition announced last summer that it would build 15 GW of gas-fired power plants that would switch to "green" hydrogen

by 2035 to produce low-carbon electricity, it recently postponed the conversion deadline to 2037. On Wednesday, the energy company RWE announced that it would use government tenders to build a gas-fired power plant capable of running on...up to 50% hydrogen. Based on calculations by equipment manufacturer General Electric Vernova (see page 6), this would reduce CO2 emissions by around 20% compared with 100% fossil gas.

And it's not just

gas turbines, which are not as "hydrogen-ready" as promised, that are experiencing difficulties: upstream, electrolyser manufacturers, who are supposed to develop the famous molecule, are also encountering technical problems in scaling it up. "There's a major issue of equipment reliability. Manufacturers dream of rapidly deploying projects of several dozen or even hundreds of megawatts (MW), but the reality on the ground is catching up with them", points out an industry expert. The main reason for this is the difficulty of managing the intermittent nature of the renewable energies that generate electricity to power these machines.

"The variability of wind and solar power means that components age more than expected. We're also seeing fluids behaving differently from what we saw on a small scale, as well as unexpected current densities, hot spots being created, and membrane damage," Ludovic Leroy lists. As a result, a number of equipment manufacturers are becoming increasingly wary of providing high performance guarantees. Added to this is the fact that most of the machines under construction or being tested today do not exceed 100 to 200 MW at most - a much higher output than the electrolyzers of a few megawatts developed up to now, but still largely insufficient in view of the objectives.

"Up to now, we've remained very much in the artisanal approach. And it has to be said that suppliers are unable to deliver in terms of quantity and quality.

ThyssenKrupp is struggling, as is McPhy," confided an executive from a major French group to La Tribune a few weeks ago.

Prices still very high By

the same token, "green" hydrogen remains very expensive, which makes many buyers wary. The results of a call for tenders launched by the European Commission at the end of 2023 bear witness to this: the seven winners chosen to produce the famous molecule have production costs ranging from €5 to €13 per kilogram...compared with only €1.50 to €2 for "grey" hydrogen, produced from natural gas.

"The projects selected are supposed to be the best bidders, but the Poles are proposing 13 euros per kilogram, the French 12 euros; it's a very expensive scheme! The Spanish and the Swedes are better, at 5 euros per kilogram, but that's still too expensive for a buyer," stresses Pierre-Etienne Franc.

Given that 1 kilogram of hydrogen contains 33.3 kWh, that comes to 150 euros/MWh. By way

of comparison, natural gas costs 7.3 euros/MWh in the United States and around 30 euros/MWh in Europe, noted the Financial Times recently. "Some analysts and project promoters are promising anything and everything, such as a target of 1 dollar

per kg in the United States by the end of the decade. It's completely unrealistic," says a stakeholder who requested anonymity.

Towards budget cuts?

In France, several stakeholders fear that the government may finally backtrack on its support for hydrogen produced by electrolysis. In August 2023, the government had announced the release of 4 billion euros in subsidies in the form of public-private contracts to support the development of projects. But almost a year later, "there's still nothing," points out Pierre-Etienne Franc. "I suspect that France, looking to make savings, is considering putting the brakes on. But now is not the time," he continues.

When questioned, the office of the French Minister for Industry and Energy, Roland Lescure, had no comment to make. It simply points out that the hydrogen strategy will be unveiled "in the summer" and that these public-private contracts "will be part of it". It remains to be seen for how much, in what form, and above all, whether "blue" hydrogen, obtained from fossil gas but with CO₂ capture, will also be involved.

My comment: *Currently, there are several industrial methods for producing sustainable aviation fuels (SAF), each using specific technologies and a variety of raw materials.*

Here are the main methods used:

Hydroprocessed Esters and Fatty Acids (HEFA):

Feedstocks: Vegetable oils, animal fats, used cooking oils.

Process: Raw materials are hydrogenated to remove impurities and saturate double bonds, producing paraffinic hydrocarbons. These hydrocarbons are then isomerized to produce an aviation-grade fuel.

Advantages: Well-established technology, compatible with current refinery infrastructures and fuel distribution systems.

Fischer-Tropsch (FT):

Feedstock: Biomass, solid waste, syngas from the gasification of feedstocks such as coal, natural gas or biomass.

Process: Gasification produces syngas (a mixture of CO and H₂), which is then catalytically converted into liquid hydrocarbons and refined into jet fuel.

Advantages: Flexibility in feedstock, can produce high-quality fuel with good emissions performance.

Alcohol-to-Jet (ATJ):

Feedstocks: Sugars, lignocellulose (woody biomass), other fermentable biomasses.

Process: Feedstocks are fermented to produce alcohols (such as ethanol or butanol), which are then dehydrated and oligomerized to produce hydrocarbons compatible with aviation fuel specifications.

Advantages: Uses well-mastered fermentation technologies and can incorporate non-food raw materials.

All three methods face the same difficulties:

First: sufficient feedstocks that do not compete with food.

Second: sufficient renewable energy to produce the necessary fuel.

You'll note that the use of hydrogen is not one of them. In my [letter 932](#), Lufthansa CEO Carsten Spohr estimated that it would take half of Germany's electricity to supply the company's fleet with synthetic fuels produced from hydrogen.

There is therefore an urgent need to invest in scientific research in order to significantly improve the yields of current processes, or to identify new, more efficient processes.

End of press review

> Air France-KLM share price trend

Air France-KLM shares closed at **10.450 euros** on Friday June 7. It is **virtually stable this week (-0.24%)**.

It was 12.53 euros on January 2, 2023, and 17.77 euros on June 19, 2023.

The analysts' 12-month average (consensus) for AF-KLM shares is 15.09 euros (it was 15.0 euros at the beginning of January 2023). The highest price target is 23.00 euros, the lowest 9 euros. I only take into account analysts' opinions subsequent to the May 2022 capital increase.

You can find [details of the analyst consensus](#) on my blog.

My comment: *After fluctuating between 9.50 and 10 euros following the announcement of the 2023 annual results, Air France-KLM's share price has been regularly above 10 euros for the past month and a half.*

First-quarter results have reassured investors somewhat.

> Fuel price trends this week

The price of a barrel of Jet Fuel in Europe is down \$1 to \$98. It was \$94 at the end of June 2023, and \$79 before the outbreak of war in Ukraine.

Brent crude oil (North Sea) is **down \$1 to \$80 per barrel**.

From mid-February 2022 to the end of July 2022, it was yo-yoing between \$100 and \$120. Since then, it has oscillated between \$75 and \$99.

***My new comment:** Since the beginning of the year, the price of a barrel of oil has been relatively stable. It fluctuates between \$80 and \$90.*

The price of a barrel of Jet Fuel in Europe is falling steadily, from \$120 to \$100.

The spread between Jet Fuel in Europe and Brent crude oil has followed the same trajectory as Jet Fuel, approaching its pre-Ukraine level.

> **FCPE management**

When you invest in one of Air France's FCPE funds, you obtain shares in these funds. You do not hold shares directly.

It is the supervisory boards, which you elected in July 2021 for a five-year term, that manage the funds and make the decisions.

The Aeroactions, Majoractions and Concorde funds only hold Air France shares.

The Horizon Épargne Actions (HEA), Horizon Épargne Mixte (HEM) and Horizon Épargne Taux (HET) funds manage portfolios of various equities.

***My comment:** If you'd like to find out more about how the various Air France FCPEs are managed, please [visit the Air France-KLM Employee Share Ownership section of my website](#).*

Details

This information does not constitute a solicitation to buy or sell Air France-KLM shares.

You can react to this press review or send me any information or thoughts that will help me to keep you better informed.

By return, you can ask me any questions you may have about the

Air France-KLM group or employee share ownership...

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| François Robardet

Represented Air France-KLM's employee and former employee PS and PNC shareholders.

You can find me on my twitter account @FrRobardet

When I was elected, I received the support of the CFDT and the UNPNC.

This press review deals with subjects linked to Air France-KLM shareholding.

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