IN THE CLOUDS OR ON SOLID GROUND?
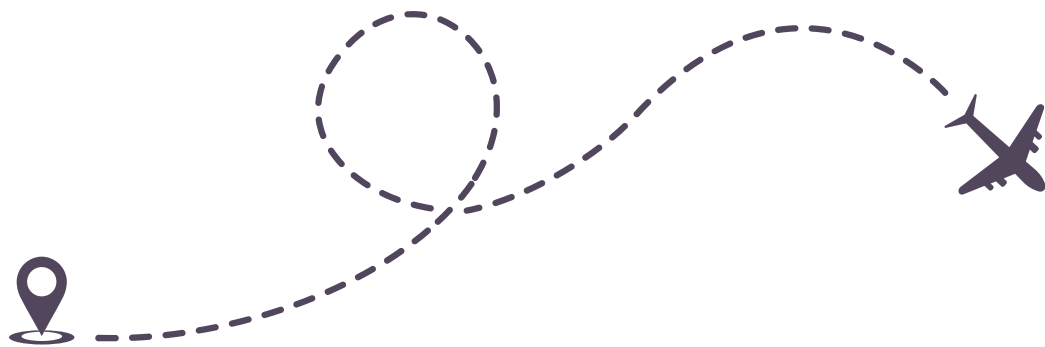
Mapping KLM's dominant and counter-discourses on aviation and climate change

Jimena Natalia Diamint
MSc Thesis
Wageningen University & Research

In the clouds or on solid ground?
Mapping KLM's dominant and counter-discourses on aviation and climate change

A thesis submitted in partial fulfilment for the degree of Master of Science in Tourism, Society and Environment

Wageningen University & Research
Department of Environmental Sciences
Cultural Geography Chair Group
Theiss code: GEO-80436

Jimena Natalia Diamint
Registration number: 1108530

Wageningen, 11th of April 2023

Supervisor: Dr.ir. Martijn Duineveld
Co-supervisor: Phd candidate Cheryl van Adrichem
Examiner: Prof. Dr. Edward H Huijbens

Preface

I wrote this thesis as a response to the topic that drove me to study this master in Tourism, Society and Environment. How to reconcile travelling and climate change, especially when travel needs to be done by flying? There is no final answer for this topic in the following pages, but an exploration of the problem and an invitation for the readers to reflect about how we travel, opening space for dialog.

Firstly, I share my deepest gratitude to the participants of this study that generously shared their time and honest opinions about the complex issue of decarbonising aviation. Without your input, this thesis will not have been possible. I know that we are all looking for a better, greener future ahead, and while we might disagree on how to get there, we must recognise this as a hopeful point of departure.

I also thank my supervisors, Martijn Duineveld and Cheryl van Adrichem, for all the unwavering support, feedback, and discussions. Your guidance and encouraging words were crucial, and your confidence fuelled mine when the obstacles seemed too hard to overcome. I can truly say that you make a great team.

Lastly, I would like to thank my family and friends for the love, companionship, and care you showed me when whenever I needed it. Either back home or right here in Wageningen, this thesis reflects the multitude of people I am built of. For that, and much more, I dedicate this thesis to you.

Jimena Natalia Diamint
Wageningen, April 2023

Abstract

The aviation industry believes that technological innovations can solve the climate problem with air travel, while academics and activists argue for reducing demand through policies and regulations. This thesis views those debates as different discurses about flying and climate change. The purpose of this research is to investigate the discourses within the aviation industry about the net-zero strategy, with a focus on identifying dominant and counter-discourses and understanding how they are legitimised and delegitimised. This was done through a qualitative case study of KLM Royal Dutch Airlines, analyzing official documents, website communications, and in-depth interviews with employees. Through the mapping of story-lines, narrative fragments that form a discourse, three dominant and counter-discourses were identified. In the hegemonic position, KLM is on the right path to decarbonise aviation, it pushes the responsibility to act to others and maintain that flying is too essential to be deemed morally wrong. The counter-discourses express disagreement with KLM's current net-zero strategy, emphasise that the airline should take initative to mitigate emissions and posit that environmental considerations are crucial when deciding whether to fly. The analysis through legitmimation mechanisms found that the counter-discourse legitimises itself by delegitimising the dominant discourse and the dominant discourse is self-referential, leading it to resist apparent contradictions and challenges from opposing discourses. I conclude that the academic disourse has influenced the airline discourses, leading to the emergence of counter-discourses that exist at the margins. Thus, it cannot be said, that they are able to produce change within the organisation. Future research could delve deeper into the power structures that uphold the prevailing discourse of the aviation industry.

Keywords: aviation, discourse, counter-discourse, story-lines, legitimation

Table of Contents

List of tables and figures

Abbreviations & Glossary

Carbon capture	The process of capturing and storing CO2 so that it cannot be released back in the atmosphere
Carbon offsetting	The practice of compensating for carbon emissions by funding projects that reduce or remove carbon dioxide from the atmosphere, such as reforestation or renewable energy initiatives
European Union Emission Trading Scheme	The EU ETS is a cap-and-trade system aimed at reducing greenhouse gas emissions from industrial sectors in the European Union.
Nationally Determined Contributions	Voluntary national strategies outlining actions to address climate change, including goals for reducing greenhouse gas emissions.
Sustainable Aviation Fuels	A jet fuel, made from renewable sources like used cooking oil that can be used as an alternative to traditional fossil fuels in aircraft engines, with lower carbon emissions.
Synthetic fuels	Created from sources like natural gas or biomass and can replace traditional fossil fuels. They may help reduce greenhouse gas emissions, but it is still on testing phases.
[Airport] Slot	Airport slots are permission given to airlines to use an airport's facilities (such as runways, terminals, and gates) for takeoff or landing. Slots are scarce because they depend on the capacity of the airport.

List of abbreviations

CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
EU ETS	European Union Emission Trading Scheme
IATA	International Air Travel Association
ICAO	International Civil Aviation Organisation
NDC	Nationally Determined Contributions
SAF	Sustainable Aviation Fuels

1.

INTRODUCTION
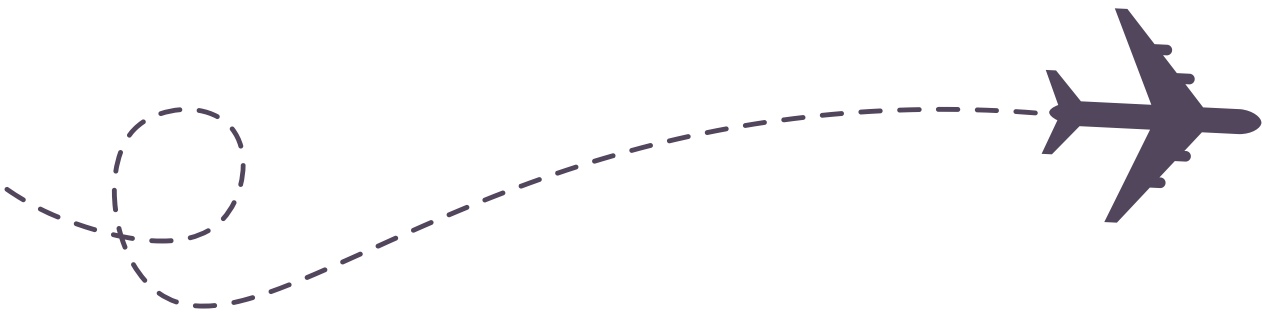
1. Introduction

When the topic of flying and climate change appears, two different and opposing perspectives can be seen. One is the industry narrative that mostly banks on technological innovation and government incentives and refuses restrictive policies to achieve the decarbonisation targets. The others are the perceptions from academia and activist groups that shed doubts on the capacity of technological innovations to decarbonise aviation successfully and posit more strict climate policies for the aviation industry. Leveraging discourse theory and concepts about (de)legitimation, this thesis will research the discourses about flying, climate change, and the decarbonisation path produced by and within an airline.

1.1 The airline industry's climate change strategy

It seems that long gone are the years when the aviation industry outright denied climate change (Irfan, 2019). Nowadays, airlines, airports, and aircraft manufacturers recognise the climate problem with flying and have presented plans and strategies to reach the carbon neutrality goals required by the Paris Agreement (IATA, n.d.; ICAO, n.d., 2022). The global airline industry, represented by the International Air Travel Association (IATA), has committed to achieving net-zero carbon emissions by 2050 in line with keeping the temperature increase at 1.5ºC (IATA, n.d.). Their strategy is to eliminate carbon emissions at the source through (a) the substitution of fossil fuels with Sustainable Aviation Fuel (SAF), which accounts for 65% of emission reductions, (b) the implementation of new technology, (c) infrastructural and operational efficiencies, and (d) carbon storage and offsets, accounting for 19% of reductions (IATA, 2021). European airlines have jointly put forward a similar plan for sustainable aviation called Destination 2050, with four main avenues to decarbonise flying: improving aircraft and engine technology; improving management and operations; using SAF, and engaging with the carbon credit market and carbon removal projects (NLR, n.d.). These plans, they claim, would be enough to achieve the needed carbon reduction until 2050.

Notably, none of the sector-wide strategies aimed at mitigating carbon emissions mention reducing flight numbers or passenger volumes. The Destination 2050 (n.d.) net-zero strategy even projects a 1.4% growth in European passenger numbers between 2018 and 2050. IATA also does not mention any initiative to reduce passenger numbers (IATA, n.d.). Instead, their narrative is to oppose limiting the sector's expansion, stating that "limiting flying with retrograde and punitive taxes would stifle investment and could limit flying to the wealthy" (IATA, 2021, para. 12). This reflects the industry's stance toward governmental initiatives. While calling for government support to help decarbonise aviation, the only measures sought by the industry are those that stimulate investment in sustainable innovations and SAF, as well as requesting support for the needed energy transition and to realise the Single

European Sky, which optimises flight routes by flying through military zones (NLR, n.d.).

In the discourse of the aviation industry, the climate problem caused by flying can be successfully addressed mainly through technological innovations, as well as carbon purchasing or carbon offsets, without addressing passenger volumes. Notably, this perspective also opposes restrictive policy measures that would diminish demand for air travel, focusing only on economically positive instruments, such as investments and stimuli.

1.2 Critical outlook from activists and academia

There is notable opposition to the position of the aviation industry from academia and activist groups (10:10 Climate Action, 2019; A free ride, n.d.; Haßler et al., 2020). The industry's strategy to tackle climate change has been problematised in many studies that do not consider technological innovations to be enough to achieve the sector's climate goals (Gössling et al., 2021; Gössling & Humpe, 2023; Higham et al., 2019, 2022; Köves & Bajmócy, 2022; Peeters et al., 2019). They agree that aviation is a particularly hard sector to decarbonise, which makes a net-zero scenario in 2050 hard to reach, particularly considering the industry's current climate impact and previewed growth. SAF, the main bet of the industry, has many obstacles to be manufactured on a large scale, such as high production costs and land competition with crops for food (Gössling et al., 2021; Gössling & Lyle, 2021). Other pillars of the strategy, such as the carbon offsetting offered by airlines, have been found to be scientifically dubious regarding their actual offsetting capacities (Becken & Mackey, 2017).

There seems to be a relative consensus from academics and activist groups that comprehensive policy mechanisms that act beyond taxing carbon emissions are needed to realistically achieve the climate targets for aviation (10:10 Climate Action, 2019; A free ride, n.d.; Gössling & Lyle, 2021; Haßler et al., 2020; Larsson et al., 2020; Peeters, 2017; Peeters et al., 2019). For instance, when reviewing CORSIA and ETS mechanisms, Larsson et al. (2019) found that other nationally bound policy instruments, such as passenger taxes and mandatory quotas for biofuels, should be implemented to help aviation stay below a 2°C climate target. In a similar light, Gössling & Lyle (2021) point to transition policies, a mix of policy proposals that could achieve system change for the air travel sector since they would influence the spheres of demand for air travel, technology, and social norms.

Another perspective of this discourse is the mistrust in the policy-related positions of the airlines. While there have been improvements in the aviation sector regarding their climate engagements, airlines have acted in relative unison to block or discourage policy proposals, including ticket taxes, carbon taxes and demand management policies (InfluenceMap, 2022). Other research corroborates this perspective, where findings point out that collective efforts in the form of lobbying, greenwashing and

financial instruments are also employed to resist more effective carbon mitigation policies (Gössling & Lyle, 2021; InfluenceMap, 2022).

1.3 This research in context

This research situates itself in the literature about aviation and climate change that critically reflects on the obstacles to decarbonising aviation and highlights that change is needed to comprehensively address the climate problem. More specifically, it takes a discursive perspective to address this issue, touching upon the need for a discourse change. The following paragraphs will touch upon these topics.

The aviation industry's positions on climate change have been the subject of some research, mainly focused on corporate communications (Burns & Cowlishaw, 2014; Gössling & Peeters, 2007; Guix et al., 2022; Köves & Bajmócy, 2022; Ullström et al., 2021). These studies, for example, found that the aviation industry enlists a discourse of technological innovation, positioning the industry in a green light, even if it means misrepresenting scientific data (Burns & Cowlishaw, 2014; Gössling & Peeters, 2007; Guix et al., 2022). In addition, the aviation industry tends to put the responsibility on consumers to help decarbonise air travel (Burns & Cowlishaw, 2014; Guix et al., 2022; Köves & Bajmócy, 2022), systematically opposing taxation or restrictive measures that would impact their activities in any way (Burns & Cowlishaw, 2014). Moreover, research points out that the industry highlights the social and economic benefits of air travel and mentions that it is an activity enjoyed by the global population (Gössling et al., 2019; Gössling & Dolnicar, 2022; Gössling & Humpe, 2020).

There has been extensive research that maps the problems that air travel has for the environment (Gössling & Humpe, 2020, 2023; Gössling & Lyle, 2021; Higham et al., 2016, 2019, 2022; Lee et al., 2021; Peeters, 2017; Peeters et al., 2019). In general, this line of research sheds heavy doubts about the possibilities for the previewed technological innovations, such as SAF, new aircraft or improved energy efficiency, to mitigate CO2 emissions from aviation at the pace needed to reach the Paris Agreement targets (Gössling & Humpe, 2023; Gössling & Lyle, 2021; Mastini et al., 2021; Peeters et al., 2016). Other research has pointed out that contrary to industry beliefs, flying is a highly unequal activity, with skewed distribution around the world and through social classes (Gössling & Humpe, 2020; Higham et al., 2016).

Furthermore, understanding that the problem with aviation is not only technological but has a social component, research has also focused on studying behaviour and perceptions about aviation and climate change (Alcock et al., 2017; Gössling et al., 2019; Gössling & Dolnicar, 2022; Higham et al., 2019; Ullström et al., 2021). To that effect, studies have found that consumers understand that air travel is harmful to the environment but may not be ready to give up flying (Gössling et al., 2019). Nonetheless, the recent flight shame movement appears to start shifting these norms, with consumers more conscious about the negative aspects of air travel (Gössling et

al., 2020) and more prone to accept regulations that would restrict flying (Ullström et al., 2021), albeit results show different implications per country (Higham et al., 2016).

Many researchers focused on studying policies in relation to aviation. This research strand criticises the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) for being ineffective enough to decarbonise aviation (Gössling & Lyle, 2021; Higham et al., 2016; Larsson et al., 2019). Thus, researchers have been considering a mix of policy proposals and comprehensive transition policies for the industry to achieve a system change, including more restrictive proposals, such as carbon or passenger taxes (Gössling & Dolnicar, 2022; Gössling & Lyle, 2021; Peeters, 2017; Peeters et al., 2019). Questions of social justice in the implementation of taxes for air travel have also been researched, where it was found that taxing frequent flying, thus reducing demand for air travel, impacts the wealthiest and has minimal welfare consequences (Büchs & Mattioli, 2022; Fouquet & O'Garra, 2020). Scholars have also pointed out that coordinated policy proposals at a sub-global level would be the most effective path to reach this emission reduction (Higham et al., 2019).

In light of all the complexities related to climate change and aviation, research points to the need for extensive transformation to solve the climate problem with aviation (Gössling & Humpe, 2023; Gössling & Lyle, 2021; Higham et al., 2022; Köves & Bajmócy, 2022). Within those strategies, considerations have been given to developing new business models to enhance the scalability of more sustainable fuels (Gössling & Humpe, 2023), utilising policy to redesign the current global aviation business model away from the current volume growth system (Higham et al., 2022), broaden transition policies into the technological, market and behavioural spheres (Gössling & Lyle, 2021), or accepting an alternative degrowth perspective focused on social and environmental concerns (Köves & Bajmócy, 2022). While these studies have focused on proposals and avenues for change, they have not touched upon how change comes about.

On that topic, numerous studies (Buijs et al., 2014; Fleming et al., 2014; Nielsen, 2014) have been conducted on policy and discourse change in the environmental domain. According to one study on climate change discourses, identifying how some discourses present obstacles to thought could pave the way for new perspectives and approaches to tackle the problem of climate change (Fleming et al., 2014). Moreover, a study on a forest-based project aimed at mitigating carbon emissions showed that, although the critical counter-discourse that challenged the dominant discourse of ecological modernisation had a minority influence on the debate, it still managed to exert some impact on the project's decision-making (Nielsen, 2014). In addition, one research emphasised the critical role of agency in changing the dominant discourses of nature conservation in the Netherlands, where the counter-discourse enacted at the local level changed dominant practices and played a role in policy discussions (Buijs et al., 2014). These studies highlight the critical role that counter-discourses enact as

possible vehicles of change since they might enable different perspectives that oppose the dominant discourse. To the best of my knowledge, research has yet to specifically address the issue of policy and discourse change associated with aviation.

This thesis takes a Foucauldian approach and conceptualises the opposing perspectives previously presented on flying, climate change, and possible paths to decarbonise aviation as diverging discourses (Hajer, 1995; Young, 1981). Different discourses coexist in the same arena, where the dominant discourses successfully reproduce worldviews about a topic, and counter-discourses challenge the dominant worldview while simultaneously being challenged by it (Hajer, 1995; Nielsen, 2014). To analyse power, change, and permanence in the discourses, I will leverage the concepts of legitimation and delegitimation. Legitimation is the process of justifying social practices, norms, values, identities, or groups providing support to certain positions, while delegitimation occurs when those elements are disallowed (Björkvall & Westberg, 2021; van Dijk, 2000; van Leeuwen, 2008).

Thus, the purpose of my research is to examine the dominant discourses about air travel and climate change in the aviation industry, and to identify counter-discourses. This thesis will contribute to the research gap in the literature on discourse change within the aviation industry. To this avail, I will conduct a case study on KLM Royal Dutch Airlines to investigate both the corporate discourse and the discourses voiced by the airline employees. By doing so, I expect to contribute to the research on aviation discourses about climate change by updating the state-of-the-art knowledge and offering new insights through the inclusion of employee discourses.

1.4 Research question & objectives

Having stated the background and problem statement, I posit the main research question of this thesis research:

How are the discourses and counter-discourses within an airline about its net-zero strategy legitimised or delegitimised?

To answer this research question, the following sub-questions will be answered:
1. What is the corporate discourse of an airline about its net-zero strategy?
2. What are the dominant discourses of airline employees about the company's net-zero strategy?
3. What are the counter-discourses of airline employees about the company's net-zero strategy?
4. How do the mechanisms that legitimise or delegitimise those discourses operate?

Research objectives

- Identify the context and timeline of the corporate discourse about the path toward net-zero aviation
- Discover what the dominant discourses about the path toward net-zero aviation are
- Understand what the counter-discourses about the path toward net-zero aviation are
- Identify how are the dominant and counter-discourses legitimised or delegitimised

1.5 Situating the case study

This thesis will use KLM Royal Dutch Airlines as its case study, hereafter KLM. One of the main advantages of studying KLM is that the boundaries of the research are well-defined, allowing for a clear scope when analysing the corporate discourse of the airline. The dominant and counter-discourses from airline employees are also possible to be assessed due to the easiness of identifying employees from the company.

In addition, the airline's position as a significant player in the aviation industry, its commitment to sustainable technology for air travel, and its involvement in environmental campaigns and greenwashing lawsuits make it a compelling case for this academic inquiry. As the national airline of the Netherlands, KLM holds a prominent place in the country's economy and has a global reach connecting the Netherlands to the rest of the world. "KLM connects the Netherlands to the world and connects the world to the Netherlands. With 35,500 staff and a global network of 166 destinations, KLM is a crucial catalyst of the export-orientated Dutch economy. (KLM, 2018, p. 14)". Additionally, KLM has been taking several steps to mitigate the carbon emissions from its operations and being involved in research to develop sustainable technology.

Furthermore, KLM is situated in a European country that is highly invested in climate change issues, making it a focal point for discourses surrounding environmental sustainability in the aviation industry. Finally, as the subject of a greenwashing lawsuit, KLM's employees have had to grapple with opposing discourses, bringing questions of discourses about climate change to the forefront of their minds. Bearing those points in mind, the relevance of choosing KLM to explore dominant and counter-discourses in an airline becomes clear.

1.6 Outline of the thesis

This thesis is divided into seven chapters. Following the introduction in this first chapter, the **second chapter** will outline the literature review used in this thesis, providing a comprehensive context of the research regarding aviation's problems with climate change and possible solutions. In the literature review, research about discourses in aviation is also presented.

The **third chapter** contains the theoretical framework, which is divided into two subsections: discourse theory and (de)legitimation concepts. In this section, the conceptual framework is also explained.

The **fourth chapter** explains the methodology, containing the research design, data collection methods and analysis, validity, ethical considerations, positionality, and methodological limitations of this research.

The **fifth chapter** is the thesis's core and contains the document analysis results and the interviews translated into discourses. First, the corporate discourse is contextualised. Then, the discourses identified are separated into subchapters of dominant and counter-discourses. At the end of the fourth chapter, an analysis of the results is performed.

The **sixth chapter** holds the discussion. The results are critically compared with the literature, and novel findings and limitations are explained. At the end of this chapter, recommendations are made for future research.

The **seventh chapter** contains the conclusion. Here the research questions are answered, and the value of this research is stated for academia and society.

2.

LITERATURE REVIEW
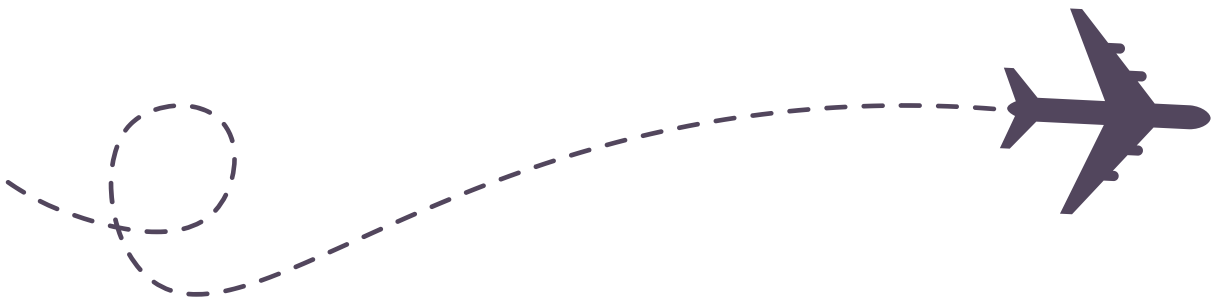
2. Literature Review

This chapter will deepen the literature about aviation discourses and aviation and climate change with a two-part literature review. The first part provides an overview of the existing research on the strategy, ideas, and assumptions of the aviation industry, here understood as the discourse of the airlines. The second part focuses on the scientific understanding of the decarbonisation paths for aviation, as well as the latest research findings in this area, that form the academic discourse.

2.1 Aviation and climate change: the perspective of airlines

The aviation industry's discourses about their involvement with climate change have been the subject of growing research in the past decades. This research has been focused on official corporate communications, such as marketing strategies and industry-wide reports (Burns & Cowlishaw, 2014; Gössling & Peeters, 2007; Guix et al., 2022; Köves & Bajmócy, 2022; Ullström et al., 2021). In this section, the airline perspectives and arguments will be presented through a review of scholarly research on the topic.

2.1.1 Green narratives

One general finding in this line of research relates to green narratives that place the aviation sector in a sustainable light. An inaugural research by Gössling & Peeters (2007) found four main arguments that the aviation industry propagates: (1) air travel is energy efficient, (2) its societal role is too important to restrict, (3) technology will solve the sector's pollution problems and (4) airlines suffer from unfair treatment if compared to the rest of the transport sector. More recent scholarly literature (Burns & Cowlishaw, 2014; Gössling et al., 2010; Guix et al., 2022; Köves & Bajmócy, 2022; Peeters et al., 2016) still corroborates those findings.

Köves & Bajmócy (2022) found that the industry interprets scientific facts to position aviation as an efficient industry with marginal CO2 impacts. To this effect, the sector compares its climate change contribution to other industries, such as steel or the maritime and terrestrial transport sector, arguing that the 2-3% share that aviation contributes to climate change is not as significant (Burns & Cowlishaw, 2014). Peeters et al. (2016) found that the aviation industry imparts a narrative of technological innovation, including innovative aircraft technology or alternative energy sources, constituting technology myths that imply that new developments would be enough to solve the climate problem. Some researchers argue that those claims are not aligned with scientific data about aircraft technology nor the projections for their efficiency or scaled use (Gössling & Peeters, 2007; Peeters et al., 2016). For instance, some researchers posit that fuel efficiency gains that would help diminish carbon emissions are overstated; such gains were significant in the 60s but have diminished in the 2000s (Gössling et al., 2010). Regarding the use of SAF, which is a central pillar of the

strategies to decarbonise aviation, the industry believes that scaling up its production is possible and will not negatively affect agriculture, biodiversity, and water availability (Köves & Bajmócy, 2022). What such narratives seem to achieve is the continuous recycling of the promise of sustainable aviation by keeping attention focused on technology instead of on policy initiatives that could make aviation more sustainable (Peeters et al., 2016).

A recent study on airline's communication on carbon offsetting found that half of that communication was misleading, by, among other reasons, misinterpreting scientific facts, hiding the negative consequences of offsetting, and making vague claims that could confuse customers (Guix et al., 2022). This is done by, for example, claiming that flying neutral is possible through carbon offsets or that green technology would soon be implemented to make flying sustainable in the near future (Burns & Cowlishaw, 2014; Guix et al., 2022). Another research comparing the communication on climate change of UK airlines found discrepancies in the data presented about aviation's climate impacts, a strong belief in technology as the solution to carbon-neutral flying, the responsibility for diminishing emissions placed on consumers, and emphasis on the socio-economic benefits of air travel (Burns & Cowlishaw, 2014).

The main conclusion of this line of research is that aviation puts forward a green narrative to defend its activities "with the goal of creating a public understanding of progress on mitigation, obfuscating a reality of continuous emission growth." (Gössling & Humpe, 2023, p. 2). In this discourse, the growth of aviation is normalised since mitigation efforts are already in place, and future developments of low-carbon technology have the potential to successfully reduce emissions.

2.1.2 Consumer responsibilities
Another discursive line that airlines propagate, according to Burns & Cowlishaw and Guix et al. (2014; 2022), is allocating the responsibility for mitigating the climate impact of flying to the consumers. This is done mainly by presenting carbon offsetting contributions as a guilt-free way of travelling without CO_2 impacts (Guix et al., 2022). Consumers are then framed as the responsible ones to diminish the polluting impact of flying at the same time that the act of flying is justified by presenting an easy fix to lower individual CO_2 emissions. This discursive strategy reinforces the importance of carbon offsetting and matches the industry's strategy that considers carbon offsetting as one of the main pillars of reducing emissions from flying (Köves & Bajmócy, 2022).

2.1.3 Confidence in obtaining climate goals
Regarding the industry's climate strategy, the belief is that their climate goals for 2050 can be attained with the cooperation of other sectors of the economy and perhaps with the need for carbon capturing (Köves & Bajmócy, 2022). The expectation is that the strategy of aircraft technological innovations, using alternative fuel sources, and offsetting carbon practices might be enough to decouple growth from emissions. If that

will not materialise, the need to capture carbon from the atmosphere is already considered a possibility in the long term (Köves & Bajmócy, 2022). Their outlook on the future seems to be optimistic since they consider that future technological advancements could achieve carbon-neutral flying, and this could even be accelerated: "With enough money, anything can be sped up, but only as far as technology, materials and politics allow." (ATAG, 2020 as cited in Köves & Bajmócy, 2022)

2.1.4 Aviation positives outweigh the negatives

Another narrative of the aviation industry is that air travel benefits and engages the entire globe (Gössling & Humpe, 2020). Airlines tend to defend their existence by claiming that the positive gains from air travel, such as contributing to the global economy and global social cohesiveness, outweigh the negative environmental consequences that are part of flying (Burns & Cowlishaw, 2014; Gössling & Peeters, 2007). Köves & Bajmócy (2022) found that the aviation industry also argues that their growth plans are necessary because air travel is crucial for the economic expansion of developing nations, and reducing air travel would be unfair as developed countries have enjoyed unlimited access to flying for decades.

Similarly, Gössling et al. (2019) stated that aviation maintains two main arguments to justify its growth in activity. One of them is that there is no intrinsic moral value in flying; moral considerations relate to the needs and purposes of taking a flight and can be justifiable due to aviation's contribution to society by being a catalyst of global economic relationships. The other argument enlisted is that air travel is a social norm enjoyed by large parts of the population. This, however, does not recognise that flying is an activity only for the few. Such a consideration is also important because flying has become normalised; it is seen as a fundamental right, an indispensable freedom (Gössling & Dolnicar, 2022).

2.1.5 Opposition to policy

Researchers have found that the sector employs alternative narratives to defend its operations and resist policies that aim to limit them. Gössling & Peeters (2007) explain that airlines claim to be subject to unfair competition with other transport methods and highlight their service as an indispensable infrastructural pillar for modern society, bringing economic and social gains for all. Moreover, Burns and Cowlishaw (2014) explain that UK airlines are outspoken about their opposition to restrictive market-based policies because, as they claim, such policies are not well suited to diminish emissions from aviation. Nonetheless, as airlines reject this type of government involvement, they ask for extensive collaboration between the aviation industry and governments, research institutions, financial organisations, and the energy sector to help them innovate at the rhythm needed to reach the 2050 climate targets (Köves & Bajmócy, 2022).

2.2 Aviation and climate change: the perspective of academics

While the research that explores the arguments and narratives of the aviation industry uncovers its perspectives on air travel and climate change, the research presented in this section represents the academic considerations and critical appraisal of aviation's contribution to climate change.

2.2.1 Environmental problem of flying

Extensive research points to the problems that air travel causes on the environment, namely its contribution to climate change (Gössling, 2020; Gössling et al., 2021; Gössling & Humpe, 2020; Lee et al., 2021; Peeters, 2017; Peeters et al., 2016, 2019). Aviation has been at the centre of climate change dilemmas for its polluting impact. Research on the topic highlights that air travel is one of the most energy-intensive forms of transportation, where the sector's estimated contribution to all man-made CO_2 emissions is around 2.4% - 2.8% (Gössling, 2020; Gössling et al., 2021; Lee et al., 2021). Other primary emissions from aviation are NOx and water vapours, which have the potential to form contrails (Lee et al., 2021), white, tail-shaped clouds that can trap heat and are considered an important contributor to climate change from non-CO_2 sources. Together, this means that aviation's contribution to all anthropogenic radiative forcing increases to 3.5% (Gössling & Humpe, 2020; Lee et al., 2021). The tourism sector's contribution to global carbon emissions is 5%, but 40% of that share came from aviation (Higham et al., 2019). In addition, the sector's share of emissions is predicted to grow as other industries and areas of the economy decarbonise faster than aviation (Higham et al., 2016)

Air travel's impact on climate change is considered to be even more worrisome due to the sector's forecasted growth. Airlines have presented intensive growth in passenger volumes and CO_2 emissions until the COVID-19 pandemic. Between 1960 and 2018, aviation's emissions grew by a factor of 6.8, reaching in 2018 a record of more than 1000 million tonnes of CO_2 per year (Lee et al., 2021). From 2010 to 2030, the global air fleet is predicted to double, reaching 40,000 aircraft (Peeters et al., 2016). While the pandemic had an immediately disruptive effect on the sector's numbers, this trend will be reverted. In 2020 there was an already visible rebound in passenger numbers, and the likely scenario is that they will continue growing until 2050, with emissions from aviation previewed to double or triple from 2020 numbers (Gössling et al., 2021).

2.2.2 Technofix

The industry has been banking on technological updates such as using more sustainable aircraft and developing SAF to decouple its economic growth from its carbon emissions. However, academic research (Gössling & Humpe, 2023; Gössling & Lyle, 2021; Higham et al., 2019, 2022; Mastini et al., 2021; Peeters et al., 2019) points out that these technologies are not advanced enough to represent an actual drop in polluting sources at the required speed to keep up with the International Paris

Agreement. Thus, "a general conclusion in this line of research is that aviation will not meet its climate goals unless very significant barriers of technology adoption and fuel transition are overcome." (Gössling & Humpe, 2023, p. 3). Studies have pointed out that initiatives such as SAF, more fuel-efficient engines, and electric or hydrogen-powered planes are not likely to be developed at the rate and rhythm needed to effectively decarbonise aviation (Gössling & Humpe, 2023; Gössling & Lyle, 2021; Higham et al., 2019, 2022; Mastini et al., 2021; Peeters et al., 2019).

The aviation industry considers SAF as one of their main bets to reduce the carbon footprint from flying. Although reducing emissions through technology innovation is possible in theory, the academic consensus is that the inability to produce synthetic fuels on a large scale is a major obstacle (Gössling & Humpe, 2023). Such fuels are already being produced but are scarcely implemented around the industry since manufacturing them on a large scale is difficult mostly because of high production and energy costs and land competition (Gössling et al., 2021; Gössling & Lyle, 2021). Moreover, research has shown that while SAF does diminish carbon emissions in their lifecycle, they cannot be deemed net-zero and synthetic fuels that have lower carbon contents are only now being tested (Gössling & Humpe, 2023).

Fuel efficiency has increased due to more efficient and modern aircraft development. Nevertheless, while these gains have been notably pronounced from 1960 to 2000, with fuel use declining by 70%, the gains have been more modest during the last two decades (Peeters et al., 2016) since there seems to be a limit to the achieved technology advancements. Some researchers predict fuel gains of less than 1% after the year 2020 (Peeters & Middel, 2007., as in Peeters et al., 2016), which could become a problem for the aviation industry's climate goals.

Lastly, even though electric or hydrogen-based aircraft have been deemed interesting proposals for climate-neutral aviation, they will not be a reality in the short/medium term. Lithium batteries need to increase their efficiency and diminish in size to make electric flying possible (Gössling & Lyle, 2021), and the technology is yet to be developed and tested for hydrogen-powered aircraft. Further, airports would need many infrastructural updates to allow hydrogen flying (Peeters, 2017). In addition, while Airbus estimates the first hydrogen-powered zero-emission aircraft to be ready for purchase by 2035, researchers point out that its commercial entry is unlikely to happen before 2050 (Gössling & Humpe, 2023).

There are many caveats about the aviation industry's feasibility of achieving technological innovations that would decarbonise their activities. Such a scenario, allied with the current growth business model, leads researchers to point out that the sector's contribution to climate change will likely grow if growth is not addressed (Gössling & Humpe, 2023).

2.2.3 Inequalities from flying

In addition to the sector's contribution to climate change, research (Gössling, 2020; Gössling & Humpe, 2020; Higham et al., 2016) points out that emissions from air travel are unequally distributed. The consequences of carbon emissions affect everyone, but only a selected few benefit from air travel. Evidence shows that only "a few percent of the world population fly internationally in a given year" (Peeters et al., 2007 as in Gössling, 2020, p. 2). One more layer of complexity is added when looking at the worldwide distribution of flights. Gössling & Humpe (2020) leveraged various databases of passengers, flights, wealth and emissions distributions around the globe to understand how air travel and its emissions are spread worldwide. Some key findings from their research confirm that the global demand for aviation is skewed regionally. Wealthier regions such as North America and Europe have a significantly larger portion of air travel: 25.6% and 22.7%, respectively. Nationally, the weight of the USA comes forward as the biggest CO_2 emitter, more than the next ten countries combined (161 Mt CO2).

The most striking finding about the inequality of air travel comes from the individual distributions of flights in the population. Gössling & Humpe (2020) found that only 11% of the population engages in air travel in a year, while up to 26% of air travellers take only one trip per year. Leveraging surveys from wealthy countries such as the USA, Germany and Taiwan, they came to the conservative estimation that 10% of the most frequent fliers take 40% of all flights. This also means that 1% of the world population accounts for 50% of emissions from commercial air travel. While these figures need to be considered as estimates, they are important in showing how unequal air travel is. Most of the world's population does not travel by plane, and from the small parcel of the world that does, the wealthiest individuals have much higher air travel patterns than half of the commercial aviation emissions belong to them.

Lastly, it is worth addressing the claim that air travel has been distributed after the advent of low-cost carriers. Research points out that this is not the case, where low-cost travelling has allowed the wealthy of the world to fly more frequently instead of democratising flying to other social classes (Higham et al., 2016).

2.2.4 Behavioural aspect of flying

Many researchers highlight the importance of focusing on behavioural change to successfully reach aviation carbon targets, understanding that the challenges to diminish aviation emissions are not only technological but social.

On the consumers' side, behavioural change is voluntary and can involve four main modes: avoiding air travel alltogether, substituting flying with other modes of transport, choosing greener flights, or paying for carbon offsets (Gössling & Dolnicar, 2022). Some researchers found that consumers do not tend to alter their air travel behaviour in the face of climate change (Alcock et al., 2017; Gössling & Dolnicar, 2022). Concern

about the climate and impacts of air travel exists, but not all travellers are ready to give up flying. Moral concerns are not especially significant in changing flying behaviour, meaning that while most passengers understand that travelling is not good for the environment, only a small minority will take that knowledge into action by flying less (Gössling et al., 2019).

On the other hand, some important trends are surfacing when considering voluntary behavioural changes. The Fridays for Future movement introduced the concept of *flight shame* into the mainstream arena in 2018, which highlights the negative individual contribution that flying can have for the climate and frames it as a socially undesirable activity (Gössling et al., 2019). In addition, scholars (Gössling et al., 2020) found that flight shame increases awareness of the harms air travel inflicts on the environment, emphasises a moral duty to fly less, and may change social norms. Some research has seen a change in the social practice of travelling, with people reporting flying less or having stopped flying altogether due to enhanced environmental awareness, although such a trend has not been proven to have significant effects on travel volumes (Gössling et al., 2020). In Sweden, the epicentre of the flight shame movement, a big societal and political response was triggered, culminating with the introduction of a passenger aviation tax by the Swedish government (Ullström et al., 2021). This shows that the rise of flight shame could promote behavioural change if there is enough social and political unrest.

Opposing the voluntaristic perspective on behaviour change, Higham et al. (2019) sees air travel as a social convention that requires coordinated action to transition. Otherwise, individuals will continue to fail to act according to the climate change impacts of aviation. Research has pointed out that it has been and it seems unlikely that individuals will act in isolation to diminish air travel volumes (Gössling et al., 2020). While restrictions to the freedom of mobility are usually seen as undesirable, from a consumer perspective, there is a general agreement that government regulations are needed to drive change, albeit to different degrees, in different societies (Higham et al., 2016). Policy, then, would be the collective action by excellence where global or sub-global initiatives could effectively tackle the carbon emission problem (Higham et al., 2019).

2.2.5 Policy perspective

Regarding the regulations that the airline industry is subject to, research seems to point to the need for government intervention to complement the current instruments such as CORSIA and ETS (Gössling & Lyle, 2021; Higham et al., 2016; Larsson et al., 2019). In addition, emission reductions in aviation have been notably left out of international climate agreements (Gössling & Lyle, 2021; Higham et al., 2016). Gössling et al. (2010) also states that the sector enjoys a relatively unregulated environment in terms of climate policies, allowing it to continue growing without much restriction or responsibility toward carbon goals. Aviation has not only avoided the

responsibility to reduce carbon emissions and meet environmental requirements like other industries, but it has also received significant subsidies from governments (Higham et al., 2022)

Greenhouse gases from domestic air travel should fall into nationally determined contributions (NDCs) and be accounted for accordingly. However, due to its extra-border characteristics, the Kyoto Protocol and the Paris Agreement left international aviation out of the NDCs (Gössling & Humpe, 2020). Instead, reducing the sector's international emissions has been tasked to the International Civil Aviation Organisation (ICAO), a specialised agency from the United Nations (Gössling & Lyle, 2021) that implemented CORSIA.

CORSIA has been regularly critiqued by researchers that do not consider this mechanism sufficiently ambitious and comprehensive to achieve climate reduction targets. By only considering levels above 2020, researchers have pointed out that this scheme focuses on carbon-neutral growth where a significant portion of CO_2 emissions are left unaccounted and uncompensated for (Gössling & Lyle, 2021; Higham et al., 2019; Larsson et al., 2019). In addition, CORSIA only considers CO_2 emissions, leaving other important sources of radiative forcing out of the offsetting schemes altogether. Since CORSIA is voluntary based until 2026, many researchers have been doubtful about its ability to effectively reach the net-zero targets until 2050 (Gössling & Humpe, 2020; Gössling & Lyle, 2021; Larsson et al., 2019).

Thus, scholars have been researching other policy instruments to curb emissions from aviation. It should be mentioned that air travel emissions at the EU level are part of the European Emission Trading Scheme (ETS), and at the national level, some countries have been implementing carbon or passenger taxes (Larsson et al., 2019). Most research points out the need to implement a national policy to effectively diminish CO_2 emissions. Research by Gössling & Lyle (2021) shows that governmental involvement through policymaking and regulation is of primary importance for mitigating aviation's carbon footprint since it can influence demand distribution and growth, technology production and change, and support for policy. Some of the resources available to national governments are diminishing or cancelling subsidies, stopping certain short-distance flights, or implementing taxes, such as carbon taxes, miles taxes or frequent flier taxes (Gössling & Dolnicar, 2022; Larsson et al., 2019).

There has been substantial research about carbon taxes for air tickets mostly stating that they do not have an important impact on air travel demand (Tol, 2007., Seetaram et al., 2014., Mark-ham et al., 2018., Falk & Hagsten, 2019 as cited in Gössling & Dolnicar, 2022). Nonetheless, when carbon tax prices are very steep, at $1,000/ton CO_2, and are combined with other policy mechanisms, there could be an impact on the air travel demand (Peeters, 2017; Peeters et al., 2019). Regarding the social justice of aviation taxes, some researchers found that implementing demand-managing taxes focused on frequent flyers would have a positive distributional effect,

impacting the wealthier more than the poorer (Büchs & Mattioli, 2022; Fouquet & O'Garra, 2020)

Furthermore, research (Gössling & Lyle, 2021; Higham et al., 2019) seems to point out that a mix of policies would work better to reach the aviation industry's climate goals. Higham et al. (2019) discuss a patchwork of national policies to attain national aviation emission reduction targets. Other research points out the need for comprehensive transition policies that would combine voluntary, market-based and regulatory approaches to influence the spheres of transport demand, technology and social norms (Gössling & Lyle, 2021).

This line of research concludes that the current global policy mechanisms for aviation are not stringent enough to push the sector closer to lowering carbon emissions in line with the Paris Agreement. As such, the scholarly focus has been on national-level policies that, by tackling many policy instruments such as taxes, forced flight reduction, and incentives to investments in different spheres of influence, could be more effective avenues of policymaking to push the aviation industry to a needed transition.

3.

THEORETICAL FRAMEWORK

3. Theoretical Framework

To study the dominant discourses and counter-discourses within KLM I will leverage discourse theories informed by Foucault. Then, I will follow Hajer's (1995) conception of discourse change and his introduction of story-lines to investigate airline discourses through the analysis of speech and text. Story-lines are crucial elements to the mapping of the dominant discourses, counter-discourses and their legitimation. The conceptualisation of legitimation and delegitimation will be explained by using what I call (de) legitimation mechanisms proposed by Hajer (1995) and van Leeuwen (2008). These will help to reply to the why questions inside the discourses and story-lines. At the end of this chapter, I will tie the theories together by presenting the conceptual framework for this research.

3.1 Discourse

Discourse theories have been prominently used in many realms of the social sciences since they allow to critically analyse social structures and their underlying historical and political mechanisms. This research distinguishes the common-sense definition of discourse as speech or conversation from discourse as a specific ontological and epistemological claim. This view on discourse is informed by Foucault, where reality does not exist outside discursive practices (Young, 1981). That is not to say that there is no real world to be perceived, but that the physical and social realities are awarded meaning through the production and reproduction of specific sets of ideas, concepts, categorisations (Hajer, 1995), rules, systems and procedures (Young, 1981), which are historically, socially and politically constructed (Howarth et al., 2000). This also means that there is no one objective truth to be reached but that reality is constituted of a plethora of different discourses that exist simultaneously, sometimes in opposition, juxtaposition or even in disconnection from each other (Young, 1981).

3.1.1 Discourse in practice

While discourse theory may seem an abstract concept, it was formulated to explain real-world phenomena and englobes practical aspects of social and political realities. In discourse theory, objects, actions, speech and text carry important and specific significance since they relate to certain historical, social and political structures (Howarth et al., 2000). In addition, discourse needs to draw borders of meaning-making and create insiders and outsiders to be formed (Howarth et al., 2000). Without such relations of inclusion and exclusion, it would not be possible to delineate a field that relates to a specific discursive reality.

Together, these elements form a discourse strand that presupposes people and institutions as the agents of its (re)production. Institutions such as the state, political parties, NGOs, or private companies, in our case, airlines, exercise power through their discursive practices, and actors, KLM employees, can ascribe, submit, or deviate

from them. Institutions and individuals' positions can then be exemplified by the discourse they follow, which is not to say that there is only one possible discursive identity. On the contrary, there can be many concomitant discourses that an actor – individual or institution – ascribes to and different subjectivities that relate to them (Howarth et al., 2000).

The primary focus of a discursive analysis is the practical aspects of how individuals interact with reality. Indeed, social practice is a key element of discourse. Social practice is how actors engage with and experience the world through speech and action, and discourses only materialise through social practices (Tschoerner-Budde, 2018). Focus on social practice explains why discourse is not to be seen only as speech or communication but means a broader analysis of the relations actors have with the real world. Howarth et al. (2000) see practice through a political lens where agents, rules, and institutions are socially constructed and in constant change through political practices with their own logics, power relations and constructions of antagonisms. Discourse, therefore, can only be understood through the social, political, and historical context of its production (Howarth et al., 2000; Tschoerner-Budde, 2018).

3.1.2 Power/Knowledge
Central to the discourse theory is the idea that knowledge and power are inextricably linked to each other. Foucault (as cited in Howarth et al., 2000) conceptualises power and knowledge as intimately related: there is not one without the other, and while power relations need the construction of knowledge around them, knowledge also presupposes power relations. Young (1981) provides an explanation of how Foucault conceptualises discourse and its knowledge/power nexus: the constitution of a discourse presupposes rules, systems, and procedures that create a fertile ground for producing knowledge about objects through certain perspectives, concepts, theories, and narratives. These are formed, produced, and reproduced in such a fundamental way that, unless critically analysed, remain unseen and consciously unthought. For Foucault, as Young (1981) explains, to be or to think outside of discourse is impossible; it means to be mad, outside reason and knowledge. Since discourse shapes and reproduces a social system that allows and excludes according to its own rules and procedures, it is closely tied to the exercise of power. Discourse has the power to control, organise, maintain, or disallow a productive and reproductive cycle.

Therefore, we must understand that discourse shapes reality through knowledge and by exercising power over it. Discourse allows and constrains thought, communication, and social relations, producing and reproducing reality through certain discursive lenses (Hook, 2001). Considering that there is a multitude of discourses that can come into play at different times for different institutions and different strategies, we can see that power in discourses:

can be both an instrument and an effect of power, but also a hindrance, a stumbling block, a point of resistance and a starting point for an opposing strategy. Discourse transmits and produces power; it reinforces it, but also undermines and exposes it, renders it fragile and makes it possible to thwart it. (Foucault 1979a:100-1 as cited in Howarth, 2000, p. 78)

As such, power in discourse is not static, it is ever-changing and can be instrumentalised in different ways according to the strategies and perspectives in place. Discourse can have dominant positions, leading and shaping how institutions work, how rules are applied, and what strategies are followed. Nevertheless, discourses also have the power to oppose and question apparently fixed structures by creating space for other narratives to develop. Bearing that in mind, this thesis does not consider that airline discourses are subject to questions of rights or wrongs but that they represent different ways of shaping reality. Indeed, "discourses neither provide 'truths' nor 'false ideologies', but exist at the interface of politics, science, values and knowledge." (Pülzl et al., 2014, p. 387). By studying how flying, climate change, and strategies to decarbonise aviation are treated, acted upon, and spoken about from the perspective of KLM and its employees, the power and knowledge struggles that permeate discourses might be unveiled.

3.1.3 Dominant and counter-discourse
As explained above, this thesis considers that there are different discourses in play regarding the issue of flying and climate change. Different discourses coexist in the same arena, but some will be dominant or hegemonic, and others emerging or counter-discourses. Discourses tend to promote specific ways of portraying reality and give authority to certain strategies while disregarding or suppressing alternative approaches (Nielsen, 2014). This is done through the exercise of power and knowledge, where the dominant discourse that KLM reproduces is the one that shapes the climate strategy of the institution. Such a discourse represents a specific strand of knowledge about flying and climate change and defines the borders about how this topic is treated (Nielsen, 2014). Therefore, the counter-discourses fall beyond the borders of the dominant discourse; while they are suppressed, they also oppose and challenge the dominant discourse. The discourses presented in Chapter 2 about aviation and climate change from the perspective of the industry and academia are engaged in a fight for discursive hegemony where the actors involved attempt to gather support for their own discourse perspective (Hajer, 1995).

3.1.4 Changing discourses and the role of story-lines
To study aviation discourses and counter discourses, it is useful to look at how Maarten Hajer (1995) studied the policy change process, since different discourses interact and oppose each other in such processes. He studied environmental policymaking in the 80s and a possible shift in the dominant environmental discourses of the time through a case study of the acid-rain problem. With his discourse analysis,

he sought to explain why, at a certain point, one understanding of an environmental issue gains prominence and dominance, and others are rejected (Hajer, 1995). Important connections can be made between this scholar's work and the multiple discourses about aviation and climate change. As we have seen, airlines have a similar discourse of ecological modernisation through which they oppose climate policies (Gössling & Peeters, 2007). Scientific findings do not align with the industry's climate strategy, thus contesting some discourses presented by the airline industry. Therefore, Hajer's framework, which accounts for processes of discourse change, will be an important basis for this study.

Hajer (1995) divided the policy change process into discourse structuration and discourse institutionalisation. The first relates to the routine argumentative practices of actors to form and delineate a specific discourse, such as ideas, concepts and categories. (Hajer, 1995; Tschoerner-Budde, 2018). The second relates to the actual process of translating a discourse into concrete policies, which can configure more significant shifts in the policymaking domain (Hajer, 1995). If the discourse satisfies these two conditions, it would be fair to say it is hegemonic in a given policy domain. While the discourses about net-zero scenarios for aviation present increasing arguments from academia and activism pointing towards more restrictive climate policy, the opposition to such policies from the airline industry is also present and has been successful in maintaining its space. Therefore, for this research, the interest lies in the discourse structuration since there seems to be a struggle between two discourses that have yet to materialise into one dominant scenario.

Lastly, I point out that Hajer's (1995) analysis of discourse builds on Foucault as he understands discourse as "a specific ensemble of ideas, concepts and categorisations that is produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities." (p. 44). This definition reflects Foucault's own discourse theory, placing special emphasis on the social practices that reflect how reality is perceived and formed.

3.1.5 Story-lines as narrative elements
A first element in Hajer's (1995) framework is what he called story-lines. Story-lines are argumentative practices that carry two perspectives. First, they are seen as narrative elements that relate to the subject-positions in a discourse and constitute the discourse itself. Actors make sense of the world through the meanings available to them. More than words or speech, the story-lines hold political positions by criticising or arguing for certain things (Tschoerner-Budde, 2018). These are discursive framings that can make some elements seem appropriate or normalised and others problematic. In a sense, they are cognitive mechanisms that draw on bigger discursive systems (Hajer, 1995). The mapping of story-lines is crucial for understanding the bigger discourses they relate to. Through story-lines, the rationales and arguments of discourses can be made visible (Nielsen, 2014).

A more empirical definition of story-lines states that these are narratives based on reality that combine elements from different disciplines with symbolic references to arrive at a common understanding of a complex issue (Hajer, 1995). What is complex, difficult to understand and transmit can be turned into a digestible and easy-to-reference narrative in a process called "discursive closure" (Hajer, 1995). When story-lines are reproduced, they evoke the bigger constitutive discourse they are a part of. These narrative devices frame a situation in a specific way, convincing and sharing ideas, perceptions, and world views about a topic in a few words or sentences (Nielsen, 2014). So, as story-lines reduce the complexity of a problem they can be used and reproduced by a bigger variety of actors, without needing technical or scientific background. They assume an almost ritualistic position by being constantly repeated in a discourse. Concretely, story-lines can materialise as "metaphors, analogies, historical references, cliches, appeals to collective fears or senses of guilt." (Hajer, 1995, p. 63), visuals can also become story-lines, such as representative numbers, graphs, or images. To this extent, Hajer (1995) posits that empirical analysis of text, communication and speech hold a relevant role in understanding how story-lines form reality through political positions that can be culturally, socially, or historically informed.

The second perspective of story-lines relates to how their reproduction is part of the mechanisms that legitimate or delegitimate a discourse, and they will be explained in the following section.

3.2 Legitimation and delegitimation

To analyse the power, permanence and possibilities of change in aviation discourses, I will leverage the concepts of legitimation and delegitimation. Flying can be legitimised or delegitimised in different discourses, depending on the elements that are articulated. Discourses can (de)legitimise certain social practices (Björkvall & Westberg, 2021) by evoking questions of authority, morality and rationalisations (van Leeuwen, 2008). Then, it is useful to delve into what constitutes legitimation and delegitimation in discourse.

We can define legitimation as a continuous process of discursive practices (van Dijk, 2000). It is a social and political act that needs language, speech or text and aims at justifying (or disallowing) some practice. Originally, legitimacy is considered a question of power and institutions, providing support to certain political/social positions, authorities, norms or values (van Dijk, 2000). We see legitimacy in a similar light since it leverages power inside a discourse but also norms and values reproducing what actors believe in or respect inside the discourse. By understanding the legitimacy of social practices, why-questions can be answered: why is something done, thought of, or justified in a certain way (van Leeuwen, 2008).

Together with legitimation comes delegitimation as its diametrically opposite movement. When a discourse legitimises some social practice, other practices, norms, values, identities, and groups are delegitimised (van Dijk, 2000). While power and knowledge produce legitimation in a discourse, at the same time, the delegitimation of other discourses occurs. Some dominant discourses may strategically delegitimate others as part of a political project (van Dijk, 2000). For instance, when the aviation industry justifies maintaining their business-as-usual activities, they may delegitimise pro-climate discourses. Thus legitimation and delegitimation are also intimately connected with the concept of power/knowledge inside a discourse and the reproduction of certain story-lines.

3.2.1 Story-lines as legitimation

The second perspective of story-lines, connects with the legitimation or delegitimation of a discourse, as Hajer (1995) relates the reproduction of story-lines with the power of discourse. These narrative fragments are instrumental in the change and permanence of a dominant discourse (Hajer, 1995). When actors reproduce a story-line, and thus certain rules and conventions, this maintains and reaffirms the relevance and power of some institutional conditions (Tschoerner-Budde, 2018). If a story-line is continuously reproduced and goes unseen or uncontested, it inflates the influence of the discourse and institution it maintains.

However, this does not mean that dominant discourses will always be dominant since their story-lines continue being reproduced. Actors do hold agency when reproducing story-lines (Hajer, 1995). The challenge lies in establishing new story-lines, in a discursive strategy that employs other "references, symbols, metaphors or other narrative devices" (Tschoerner-Budde, 2018, p. 25) to change what could be seen as a fixed story-line. This also means that changing story-lines can "foster a discursive shift or change in the social understanding of an issue" (Tschoerner-Budde, 2018, p. 24) and subsequently an institutional shift. These story-lines are the narratives pertaining to the counter-discourses.

Story-lines assume an almost ritualistic position, by being constantly repeated in a discourse (Hajer, 1995). They get their strength from the fact that they sound right to the actors that take them up. Three criteria are given for this: credibility, acceptability, and trust, which help to explain how discourse is rendered legitimate. Credibility means that actors need to believe that these story-lines connect to their own subjective positions in some way; acceptability states that such a subjective position seems valuable or needed to the actors that reproduce a story-line, and trust is if actors believe in the author or the practice of such a story-line (Hajer, 1995).

It is possible to understand credibility, acceptability, and trust as categories that explain how discourses are legitimated or delegitimated. Similarly, these can be

connected with the following categories of (de)legitimation that I borrow from van Leeuwen (2008):

- Authorisation: The authority of tradition, practices, customs, or habits legitimises a discourse by stating that something is done a certain way because it has always been done the same and should not be challenged. The authority of conformity states that if everyone else does something a certain way, then this is the right way to do things; it is the status quo unquestioned. The expert authority provides legitimacy through the expertise of the authors, for example, by mentioning credentials or positions of experienced authority.
- Moral evaluation: Values base this form of legitimation. Some things may be perceived as having an inherent moral value, such as good or bad. Most often, these values are not explicit, only implied through words like "healthy", "normal", "useful", and others.
- Rationalisation: Theoretical rationality follows an inherent truth; something is done a certain way because that is how it should be. This can be a scientific rationalisation, a religious one, or all "differentiated bodies of knowledge used to legitimise institutional practices" (van Leeuwen, 2008, p. 116).

3.2.2 Autopoiesis and self-referentiality

A final concept will be useful to understand the mechanisms that legitimise or delegitimise discourses and explain the rationality inside discourses. This relates to the last category described above, rationalisation (van Leeuwen, 2008). From Maturana and Varela (as cited in Kidwell, 2009), I take the concept of autopoiesis, initially coined to explain what characterised a living system, was the organisation of the system itself. This has been transposed to the social sciences by Luhmann (as cited in Gu & Tipton, 2020), who used the concept to explain that social systems need to have an identity and legitimise themselves to continue with their reproduction. Here, I will apply the autopoiesis concept to understand how discourse reproduces and self-referentiate themselves.

The origins of autopoietic systems come from biology, but the characteristics that define it also characterise the organisation of a discourse. Autopoiesis is a system of networks composed of processes that produce, transform and destroy the same elements that the system is composed of (Kidwell, 2009). The elements in a system continuously regenerate themselves and the processes they are a part of. It is also a concrete unity with defined boundaries and where the elements that compose them exist in a defined domain (Kidwell, 2009). Even though this is an abstract explanation, it illustrates the high degree of recursivity characterising autopoiesis.

Kidwell (2009) abstracts this concept to define discursive practices as autopoietic systems. He supports his claim by explaining that the characteristics seen in a discourse can also be related to an autopoietic system. These characteristics are:

identifiable boundaries of the discourse; components, meaning discursive events, that unify the system; components, as discursive events, with specific properties that, through their relations, interact, transform and produce other discursive events in the system; the boundaries of discourses have interactions with neighbouring discourses; and if elements enter the discourse practice they are transformed by the elements of the system (Kidwell, 2009). Discursive events relate to the actual performativity of the smallest elements that compose a discursive practice, such as spoken or written statements, and when such statements are performed by any author, this can be called a discursive event (Kidwell, 2009).

It needs to be noted that there is no middle term for an autopoietic system, a system either is or is not autopoietic. They are "spontaneously generated by their recursive self-production" (Kidwell, 2009, p. 548). This reinforces that the study of discourses does not focus on their origins or the reasons that bring a discourse into existence but on the processes and conditions constituting a discursive system.

From the explanation above of an autopoietic system, it can be noted that they are highly self-referential systems. Meaning that for their constitution as such, they respond, depend, relate and are formed through internal processes (Kidwell, 2009). Luhmann (as cited in Kidwell, 2009) formulates three types of self-referentiality, basal self-reference, reflexivity and reflection. Here I will focus on the third: reflection. Discourses enact self-referentiality through reflection because they have a rationality of their own. The system's rationality encompasses the entire functioning of the system, and nothing can be behind, above, or apart from its rationality. It means that "The system itself is the foundation of its rational operation; through reflection, the system itself constitutes its own unity and identity" (Kidwell, 2009, p. 551). The discursive events in one discursive system will always follow the rationality and logic of the system they are a part of. In that way, the discursive events are self-referential because they respond to their discourse's own logic.

The concepts of autopoiesis and self-referentiality will be useful to understand the mechanisms that legitimise the story-lines within a discourse. It is through the cohesiveness of an autopoietic system that a discourse legitimises itself, simply because it follows processes that give that discourse life. In reality, this suggests that the discourses inside an airline have such an internal working system that they are legitimised through their own components. What the airline discourse presents as reality is the reality for them because their system's logic dictates so. Similarly, interactions with neighbouring discourses, such as counter-discourses, will be transformed by elements of the same system.

3.3 Conceptual framework

From a conceptualisation of discourse as an interpretation of social realities to the concept of story-lines as narrative fragments that help visualise a discourse and the

(de)legitimation practices that are involved in maintaining certain dominant and counter-discourses, I shape the conceptual framework for this research (Figure 1).

The dominant and the counter-discourse are two different systems of meaning-making about the net-zero strategy of the airline. Power and knowledge reproduce the dominant discourse but are also the starting point for the opposition of the counter-discourse. Both the dominant and counter-discourse transmit and reproduce power, albeit their positions within the airline are also defined due to the power they leverage. Thus, the dominant discourse shapes how the institution functions and the strategies and rules applied, while the power leveraged in the counter-discourse opposes and challenges those fixed structures.

Figure 1 Conceptual framework
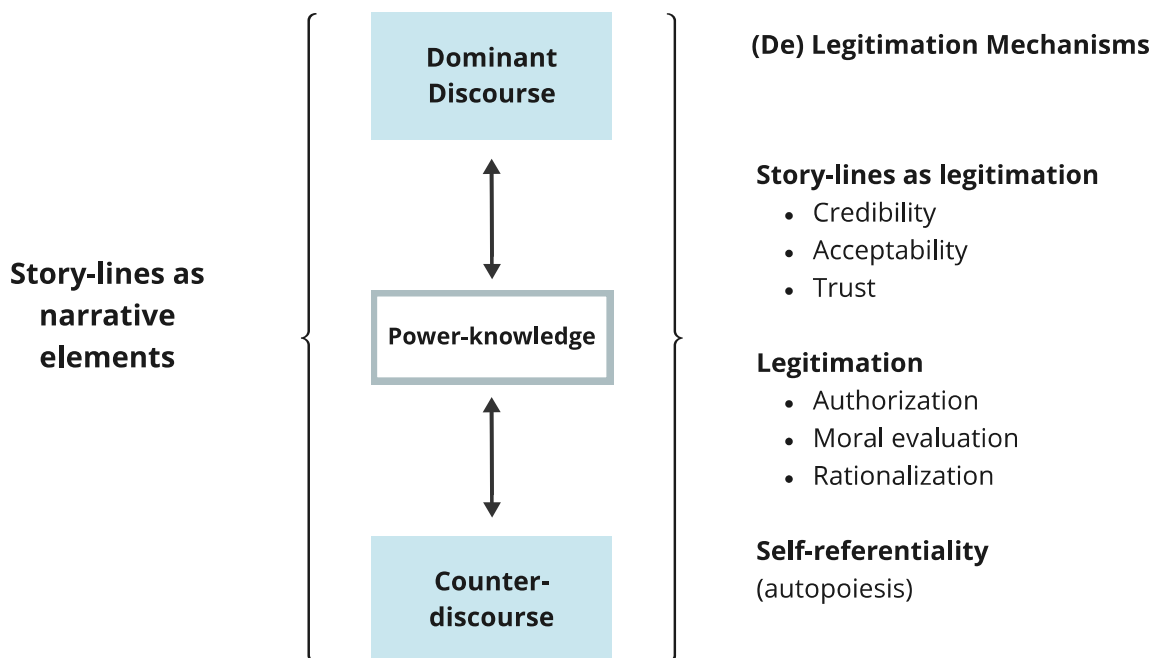
To their left, the story-lines are the narrative elements that simplify the complexity of the discourse they represent. They allow the perception of the boundaries and the meaning-making of the discourses. Mapping the story-lines permits one to visualise the discourses within the airline. On the right side, the (de)legitimation mechanisms are the categories and criteria that explain how a discourse is legitimised or delegitimised by answering the questions of why something is done, thought, or justified in a certain way inside the discourse. The categories of credibility, acceptability, trust, authorisation, moral evaluation, rationalisation and self-referentiality operate at both the level of the story-line and the discourse. This framework will inform the analysis of the results and allow the answer to the research questions.

4.

METHODOLOGY
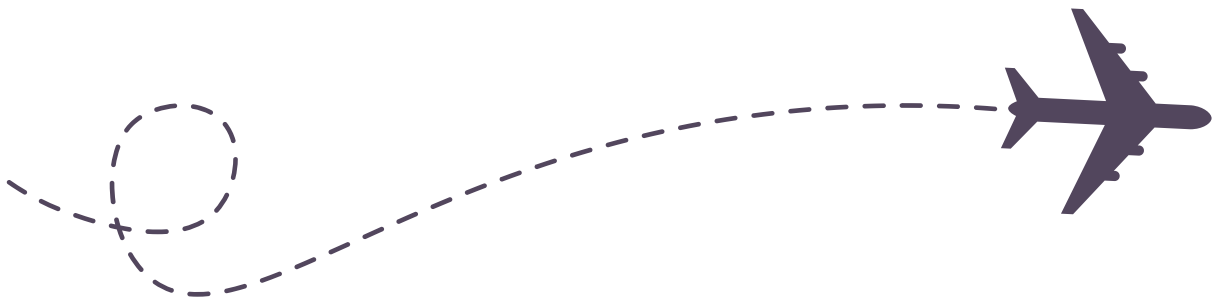
4. Methodology

4.1 Research Design

As this research uses discourse theory as a guiding framework, it is also rooted in the social constructivist paradigm. Research that follows this paradigm understands that reality is shaped through multiple views, and the studies focus on the participants' perceptions (Creswell & Poth, 2018). Reality, then, is constructed through the social and cultural relations in society; there is no reality to be discovered beyond the meaning-making of individuals (Kim, 2001). Qualitative studies are best positioned for this type of research since they presuppose that "individuals have an active role in the construction of social reality" (Boeije, 2010, p. 26).

This thesis research explored the dominant discourses and counter-discourses present inside an airline about their path to net-zero aviation. This needed an in-depth study of the existing discourses, understanding the context in which they were (re)produced, the power relations that were evoked and the mechanisms of legitimation and delegitimation they leveraged. Qualitative research produces rich, descriptive data and is used for the exploration of a field that has not been studied in depth (Boeije, 2010), suitable for investigating the discourses inside an airline. In addition, the exploratory character of the research allows for an iterative process of data collection and data analysis, allowing for flexibility and better adjustment of the methods of data collection to the preliminary findings of the study (Boeije, 2010). Since the discourses about climate change and flying are extremely current topics, counting with the flexibility to adapt the methods to the findings was beneficial for the research. Therefore, I can conclude that this thesis loosely followed the grounded theory approach.

In addition, an instrumental qualitative case study was the methodological choice by excellence. Such a method is used to focus on one issue or question where a particular case would allow the researcher to gain extensive and comprehensive knowledge of it (Creswell & Poth, 2018). For this research, KLM Royal Dutch Airlines, the national airline of the Netherlands, was selected (see section 1.5). A case study requires well-defined boundaries of "its conceptual nature, its social size, its physical location, and its temporal extent." (Miles & Huberman, 1994). The most important boundary for this case study is the conceptual one, which delimits the unit of analysis to the discourses about flying, climate change, and the climate strategy of the company. The other boundaries fall in a second-order position, being more fluid. KLM becomes the spatial boundary, which does not mean the geographical position of the company but the scope of its operation, influence, and climate strategy. The temporal boundary is fluid since the discourses bring forward what is present in the mind and can incorporate past, present and future temporalities. At the same time, documents were analysed from 2014 until 2021 to produce a contextualisation of the discourses.

4.2 Data Collection

Since a case study is used to arrive at an in-depth understanding of the case, it is preferred to use multiple data collection methods to arrive at a comprehensive understanding of the case (Creswell & Poth, 2018). In this research, the methods leveraged were semi-structured interviews and document analysis.

4.2.1 Interviews

This research used qualitative interviews since they allow three important things that this research looked for: understanding the social world through the eyes of the participants, allowing participants to talk about the topic of flying and climate change in their own words, and doing that in a judgement-free situation where the participants' ideas and opinions would have space to appear (Boeije, 2010).

Instead of randomly selecting participants, I used purposive sampling since this technique permits direct engagement with the social processes researched (Miles & Huberman, 1994) and considers the convenience of selecting certain individuals for the researcher (Creswell & Poth, 2018). Later, I used a snowballing technique, where the contacted participants referred me to other interviewees (Boeije, 2010), which allowed me to find participants interesting to my case that I wouldn't be able to reach otherwise.

Drawing boundaries for my sampling was also crucial to stay within the bounds of my case study but also to take into account the time limits of this thesis (Miles & Huberman, 1994). I looked for individuals employed by KLM in the Netherlands, excluding people that were employed in other countries. Expats were also considered since they maintained a Dutch KLM contract, had worked in the Netherlands for many years, and had close ties with the headquarters. Employees that worked at the Air France KLM group level were also accepted if their company position or trajectory was relevant to the research. Recent former KLM employees were also in the scope due to their history with KLM. I searched on LinkedIn Recruiter for people that worked at KLM and added different combinations of keywords, such as Flying Blue (the frequent flyer program of KLM), bold moves (a group that worked on sustainability initiatives inside the company) and sustainability, or similar variants to filter the search. The idea was to cover a broad scope of employees without excluding departments or job positions, keeping in mind that if a person mentioned sustainability in their LinkedIn profile, they probably had something to share about the topic of decarbonisation in aviation. As explained by Creswell & Poth (2018), the grounded theory approach requires individuals that have experienced the issue in question to be able to contribute to forming a theory about it.

In total, I performed 13 semi-structured interviews. Due to my previous job at Air France KLM, I already knew two of the participants and had briefly met another one. One other interviewee was a connection made at an event at Wageningen University

& Research. The other interviewees were unknown to me. Of those, five interviewees were found via LinkedIn and five others via the snowballing technique. All the interviews were conducted in English and recorded for transcribing purposes. One interview was done in person at the KLM headquarters in Amstelveen, Netherlands, and all other interviews were done online via Microsoft Teams. Most of the interviews lasted for 1 hour or more.

Table 1 presents the coding of the interviews, their company contract, and the hierarchy they belong to, as determined by the researcher. Entry-level refers to traineeships, internships or assistant positions. Mid-level refers to analysts, specialists, coordinators, consultants or associates. Senior level refers to managers or directors, and Executive level to vice-presidents or C-suite positions.

Table 1 *Coding of the Interviews*

Code	Company	Professional hierarchy
IK1	KLM	Senior level
IK2	KLM	Executive level
IK3	KLM	Mid-Level
IFK4	KLM	Entry-level
IK5	Air France KLM	Senior Level
IK6	KLM	Entry-level
IK7	KLM	Mid-Level
IFK8	Former KLM	Executive level
IK9	Air France KLM	Senior level
IK10	Air France KLM	Executive level
IK11	KLM	Mid-Level
IK12	KLM	Executive level
IAK13	Air France KLM	Senior Level

Semi-structured interviews were performed to allow space for the interviewees to speak freely (Boeije, 2010) about KLM's strategy to reach net-zero aviation. The questions and probes in the interview guide were based on the literature about climate change and aviation (Büchs & Mattioli, 2022; Gössling et al., 2020; Higham et al., 2019; Larsson et al., 2019; Peeters et al., 2016), on the documents about the climate strategy of KLM, and on current debates about the topic of flying and climate change (Haßler et al., 2020; InfluenceMap, 2022). The formulation of the questions had the explicit goal of avoiding judgement or critiques to present potentially controversial topics in a neutral way, so participants could express their opinions as honestly as possible. In most of the interviews, the researcher attempted to have a conversational position with the participants, interacting and reacting rather than keeping a neutral stance to create an informal and open environment.

As is the nature of grounded theory research, the first interviews were used to tweak the interview guide, and this process continued on a smaller scale through the following interviews. In the first interviews, more questions about frequent flying and climate change were asked, whereas in the following interviews, this was only asked if the participant was connected to the frequent flying program or if there was extra time. The interview was divided into different thematic blocks, and their order could change depending on the flow of the interview. In Table 2, the themes and guiding topics are presented, and the interview guide can be found in the Appendix 1.

Table 2 *Themes and Guiding Topics of Interviews*

Themes	Guiding topics
Introduction and breaking the ice	Professional path and position at KLM
Flying and climate impacts	Pressure to decarbonise the airline industry
	Flight shame
	Decarbonising aviation
	The climate strategy of KLM
	Confidence in reaching climate targets of KLM
Excessive flying	What is excessive flying?
	Should KLM encourage flying?
	Alignment or opposition to policies that tax frequent flying
Personal struggles	Feelings about working in an airline
	Questions from friends and family

4.2.2 Documents

The other data collection method used in this research is document collection. Documents are important sources of historically and contextually legitimate information from an organisation or an individual (Creswell & Poth, 2018). In addition, in many research studies, documents support the data found in the interviews (Creswell & Poth, 2018). For this study, the documents analysed were integral to the formulation of corporate discourses and the posterior analysis of dominant discourses. This research only focused on official documents produced by organisations, in this case, KLM annual reports and the KLM website.

I researched KLM's annual reports from 2014 until 2021, the last available report, and KLM's website Fly Responsibly (https://flyresponsibly.klm.com), launched in 2019, remaining valid and current until the moment of the research. Those documents were used to create a historical and contextual picture of KLM's discourse on sustainability in aviation. The annual reports are on public display on KLM's corporate website (https://www.klm.nl/en/information/corporate/publications). They were geared toward the shareholders of the company and contain financial, contextual, strategical, and organisational information from the year they refer to. They were usually published in

the first semester of the following year, so the 2021 Annual Report was published in mid-2022, thus being the most current one. The Fly Responsibly website was part of an initiative launched in 2019, a call for joint action on sustainable flying for the aviation industry and consumers. This website represents, to date, the most comprehensive public communication that KLM presents about initiatives to fly sustainably.

Some steps were taken to manage and gather the data from the documents. As the annual reports contained information that was not relevant to this research, the analysis focused on the sections that related to sustainability in aviation. This was done by searching the document for sustainability, environment, climate change, decarbonisation, SAF, fleet renewal, and similar variant keywords. To ensure that the content of the Fly Responsibly website would not be updated after the research started, all the text of the website and its subsections, some images, and links to videos were copied into a Word file on December 6th, 2022. Social sustainability inside KLM was a present topic in the documents, but since it does not have a direct connection to climate change and the decarbonisation of aviation, it was not considered for this research.

4.3 Data analysis

The analysis of the data for this case study followed the general properties of a qualitative data analysis, segmenting the data into different parts and reassembling it into patterns (Boeije, 2010; Creswell & Poth, 2018). As the goal of this research is to understand the dominant discourses and counter-discourses inside KLM, the analysis process followed suit and aimed at segmenting and reassembling based on discourses and story-lines. This was a cyclical process (Creswell & Poth, 2018) that started with the transcribed interview data and a description of the relevant document information and finalised with coherent story-lines and discourses.

This research looked first and foremost at the data gathered to guide the analysis. By letting the data do the talking, priority was given to inductive coding instead of shaping the data into deductive coding at first. I paid attention to the narratives, metaphors, comparisons, and feelings evoked by the participants to create segmentations. In an iterative process, I reassembled and interpreted the coded segments into themes and, posteriorly, structured them into story-lines. From the document analysis, the corporate discourse was extracted, and this, in turn, shaped how I organised the employee's story-lines, either in alignment or misalignment with the corporate discourse. Lastly, the interpretation of story-lines and their grouping into the dominant discourses was made with the support of the typology on discourses and strategies of climate delay by Lamb et al., (2020). Table 3 explains how the typologies created by the author informed the grouping and understanding of some discourses and story-lines. These will be explained in detail on section 5, Results & Analysis.

Table 3 _Organisation of dominant discourses and story-lines informed by Lamb et al. 2020_

Typology by Lamb et al. 2020	Definition by Lamb et al. 2020	Translated as
Push non-transformative solutions		**Business-as-usual**
No sticks just carrots	_"Society will only respond to supportive and voluntary policies, restrictive measures will fail and should be abandoned"_	Investments not taxes
All talk little action	_"We are world leaders in addressing climate change. We have approved an ambitious target and have declared a climate emergency."_	KLM is a leader in sustainability
Technological Optimism	_"We should focus our efforts on current and future technologies, which will unlock great possibilities for addressing climate change."_	Technological optimism
		Futuring the solution
Redirect responsibility	**Someone else should take action first**	**Othering the responsibility**
		Collaboration
Individualism	_"Individuals and consumers are ultimately responsible for taking actions to address climate change."_	Consumer's responsibility
The free rider excuse	_"Reducing emissions is going to weaken us. Others have no real intention of reducing theirs and will take advantage of that."_	Level playing field
Whataboutism	_"Our carbon footprint is trivial compared to [...]. Therefore it makes no sense for us to take action, at least until [...] does so."_	Not only flying pollutes
		Only 2%

Note 1 While Lamb et al., 2020 typology only refers to discourse, I translated some of the discourses into story-lines. Thus for this thesis the discourses are in bold and below them are the story-lines that relate to them. This table only presents the story-lines and discourses informed by the typologies of Lamb. et al., 2020. For the full list of discourses and story-lines view Figure 6.

4.4 Validity

Qualitative research often focuses on understanding the experiences and perspectives of participants rather than attempting to generalise findings to larger populations. As such, the validity of qualitative research is often measured in terms of the accuracy and richness of the findings (Creswell & Poth, 2018). In this study, the use of documents helped to corroborate the data gathered from the interviews, adding to the overall validity of the findings. Additionally, previous research on aviation discourses also helped to validate the accuracy of the findings. A case study does not have generalizability as a primary concern due to the highly contextual nature of this type of research (Boeije, 2010). Instead, the aim was to provide rich and accurate information that would be valid for this case.

4.5 Ethical Considerations

Ethical questions are fundamental to social research as they guide the formation of relationships of trust and safeguard the participants (Boeije, 2010). Given that the interviews focused on the personal positions of the participants regarding the company that employed them, this could be considered a sensitive topic, which made confidentiality and privacy particularly important.

To address these concerns, the researcher took several measures to protect the privacy and confidentiality of the participants. For instance, the names and other identifiable characteristics of the participants were removed from the thesis to maintain anonymity. In addition, quotes used in the study were edited to remove any markers that could be used to identify the interviewees. Following the principles of informed consent (Boeije, 2010), the participants were informed about their right to refuse the recording of the interview, the right to refuse to answer any question they did not feel comfortable with or to ask the researcher to delete any data collected. They were also informed about how the data collected would be used for the thesis and that their participation in the study was voluntary.

4.6 Positionality

In a qualitative study such as this one, the positionality of the researcher is made visible since no researcher is a neutral instrument of data collection or analysis (Creswell & Poth, 2018). By reporting positionalities, some of the biases that influence the interpretation of the results can be visualised, such as social positions (age, gender, race), personal experiences, political inclinations, or other relevant beliefs (*ibid*).

In this research, it is important to explain my personal stance on the researched topic. My interest in this thesis is derived from my previous professional experience in the aviation industry. My first job after university was at Air France KLM, the airline group of which

KLM is a part, where I worked for five years. This experience shaped my personal views and academic positions on the industry's socio-economic role and its contribution to climate change. It was during my time in the company that I started doubting the job I performed and Air France KLM's climate strategy. However, only during this master's studies, I became more critical of the impact that flying has on the environment and the industry's position towards climate change mitigation.

Therefore, my own struggles with aviation's role in climate change led me to this research. While I aim to answer my research question from a scientific perspective, I also want to make up my own mind about aviation's decarbonisation path. The struggles of some participants replicate my own, and the contradictions I found in the interviews are also contradictions I experience. Therefore, in developing my research, I kept in mind these important personal considerations that are privy to understanding both sides of the discourses researched.

Lastly, it needs to be mentioned that my good understanding of the inner world of the aviation industry and KLM shaped how I interpreted the results of my research. I have previous professional relations with some of the interviewees, and it needed to be considered that I may have gained access to the participants of this research due to my professional connections at Air France KLM.

4.7 Methodological limitations

Despite the research efforts, there are several limitations to this study that must be acknowledged. Firstly, while the research aimed to study the employees at KLM, pursers and captains could not be contacted for the interviews. Those are key positions in the company since they are directly implicated in the act of flying, thus, the study lacks these perspectives from within the company. Secondly, the study did not look into the company's climate strategy report, which could have provided additional insights into the company's stance on climate change mitigation. This omission may have resulted in a less comprehensive understanding of the company's perspective. However, the annual reports were chosen since I understood they could present a contextualised vision of sustainability in aviation.

Thirdly, the low number of respondents and the situatedness of the interview, typical of a qualitative study, limits the generalizability of the results. As such, it is not possible to extend the findings to the entire company or the entire aviation industry. However, the study's contextual richness provides valuable insights and indicates similar situations in other parts of the industry. Finally, a complete discourse analysis of the aviation industry and the company would require a more complex research approach, including an examination of the general historical context, the company's lobbying activities,

commercial actions, communication strategies, legal situations, and internal struggles. Therefore, due to time constraints, the choices were made to focus on the data collection methods already mentioned.

Overall, it is essential to acknowledge these limitations in order to provide a comprehensive assessment of the study's strengths and weaknesses. However, despite these limitations, the research provides valuable insights into the challenges of decarbonising the aviation industry and highlights the need for further research.

5.

RESULTS & ANALYSIS:

mapping the dominant and counter-discourses
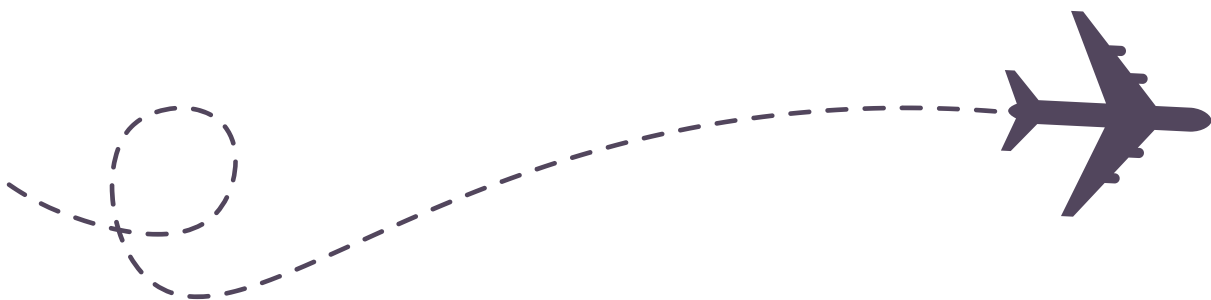
5. Results & Analysis: mapping the dominant and counter-discourses

In this chapter, a timeline of the corporate discourse will be first presented to contextualise KLM's climate strategy. Secondly, the dominant and counter-discourses will be explained, separated into three main discourses and counter-discourses, which can be appraised by the story-lines that form each discourse.

5.1 Context and emergence of sustainability discourses

Over the years, the way in which sustainability was mentioned in KLM reports evolved year by year, gaining gradual relevance in the strategy of the company (see Figure 2). It is significant that in the letter of the president, a section that indicates the most important information of the reports, from 2014 until 2016, there was no mention of aviation's climate impact or of a sustainability strategy. During those years, sustainability was part of the Corporate Social Responsibility (CSR) section, and there was almost no mention of sustainability actions in other parts of the report. Transparency about the sustainability of the company had also increased throughout the years. In 2014, there was little data that backed up the environmental claims of the company; the only target communicated was a CO2 reduction, and the claims made were somewhat vague:

> *KLM will optimise its business operations and supply chain in order to reduce energy use in the air and on the ground by 20 percent by 2020. KLM will improve environmental performance by investing in a modern, more fuel efficient fleet. A new take-off procedure introduced at Schiphol in April 2014 has reduced not only emissions but also noise levels (KLM, 2014, p. 20).*

In the extract above, we can see loose terms such as "reduce energy", "more fuel efficient fleet", and "reduced not only emissions but also noise levels" without specific targets accompanying these pledges.

In 2016, environmental gains and objectives were reported, and the company did provide data to showcase carbon offsets and emissions reductions (KLM, 2016). There was an effort to show that KLM had been engaging with environmental measures: "*KLM, which in 2008 became the first airline with a climate change strategy*" (KLM, 2016, p. 33) and "*KLM was a key supporter of the historic agreement reached in October 2016 by the International Civil Aviation Organisation [...]*" (KLM, 2016, p. 33). Even if, during those years, sustainability concerns were a part of the company's reporting, up until 2017, there was no explicit mention of sustainability in the company's annual strategy. Still, a new approach towards sustainability was outlined in that year: *"In 2017 KLM took a next step in transforming its Corporate Social Responsibility (CSR) approach to a sustainability*

Figure 2 Sustainability strategy and context timeline
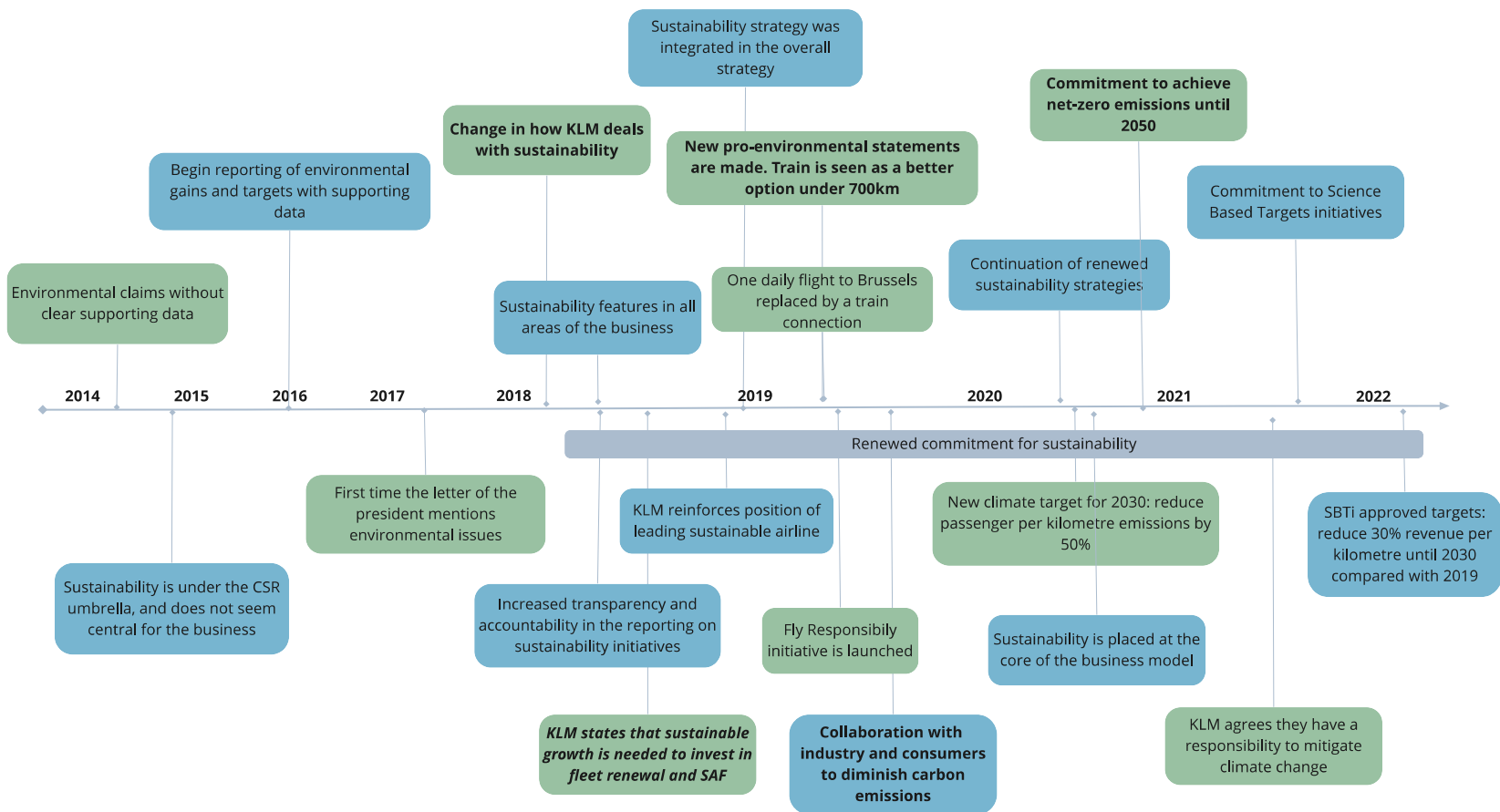
Note 2 This timeline is informed by the Annual KLM Reports. Different colours are used for visualization only. Bold indicated emphasis of important moments in the sustainability strategy.

strategy with the primary goal of long-term value creation for both KLM and society." (KLM, 2017, p. 56). The company was communicating a change in the way it acted on sustainability concerns, noticing that there was a claim from society to do so. But it is from 2018 onwards that the report showed a clear jump in the relevance that sustainability had for the company's strategy.

5.1.1 New strategical focus for sustainability

In the report of 2018, concerns about addressing the sustainability and decarbonisation of the industry were apparent throughout the document. In terms of space, more than ten pages dealt directly with sustainability, compared to the one-page section in 2014. Stronger commitments and awareness of the climate consequences of flying were mentioned. It also held the view that growth should be allied with sustainability: *"only profitable growth will enable us to invest in the aircraft and technology to achieve our environmental targets"* (KLM, 2018, p. 4). The sustainability strategy was focused on the reduction of CO_2 emissions from flying and from ground operations. Furthermore, transparency and accountability regarding the airline's sustainable development also advanced in the 2018 report. Concrete sustainable gains of the year were mentioned, and a clear visualisation of their environmental performance was presented for the first time (KLM, 2018, p. 24). A clear shift can be visualised from the 2018 and 2014 reports (see Figures 3 and 4).

Figure 3 *Sustainability numbers KLM 2018 Report*
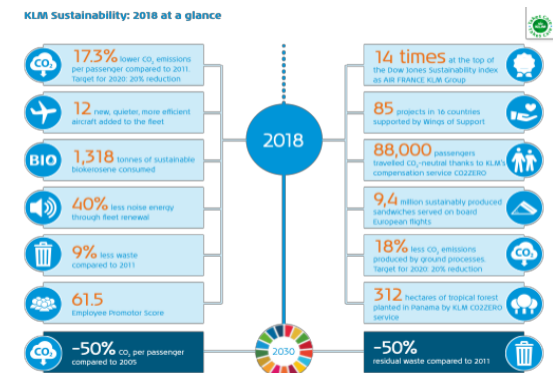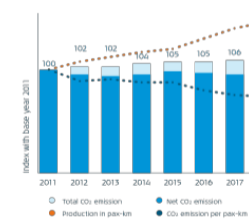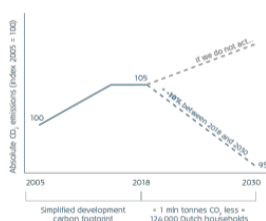
Note 3 Source: KLM 2018 Report

Figure 4 *Sustainability section KLM 2014 Report*

Note 4 Source KLM 2014 Report

From 2019 to 2021, the renewed commitment towards sustainability was ongoing in the following years. KLM had the aim to *"maintain and expand its position of a leading sustainable airline"* (KLM, 2019, p. 64), positioning itself as a pioneer in sustainable aviation in response to the urgency of climate change and the increasing demands and criticism from society. The main message was the acknowledgement that flying impacts the environment and that taking action to reduce the climate impacts from aviation should be a joint action from KLM, the customers, and the aviation industry. This is exemplified in Figure 5, where the main sections of the website were dedicated to what KLM does, another to what customers can do, and the third one to what the industry can do to make flying more sustainable. Such a structure replicated KLM's strategy: *"An integral part of KLM's strategy is to work with partners outside KLM and to fully engage passengers."* (KLM, 2019, p. 64)

Figure 5 *Homepage of the Fly Responsibly website*
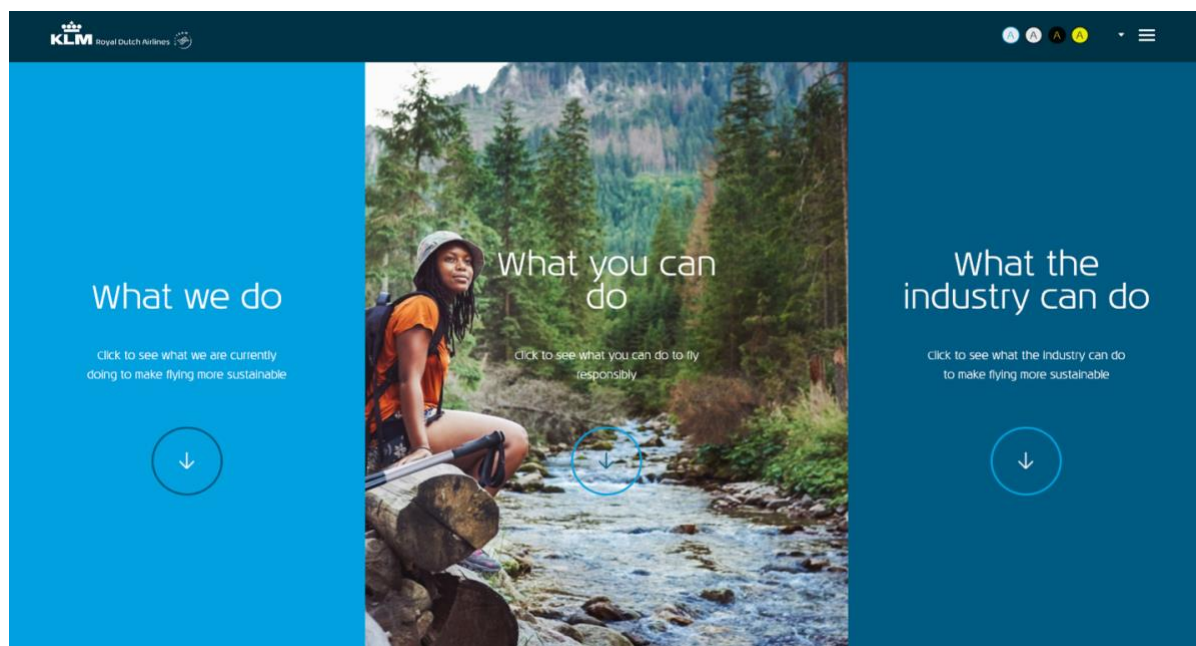
Note 5 Source: KLM, n.d., sec. Homepage

In addition, in 2019, new pro-environmental statements were made: *"KLM believes that trains are a more sustainable alternative to air travel up to a distance of 700 kilometres."* (KLM, 2019, p. 64). To that avail, the report stated that one of KLM's five daily flights to Brussels was replaced with train transport. Another initiative was the prototype of a radically new and more sustainable aircraft called Flying V, researched by TU Delft. The company also took other concrete initiatives, such as investing in a SAF plant in the Netherlands, that would have been operational in 2023.

While the 2020 report dealt with the aftermath of the COVID crisis, sustainability maintained its relevance in KLM's strategy, and the course was not altered. The strategies to decarbonise aviation were very similar throughout the years. They had become more ambitious, and the focus on them changed, but a relative homogeneity could be observed. As the EU and national government set more ambitious climate goals, KLM followed with a new target; reducing absolute and passenger by kilometre emissions by 15% and 50%, respectively, by 2030 compared to 2005. Indeed, environmental targets kept evolving throughout the years, becoming more ambitious and increasingly based on scientifically sound data, such as the Science Based Target Initiative, first mentioned in 2021.

In the last available report, from 2021, KLM restated that sustainability was core to its business model, acknowledging climate change and aviation's contribution to it, as well as their responsibility to act due to the pressure received from society, the government or for economic reasons:

> *Climate change is accelerating and at KLM, we feel a strong urge to contribute to the solution […] We are aware that governments, communities and our passengers value sustainability as key to the future of mankind and that we need to act fast to secure it. […] We feel it is our duty to make aviation sustainable and we do believe that sustainability is a future license to operate. (KLM, 2021, p. 23)*

5.2 Discourses and counter-discourses within KLM

The following section will explain the dominant and counter-discourses found within the airline. The dominant discourse is identified as such since it represents an extension of the corporate discourse. Here, some story-lines have a direct connection to the corporate discourse, and others present less of a direct link. The dominant discourse is separated into three dominant themes, business-as-usual, othering the responsibility, and no moral judgement. In turn, the counter-discourses follow the same division by opposing, challenging, and casting doubt on the three main dominant discourses. Figure 6 represents the mapping of the story-lines into the respective dominant and counter-discourses, as will be further explained in this chapter.

Before going into depth into the different discourses, it is necessary to show the underlying consensus between the dominant and counter-discourse. As could already be seen in the previous section, the corporate discourse did not deny the impact that flying has on the climate: "*Flying contributes to climate change and we want to be part of the solution.*" (KLM, 2021, p.29).

Indeed, there was no dispute about the problems that air travel entailed for the environment, a position that was also replicated in all the interviews. The following two extracts exemplify the nuances of this position:

Figure 6 *Mapping of story-lines in the dominant and counter-discourses*

Counter-discourse: Disagreement with KLM's current plan to reduce aviation emissions

Story-line: Worried, sceptical and afraid
It is not certain that KLM's strategy will achieve the needed decarbonisation targets and that is cause for concern

Story-line: Not the Holy Grail
While KLM sees SAF as the main solution to the carbon problem this does not seem to be realistic

Story-line: False messages
Some of KLM's statements about sustainable initiatives were misleading

Story-line: New business strategy
To reach the climate targets new, bold, business models should be considered

Story-line: investments not taxes
Good policies involve investments and stimuli for the sector, bad policies in the form of taxation or restrictions do not help the industry become more sustainable

Story-line: we grow to be sustainable
Growth is needed to finance the investment in decarbonisation technologies. Commercial and sustainability goals are aligned, a fuller plane is more sustainable than a half full one

Story-line: KLM is a leader in sustainability
KLM is a pioneer in sustainability. The approval of the climate targets by the SBTi attests to that

Story-line: Technological optimism
Fleet renewal and SAF are the main strategies to lower carbon emissions. Production challenges exist but with collaboration from governments and industry they can be overcome

Story-line: Futuring the solution
The solution to the technological barriers will arrive in the future and there is reason to be optimistic because there is a will to get there

Story-line: Collaboration
KLM cannot decarbonise air travel alone, industry and governments are called to join and support KLM in their efforts

Story-line: Consumer's responsibility
Passengers should also be taking action to decarbonise aviation, as they also hold responsibility for choosing to fly

Story-line: Level playing field
Sub global environmental policies are rejected because they would create unfair competition, penalising KLM that is trying to become sustainable, not like their competitors

Story-line: Not only flying pollutes
Activists' focus on aviation is questioned because many other industries pollute much more than the aviation industry

Story-line: Only 2%
The aviation industry should not be in the spotlight because they only contribute to 2% of CO_2 emissions. Even if all flights would stop, it wouldn't solve climate change

Counter-discourse: The airline has the responsibility of mitigating carbon emissions from air travel

Story-line: The consumer has no choice
KLM is held responsible for their marketing tactics that influence consumers to buy more flights

Story-line: We should act first
KLM could do more to advance sustainable aviation by departing from the traditional arguments and accepting new ways of managing the business

Story-line: Unfairly distributed
Aviation is an activity for the wealthy and thus has the responsibility to move first

Business-as-usual: The airline is on the right path to decarbonise aviation

Othering the responsibility: Other's should take action first otherwise KLM might be penalised

Dominant Discourses

No moral judgement: Flying is an activity that cannot be judged as being morally wrong

Story-line: Flying is not damaging, fossil fuels are
Flying generates value for society, contributes to the economy and connects people. The validity of flying justifies its environmental consequences

Story-line: Purpose justifies
Flying is valid if there is a purpose for the flight, such purposes are personal thus frequent flying is not a problem in itself

Counter-discourse: Environmental aspects should be considered first when thinking about taking a flight

Story-line: I struggle with it
The environmental impacts of flying are reason to question one's own flying behaviour

Story-line: Some people fly too much
Some flying patterns are excessive and some trips unnecessary, thus policies to limit frequent flying could be implemented

Note 6 Source: own research. Diagram Inspired by typologies of Lamb et al. 2020.

We are still very much on the side where flying does affect the environment as long as we have no full technological solution for fixing long-haul flying. And there is an intermediate solution, which is sustainable aviation fuel, that limits emissions quite a bit, but it still impacts the environment. As long as that is not solved, I will say flying destroys the planet. (IK9)

In the end, you have to look at the total sum. The holistic environmental impact [of flying] is too big at the moment. Let's be honest, it's too big. The Earth is suffering so we need to take action. (IK12)

Stating this is an important departure point to contextualise and nuance the discursive realities of both dominant and counter-discourses.

5.2.1 Business-as-usual discourse

The business-as-usual discourse claims that restrictive environmental policies are not the right way to decarbonise aviation and that there is no need to radically change the airline's strategy since the foreseen technological innovation will be sufficient to reduce the CO_2 emissions from flying while still keeping with the growth plans. This discourse is composed of 5 complementary story-lines. One story-line emphasises their preference for "investments not taxes" policies that support these goals. Another story-line centres on the idea that their growth plans and sustainability objectives are intertwined, with the company striving to "grow to be sustainable". KLM also positioned itself as a leader in the fight against climate change with an ambitious sustainability strategy, as expressed by the story-line of "KLM is a leader." Meanwhile, the story-line of "technological optimism" emphasises the potential of future technology to solve decarbonisation challenges. Lastly, the story-line 'futuring the solutions' looks ahead to a future where technological innovations will be achieved as the solution to decarbonising air travel.

Story-line: Investments not taxes

"KLM is committed to reducing its impact on the environment, but believes a national aviation tax is not effective. Such a tax could push airlines to surrounding countries, which negatively impacts jobs and GDP, and would end up in the government's overall budget rather than be used directly for sustainability measures." (KLM, 2017, p. 14)

This first story-line illustrates the company's position regarding governmental interventions, preferring investments and stimuli over taxation or restrictions. KLM had a history of collaborating with the Dutch aviation industry and the Dutch government to reduce carbon emissions from flying, and as it was involved in creating plans and proposing them to the government, the initiatives approved reflected KLM's own strategy.

The plan focuses on optimising flight paths, stimulating cleaner aircraft, and investment in biofuel usage and production. In addition, the plan aims to invest in the development of radically different aircraft and an emission free airport. Furthermore, the alliance sees room for promoting the usage of trains. (KLM, 2018, p. 25)

In this extract, we see the words "optimising," "stimuli", and "invest" that show that KLM aimed to approach the path towards decarbonisation with encouragement measures instead of regulations that restrict or mandate. Another interviewee, put it more clearly: "*We are in favour of positive mechanisms, mechanisms that are going to help the entire industry, not just us, the entire industry to transform. Yes, we are in favour of Fit for 55 and SAF mandates." (IK10)*. Therefore, some governmental initiatives that dealt with carbon emission reduction were accepted by KLM, such as the Fit for 55 package from the EU, EU ETS, and a blending obligation for SAF (KLM, 2020).

However, there were fundamental disagreements on some topics of governmental initiatives, for example, on taxation:

[We] disagree with the tax on kerosene as it does not support the sector to become more sustainable, especially as it proceeds are not spent on in-sector decarbonisation. This could put a break in investments in sustainability, which would undermine efforts to improve the quality of the environment. (KLM, 2021, p. 26)

This position can be further explained by the following statement: "*We are for everything that helps the industry to decarbonise and taxes are not going to help anything but put money in the chest of the government." (IK10)*. Then, KLM did not oppose all policies for aviation, some were accepted while others were not.

The company acknowledged that to make aviation more sustainable, "good policy" needed to be put in place:

KLM strives to make aviation more sustainable, and good policy can help with this. That is why we want to continue working with the industry and governments to deploy the right tools to fight climate change, especially at a global level. (KLM, n.d.-a, sec. Climate policy)

It is not clear what can be considered good policy, but it can be understood that taxation and restrictive policies were not well seen by KLM. The company seemed more accepting of positive mechanisms and regulations that it was able to contribute to. Some interviewees backed this up when they mentioned the new regulation at Schiphol to reduce flight numbers due to noise levels (IK9, IK12). In principle, they did not agree with such a restrictive policy, mainly because they claimed it would not reduce CO2 emissions. Instead, they would have preferred to measure the environmental impact instead of the number of flights to decide on a reduction since reducing movements would bring KLM, or other competitors, to move to bigger aircraft that pollute the same.

> "we have been working on our growth plans for the next few years. Because the reality is that only profitable growth will enable us to invest in the aircraft and technology needed to achieve our environmental targets." (KLM, 2018, p. 4)

In a business-as-usual discourse, KLM's overall strategy would remain unchanged while incorporating strategies aimed at reducing its carbon emissions. This story-line suggests that KLM can only invest in cleaner technologies like fleet renewal and SAF production by attracting more passengers, thus sustaining continuous growth. The excerpt below illustrates this idea, acknowledging that maintaining a steady flow of passengers is the key to achieving sustainability for the company:

> *We need to invest a lot of money in reducing or renewing our fleet. But that's also the two sides of the coin, whereby we need people to fly to become more sustainable. Because with that money, we can invest in fleet renewal, for instance. Which may be a very strange angle to look at it for some people since they say the most sustainable way is just not to fly. But people will fly. Then again, we have a task to reach that goal, and it will not be easy. (IK3)*

The interviewee recognised the importance of growth for KLM to become more sustainable through investment in fleet renewal. However, he also understood that this approach might seem contradictory when addressing decarbonisation concerns.

Another perspective for this argument is seen below. This next participant argued that selling more seats on a plane would increase the sustainability of the flight:

> *We at KLM have our airplanes flying around, and it would be even more horrible if they fly around empty. So if we have a higher book load factor, at least the emissions per passenger would be as low as possible. Well, that doesn't do anything for the overall emissions, but since we also measure it per passenger we want to have the most efficient way of filling up our planes. (IK11)*

This employee referred to one of the indicators the company used to measure its sustainability performance, emissions per passenger. If the plane flew fuller, the emissions per passenger would diminish. Thus this indicator would be more positive. Absolute CO_2 emissions would not be diminished, but in this indicator-led perspective, increasing efforts to sell tickets are justified. Indeed, he clarified:

> *From a commercial perspective, it would be really unwise to fly 50% empty to anywhere. But from a sustainability perspective, that would be even worse. The efficiency of the plane is built for 300 people, if only 150 people would fly, emissions per passenger would double. (IK11)*

This employee believed that commercial and sustainability goals were aligned, as filling up a plane benefited both. However, the employee also recognised that adjusting flight

routes based on demand is crucial for increasing the sustainability of the company. If a plane consistently flew under capacity with low booking rates, it might be more sustainable to cancel the route altogether (IK11).

Story-line: KLM is a leader in sustainability

"In relation to this we further enriched our KLM purpose, choosing to be the purposeful pioneers who create sustainable aviation." (KLM, 2021, p. 8)

This story-line is directly derived from the corporate position that places KLM as a leader in aviation sustainability. *With climate change increasingly palpable and society demanding urgent action, KLM feels called upon to maintain and expand its position of a leading sustainable airline. (KLM, 2019, p. 64).* This position has been absorbed by the interviewed employees when they considered KLM's performance in terms of their sustainability strategy: *"I think that KLM's strategy at the moment is probably at the top of airline strategies when it comes to sustainability." (IK7).*

A former employee, who had a critical position towards the sustainability of KLM, still saw the company as a good player in the sustainability arena, especially compared with other airlines: *"I think that KLM is a good example. Amongst all the airlines, KLM can be proud of its history of thinking about a sustainable future." (IFK8).* Another interviewee explained that external rankings supported KLM's claim of being a sustainable leader:

> *I think we can do a lot more than what we do, but within the airline industry, we are one of the most sustainable airlines there are. It is not us that says this, it's IATA, it's the Dow Jones Sustainability Index, we are always at the top number one or number two (IK1).*

In this statement, the belief that KLM is a sustainable pioneer was supported by the credibility of those organisations. Then, external organisations seemed to be important motives for the trust placed in the climate strategy of the company, which in turn supported the perception of KLM's leadership in sustainability.

The recent approval of KLM's targets to 2030 by the SBTi was a main pillar of the company's strategy (KLM, 2022). *"In 2021, together with AIR FRANCE KLM, we committed to the Science Based Targets initiative, which puts the group's targets in line with what climate change science deems necessary to meet the goals of the Paris Agreement." (KLM, 2021, p. 63).* The SBTi gave scientific validation to their climate targets and credibility for the decarbonisation pathway that KLM had established. Some interviewed employees applauded this by mentioning that the targets were ambitious and credible because the SBTi provided independent verification of the targets and thus signalled a true commitment towards decarbonisation:

That's the reason why we went for Science Based Targets. That is the most ambitious, it's run by NGOs, by the way. And that really stretches us to the maximum. I would consider the airlines that are Science Based to be front runners. (IK10).

I think it's very good that the Science Based Targets have approved the strategy for 2030. That gives some trust that we are at least on the right path. And that's not saying we are there yet. It's not saying that we are not pollutin or that we are sustainable at the moment. But at least the path we chose is apparently reachable, and it leads us in the right direction. (IK11)

It needs to be said that the SBTi approved AIR FRANCE KLM's targets but not the roadmap to get there. As the 2021 report stated: "*From 2022, the Science Based Targets Initiative, which is a non-governmental organisation (NGO), will independently verify our targets and our performance against these targets.*" (KLM, 2021, p. 30). This was acknowledged by one interviewee "*By committing to Science Based targets, you're committing to an outcome, and it means that you constantly need to adjust to whatever the outcome is, and how we're going to get there.*" (IK10). Therefore, while employees agreed that KLM was a leader in sustainable flying, and some of that acknowledgement came through external verifications, the actual strength of the sustainability strategy to decarbonise aviation was not part of that reasoning.

Story-line: Technological optimism

"*KLM participates in the World Economic Forum Clean Skies for Tomorrow Coalition, which aims to align partners on a transition to SAF as part of a meaningful and proactive pathway for the industry to achieve carbon-neutral flying.*" (KLM, 2020, p. 31)

This story-line shows that the climate strategy of KLM was based on technological optimism. Reducing the company's total CO_2 emissions was the primary goal of the sustainability strategy, and the path to achieving that had not changed throughout the years, while fleet renewal and SAF were the main drivers of the expected reductions. Fleet renewal was considered "*the largest contributor to CO_2 reduction of airlines. By operating with a more fuel-efficient fleet, we significantly reduce our environmental footprint.*" (KLM, n.d.-b, sec. Innovative Aircraft). The company showed continuous investment in purchasing newer aircraft and replacing the older and less efficient ones (KLM, 2021). Another initiative for fleet renewal was the Flying V, a prototype of a radical new aircraft which was expected to have a 20% smaller carbon footprint (KLM, 2019). While a lot of attention was given to this prototype in 2019 and called revolutionary in 2020, in 2021, that aircraft was no longer mentioned (KLM, 2019, 2020, 2021). Perhaps because the company noted that such aircraft technology would take decades to become a low-carbon initiative for flying:

Due to the absence of technologically and economically-feasible low-carbon alternatives in the aviation sector […] aviation's contribution to fighting climate change and reducing emissions will have to be achieved by continuing to use kerosene in more fuel-efficient aircraft, progressively switching to SAF […]. As current aircraft technology does not support zero or low-emission flying and is unlikely to do so until the next decade, the decarbonisation of air transport will have to count on these transition activities. (KLM, 2021, p. 31)

As SAF could be used with the current aircraft technology, it became one of the main drivers of the sustainability strategy of the airline.

Indeed, replacing fossil fuel with SAF had been part of the company's strategy for more than a decade. *"KLM has been playing a leading role in the development of sustainable aviation fuel since 2011."* (KLM, 2014, p. 20). The company had been engaging its corporate and cargo customers to support SAF production and had committed to buying SAF from the first plant in the Netherlands (KLM, 2021). In addition, in 2022, it had been mixing 1% of SAF in each flight that departed from Amsterdam (KLM, n.d.-d, IK1). SAF was admittedly seen as a transition technology that would help the company achieve its CO_2 reduction targets: *"KLM believes in biofuel in the transition as the short-term solution - until 2030- towards sustainable aviation."* (KLM, 2018, p. 45). Nonetheless, KLM acknowledged that the use of SAF presented some challenges. Production costs were high, meaning demand from the industry was scarce; thus, its production did not grow (KLM, n.d.-b, sec. Sustainable Aviation Fuels: a promising solution). SAF was also around three or four times more expensive than traditional kerosene fuel (KLM, n.d.-b, 2019, IFK8), which also did not help its adoption. To that avail, the company had been looking for industry and governmental collaboration to encourage SAF production. *"Together with partners in a consortium, we received funding from the Swedish government for the construction of a SAF production facility in Sweden."* (KLM, 2021, p. 30).

The corporate SAF narrative, as shown above, was replicated in all the interviews where SAF was consistently mentioned as one of the main initiatives to decarbonise flying. One interviewee seemed to be very enthusiastic about SAF due to its emission reduction potential and since it was a fuel source already developed that would only require at-scale production to be viable.

The potential CO_2 reduction from SAF is so much higher than I would have expected any innovation to be within the next 20 years. […] It's really big to reduce CO_2 emissions by 75%. That's huge, just by using an alternative fuel source that exists. It doesn't need to be developed, just needs to be produced. So, I think it will definitely help our sustainability ambitions. (IK1)

Another interviewee praised the sustainable characteristics of SAF as it was seen as the best choice for its emission reduction because of how it was produced.

So that's why when airlines use SAF, they can claim 80% CO 2 reduction, which is not compensation, it's reduction. And the SAF that Air France KLM chooses is of the most sustainable ones because it doesn't compete with food production and [does not cause] deforestation. I would say SAF is as sustainable as possible. (IAK13)

As the corporate narrative also recognised, some interviewees noted that the use of SAF for aviation did not come without its challenges. There was not enough SAF available for what aviation currently needs, and it was not viable, commercially, to fully replace kerosene since ticket prices would perhaps even triple (IK12). Scaling up the production of SAF was also difficult because the feedstock needed to produce it may not have been available (IK7). Some interviewees mentioned that to make SAF sufficiently available for the decarbonisation needs of airlines, there should be government intervention: "*SAF also has to become available. I think there is only 2% of SAF available for the current aviation. So, it also needs governments to support that vision.*" *(IK12)*. When dealing with the challenges of producing SAF, there was no mention of a global governance mechanism, as noted in the discourse "Othering the responsibility". Here the focus seemed to be on a local sphere of governance:

We are talking to governments and saying it's not "we're not going fast enough", it's "you are not going fast enough". Because for us to reach these objectives, we need to have plants that are producing sustainable aviation fuels on the ground seven years from now, in big volumes. That means that we need to have regulations. (IK10)

This interviewee put the responsibility of encouraging the production of SAF on the government. They acknowledged that KLM would not be able to, by itself, support the production of SAF to the levels needed. Therefore government involvement would be necessary.

Story-line: Futuring the solution

This story-line expresses that the optimism of KLM employees towards the airline's strategy to decarbonise aviation is mostly based on the confidence that the future will solve the technological problems that, at the moment, do not have a solution.

The following employee illustrated the sense of optimism about the decarbonisation challenges that the airline and the world face:

I'm an optimistic. I don't think that we are going to go into a burning planet in five years if we don't stop flying right now. I think that in five years, we'll be way ahead of where we are now. And we can solve this, we can overcome this. That's at least how I believe it. And I'm not sure if I'm right. We'll see in five years or 10 years. (IK11)

Corroborating this positive mentality, another employee mentioned that having the will to reach the climate targets should be enough to accomplish them: *"It will be challenging,*

but I think we have to strive for it […] and I think if we really want it, it should be feasible." *(IK12).* This perspective put a lot of faith in the willingness of the company and did not seem to weigh the obstacles that the current technology presents for decarbonisation. Another interviewee mentioned that in the future, continuous improvements would bring positive outcomes. Therefore, reaching a net-zero emission by 2050 would be possible because of the available time to innovate:

> *If you put the dot on the horizon for 2050, there is enough time to innovate. And I don't think we are depending on a silver bullet innovation, but it's going to be more of a mix of a lot of things. (IK2)*

What we see with the next interviewee is that this optimism came from what they perceived KLM's mindset to be. In addition, there was a lot of trust put in technological developments that were yet to be developed by a future generation.

> *The way we are talking about topics and driving solutions is completely different compared to five years ago. And that is where with the right level of attention, things will happen that we had not foreseen yet. There is now a 16-year-old somewhere who is going to have a brain wave and will come up with something five years from now that will completely change everything. (IK10)*

One of the reasons to feel confident that KLM would reach the needed decarbonisation targets was the belief that, in the near future, a piece of technology would be invented to resolve the carbon emission problem from flying.

5.2.2 Counter-discourse to business-as-usual

The story-lines described above form the business-as-usual discourse. This section will present alternative perspectives that challenge and question the effectiveness of KLM's current climate strategy in decarbonising aviation. The first story-line states that because of the difficulties in developing low-carbon technologies, some interviewees felt 'worried, sceptical and afraid' about the possibilities of reaching the decarbonisation targets of the industry. The story-line 'not the Holy Grail' showed disagreement with SAF being the main solution of the industry to decarbonise aviation. The 'false messages' story-line showed that some of KLM's messaging about sustainability was considered controversial or inconsistent for some employees. The last story-line reflects the consideration that a bold 'new business strategy' would be a solution to achieve carbon emission reductions.

Story-line: Worried, sceptical, and afraid

The worried, sceptical, and afraid perspective departs from the corporate discourse that looks at the production of SAF and its possibility to decarbonise aviation in a very positive light. While technological developments were seen as the most crucial aspect to reduce carbon emissions by one interviewee, they worryingly admitted that there was a chance the expected innovations would not arrive.

If I look at the technology, that is going to be the make or break it. In the end, it will depend on the universities, on the aircraft and engine manufacturers, on smart entrepreneurs. We, as an airline, can only do so much to stimulate, to put funds, to cooperate with the right people, and to advocate for the right policies. But if the technology doesn't cooperate, you are out. And as long as I have not seen that it will be possible, I can only be optimistic, but I cannot say that we will get it. And that is what makes it a little bit uncomfortable sometimes to work for the airline. Will we be able to do it? That's what's frightening sometimes. (IK9)

This extract also showed a departure from the more optimistic mindset. This employee was afraid that the previewed development would not be there, thus making them question their job at an airline.

Another employee seemed to be on the fence about the capabilities of producing enough SAF. They stated that, in theory, the large-scale development of SAF should be possible since scientific studies backed that up. In addition, they mentioned that the amount of green energy that existed at that time exceeded expectations, so even though the development of SAF was a complex scenario, it was also a possibility:

There is a difference between seeing and believing. I've seen all the studies that it is possible. There are numerous studies that have shown, looking at the amount of SAF that needs to be produced, how much feedstock is required. But there are so many things here into play. And if you look at how much [green energy] was projected there to be 15 years ago, we have way more green energy now than they thought 15 years ago. These things can go any way. So I can't really say that I trust it, and I cannot say I do not trust it. (IK7)

Other interviewees were more sceptical about the possibility of relying on the development of SAF to decarbonise aviation. Even if the strategy of KLM was to rely on SAF to drastically reduce aviation's emissions, the reality and challenges of producing this alternative fuel source did not convince this employee that the decarbonisation goals could be achieved.

The production of SAF is an issue because there is just not enough feedstock. […] You can calculate that only about 10-15% of the world's volume of sustainable fuels could be made from biomaterials. […] And my worry is that there's just not enough renewable energy available to reach the volumes that aviation is demanding.(IFK8)

Another employee seemed hopeful that the development of new aircraft would make flying sustainable but recognised that such innovation would take years and might not be enough to fully decarbonise aviation. They were fearful that the airline would keep on polluting without achieving the necessary carbon emission reductions.

I do have my hopes up. If you look at all these different new innovative ways of flying that are mushrooming, that's very exciting. But that still will take years because safety is very important. The Flying V, which is a radically different concept, will take years. Also, hydrogen and electric flying will take decades. The solution will come, but it will be too little too late. Within that time frame, we need the ugly solutions, such as SAF, which are to change or ban certain distances of flying. But that still won't be enough to actually reduce what is needed. It's quite scary that we will keep on polluting and probably even double the amount of pollution in 10 years' time. So, we will need to double [the reduction] then. It's a conflict. (IK3)

This extract shows that there are not only positive perceptions about the sustainable future of KLM. There are conflicting feelings, even fear that the path the airline is following will not be enough to solve the climate problem.

Story-line: Not the Holy Grail

This story-line shows disapproval about the place that SAF has on KLM's strategy. The next interviewee was blatant in his mistrust of basing the decarbonisation targets on technological innovations. They did not believe that fleet renewal and SAF could realistically reduce KLM's emissions to reach the climate targets.

The big challenge is fleet renewal and SAF. And I don't think that it's realistic. So, it's good that we have that and that we also are accountable for that, it helps. But if we look at the percentage of SAF we now have […], let's see how that works. SAF is also not the Holy Grail. In itself, it's a short-medium term solution because it is from waste streams of cooking oil, where you see that that also should be regulated. (IK3)

While they did agree that SAF was a step in the right direction, there did not seem to be the same level of optimism as in the previous discourse. SAF was not viewed as the solution to solve all problems since it presented obstacles of its own. Corroborating this position, the next interviewee displayed some frustration about the hyperfocus on SAF as the solution to decarbonise aviation.

SAF is seen by some people as the thing that will help us get there. I'm not so sure. There is not enough SAF, first of all, and if there was enough SAF, this would not be the most sustainable way. They just see SAF as this Holy Grail. (IK6)

There was mistrust, doubts, and even fear that the technological innovations that KLM relied on to decarbonise flying would not be enough to keep the company on track with its climate goals. And the employees did not support the focus put on SAF as the main solution to mitigate the company's carbon emissions.

Story-line: False messages

Some participants noted that while the company had been spreading messages that it was sustainable and taking a lot of initiatives to decarbonise aviation, some of those initiatives and messages were under scrutiny. Specifically, these related to greenwashing claims, where the message seemed to be more sustainable than the actual action being carried out.

To that avail, one interviewee admitted that KLM's carbon offsetting product called CO2Zero was rightfully seen as a false message: *"I don't have the feeling that on Air France KLM sides we are making false statements. Okay, calling something CO2ZERO, in that sense you could say it's a false message because we can never fly CO_2 zero."* *(IK5)*. Here, it was acknowledged that the Air France KLM group had previously made inaccurate claims regarding its sustainability efforts. Although the airline was not specifically criticised, the employee was aware that the sustainability messaging had not been entirely accurate.

The next statement demonstrates a similar perception. KLM's sustainability initiatives included replacing one daily flight from Amsterdam to Brussels with a high-speed train connection in response to societal demands to reduce short-haul flights for distances that could be covered by alternative modes of transportation (KLM, 2020). However, the subsequent employee noted that the way this was executed could configure a misleading message.

> *To me, it's crazy that we have five, six flights a day to Brussels, and then we took out one for a train connection. But to be honest, we use that connection, the one we took out to fly to a different destination. We use the slot for a different destination. So, it's not a real message. (IK3)*

The critique in this excerpt is more apparent as the employee was explicit about their reservations about the company's decision to use the empty slot for another flight. This implied that the decision appeared to be sustainable on the surface but was not truly sustainable in the end. Another employee further elaborated on this topic, highlighting why replacing one short-haul flight with a longer-distance option could have a more detrimental impact on the environment.

> *So, diminishing the short flights is just the bare minimum that the company should be doing. And if you're going to indeed cut some short flights but increase more flights to, for example, Indonesia, then you really did not do anything. You actually made it worse because the CO_2 emissions become worse when the plane has to fly higher and go further since it is also heavier and bigger. (IK6)*

This story-line illustrates that there exist varying degrees of awareness and criticism regarding certain aspects of KLM's strategy that may prove to be controversial or inconsistent. It is evident that within the organisation, there are individuals who do not agree with specific strategic or communication choices.

The sustainability strategy of the company raised important doubts among some individuals. Thus, this story-line represents the contemplation on whether a new business model would be capable of effectively reducing emissions.

The following employee did not appear to put faith in the company's potential to adapt its activities and reach the SBTi-ratified climate targets.

> *For me, honestly, it's really difficult to change such a big legacy company and make it sustainable. That's almost not going to happen. You need a systemic change in everything you do. I'm really sceptical about it. If you ask me, do you think we will pass the two-degree mark by 2050? I think we will. (IK6)*

This was an important position because it signalled a departure from the dominant discourse of trusting the climate strategy of KLM. This employee mentioned that a systemic change in the core of the business would be needed to become truly sustainable. A similar idea was voiced below, where KLM should radically adapt its business model in order to face the challenges that climate change imposes on the airline.

> *I'm thinking of a whole new business strategy and a whole new business model where KLM, for example, branches out and merges with a train company, and KLM becomes a transportation company, not only with flights but also with trains. And that they may set the example for other European flight companies and train companies to also collaborate. (IK6)*

Even though the feasibility of this narrative could be questioned, what is interesting is the idea that KLM should think further ahead by changing the core of its business. Then, for this interviewee, perhaps there could be a possible future for aviation.

5.2.3 Othering the responsibility

This discourse centres on the notion that the responsibility for climate change gets spread around to other actors and thus dispersed from KLM since others should take action first. Responsibility was passed onto consumers. If they kept on buying tickets, airlines would keep on responding to demand. This was also enacted by the call for collaboration in the industry; while research has shown that the climate problem in air travel is one of collective action (Higham et al., 2019), the narrative is that KLM was already doing enough, and now needed to wait for other stakeholders to make the right steps. The level playing field story-line shows a fear that KLM would be penalised if environmental regulations would only apply to them since its less-sustainable competitors would have an unfair advantage. The 'not only flying pollutes' story-line shows that the company's emissions are relativised in the face of other industries. It questions the environmental focus on aviation while other sectors pollute more. Lastly, the only 2% story-line a similar

defends air travel by stating that even stopping air travel will not end climate change problems as its contribution to climate change is negligible.

Story-line: Collaboration

"Of course we work on sustainability for KLM, but we can't do it alone. Therefore, we extend partnerships and collaboration with partners within and outside the aviation industry." (KLM, 2021, p. 8)

An important element of KLM's discursive strategy was the call for collaboration with other players in the industry, such as airlines, aircraft manufacturers, other transport companies, and governments. The company put forward the idea that sustainability in aviation is a topic that needs joint action to be achieved and should bring together all interested parties to make decarbonisation possible for the entire industry.

> *Only if we all join forces can we make a real difference. All stakeholders in the aviation industry, all airlines, all manufacturers. All companies in all industries. Together we can speed up the process of Sustainable Aviation fuel production, speed up the renewal of our fleets and do more, faster and better. (KLM, n.d.-a)*

The extract mentions that important parts of the sustainability strategy of KLM cannot be achieved by the company itself. One notable example is the Single European Sky initiative, where it lobbied with the European Union to create faster routes through European military zones: "*We also look forward to the realisation of a Single European Sky, which could lower CO_2 emissions by 10% and reduce cost by EUR 8 billion per year through more efficient flight routes*." (KLM, 2016, p. 14). One interviewee agreed that this could possibly be a fast solution to reduce CO_2 emissions (IK9). Indeed, in another interview, it was mentioned that the industry should be pushing for the Single European Sky since:

> *We also know that there's not one Single European Sky. If we had that a lot of the flights could fly quicker and easier from departure to the destination airport, reducing CO_2 as well. I think the whole industry should be aware of that it means looking at the slots and the single European sky, which will also help a lot in making things more sustainable. (IK5)*

This showed that KLM positioned itself as a proponent of the initiative, as a leader that needs to wait for other organisations, the EU, and other players in the aviation industry to enact the change. On this topic, the airline seemed to infer that the ball was no longer in its court.

Story-line: Consumer's responsibility

"We are encouraging our passengers and Cargo clients to offset their emissions." (KLM, 2021, p. 29).

Apart from technological innovation that could drive decarbonisation, other parts of KLM's strategy for more sustainable aviation focused on the consumer's responsibility. The Fly Responsibly website mentioned how passengers could reduce their emissions: *"The fastest way to reduce your flight-related CO_2 emissions is by not flying. There are many alternatives to flying available, from online tools to trains and other modes of transportation."* (KLM, n.d.-c, para. 1). This showed awareness of the limitations for reducing carbon emissions from flying. It stands out that an airline would recognise that there is no better way than not-flying to diminish CO_2 emissions. Nonetheless, the paragraph continued: *"However, sometimes a flight is simply the most logical – or only – option. If you do decide to fly, there are ways to do so that reduces your impact on the environment."* (KLM, n.d.-c, para. 1). Then, KLM seemed to be advocating for customers to choose consciously if they should fly or not, especially if that was the most logical option. And if the choice was to fly, to do so with an environmental conscience by adopting behaviours that would diminish the climate impact of flying.

Then, the main initiatives to follow an environmental behaviour when flying were carbon offsets, or carbon compensation, and voluntary SAF purchases (KLM, n.d.-c, 2021). Carbon offsetting appeared as part of the company's strategy in 2016 and continued being part of KLM's sustainability strategy in the following years: *"Meanwhile, KLM's CO2ZERO program enables passengers to compensate their CO_2 emissions and in 2020 some 51,053 ton was offset this way."* (KLM, 2020, p. 31). The company also suggested other initiatives that customers could do to have an environmental travel behaviour, such as choosing train travel instead of plane travel, packing light, travelling less frequently but for extended periods of time or diminishing the amount of corporate travel. (KLM, n.d.-c, sec. Small steps, huge impact)

In this story-line, the consumers, as a group, are highlighted as the responsible ones to mitigate the impact of travelling. Not only that, but some employees are blamed for not acting more sustainably since their flight purchase patterns show little interest in flying less.

> *A lot of people have been thinking about sustainability for two years [during COVID], but they don't really practice what they preach. They still buy tickets, which is, in my view, not a very positive sign. (IK3)*

Another interviewee is more explicit in rejecting that the sole blame for carbon emissions was put on the airline. In this point of view, consumers were the ones buying the tickets and driving demand, whereas the airline was just following its business purpose by making flights as cheap as possible:

Look at all the lines at Schiphol. So yeah, of course, you can blame us, but at the same time, it is the people that buy the tickets. And, of course, we facilitate that, and we try to make it as cheap as possible because that's how businesses work. (IK7)

Story-line: Level playing field

"*KLM believes that only this global approach is more effective and creates a level playing field for all airlines, and that national or European systems should not be further pursued, once the global system is in place*" (KLM, 2016, p. 33).

While KLM called for collaboration with other stakeholders in the aviation industry to propose *good policies* and regulations, it also systematically opposed and challenged other types of policy proposals. There was strong opposition to environmental policy that got hidden behind "a level playing field". This story-line brings forward the fear of free-riding from competing airlines. While KLM would be obliged to reduce its emissions and restrict its growth through national or regional policies, its competition at a regional or international level would not be subject to such regulation, thus benefiting unfairly from an uneven market space. The level playing field narrative also presents this opposition through an environmentally conscious perspective that hid the free-riding fear. In addition, there was clear support for global policymaking rather than national or local, noticeably absent though are proposals or ideas put forward for such a governance sphere.

Mentions of a level playing field are consistent throughout the interviews. With it, the interviewees meant that national or regional governments should maintain the same level of regulations, taxes, costs, constraints, and rules so that there could be fair competition across the global aviation market. Because:

If you put a big surcharge or requirements of sustainable air fuel in place [in the EU], then somebody flying to Istanbul pays a very small amount because you only pay for the flight leaving the European Union, which means that when people look for the cheapest way to Beijing, they will see that flying via Istanbul saves them a lot of money. (IK2)

The focus given on a level playing field was to avoid unfair competition driven by local regulations, which could cause KLM to lose market share. Since aviation is a global business, the demand is for a global level playing field where the airlines can compete fairly across the world (IK1). Therefore, the main idea defended is that the implementation of more strict environmental regulations should be done at a global level.

You need government involvement, but in the most global way there is. Not local, that is not helping. If you impose a rule in Amsterdam, then the people will just fly via Dubai, so you are really not helping the [environmental] issue. If you impose something in Europe, you're already helping, but you also need the Middle East. It's difficult. (IK1)

Many interviews confirm that the claim for a supranational, or preferably, global approach to environmental regulations comes from a belief that passenger traffic will not diminish, it will simply adapt to go through places where those regulations are not applicable because ticket prices will be cheaper and more attractive to passengers (IK1, IK2, IK3, IK10, IK12). What can also be seen in the two extracts below is an environmental justification for such a reasoning. If flying volumes are not diminished, then local or regional regulation will not result in a reduction of carbon emissions.

Because what we see now is that many countries are doing all initiatives, which doesn't help at all. If the Netherlands is very strict, people will just move to Germany [to take a flight], and there will be more pollution because people will have to take the car and travel there [from the Netherlands]. So, it needs to be a more high-level approach on the European or world level. (IK12)

If we say from a European point of view, 'we're going to raise the taxes and make it more expensive, and we want to fly with SAF', which is very good, I encourage that. But if it is not adopted in the rest of the world, you will see that people will, instead of flying from Amsterdam or to Amsterdam, they will fly to Turkey or Dubai [to connect elsewhere]. Then still the same amount of people will fly, even more, but they just fly around Europe. Is that the most sustainable solution? I don't know. (IK3)

The interviewees defended that environmental initiatives which are not done at a global level will not help the environment. It is possible to see that the concern of keeping a level-playing field is there, but it is encased in an environmental argument. In this case, the reasoning for a level playing field changed slightly. Unfair competition is not the centre of the opposition to local or regional regulations, the lack of environmental gains is.

Another interviewed employee also backed the environmental claim for keeping a level playing field:

We are going as quickly as we can, taking into account a level playing field. What is not going to help is if in Europe we decide to reduce [emissions] by X per cent, and then people from Africa or from the Middle East, or from wherever, that maybe are not as advanced in their efforts, are just going to fly around Europe. So instead of going through Europe with a more sustainable proposition, they are just going around Europe. Does that mean we have helped the climate? No, because the traffic is still there, it's just going somewhere else. (IK10)

In the narratives presented thus far, even though the claims were for a global governance approach for environmental regulations, the absence of concrete propositions to do so was noticeable. There is one interviewee that mentioned a possible path to achieve this: "*From a legal point of view, you could encourage IATA to impose more rules and*

regulations. But the question is if Gulf carriers are going to follow those rules. I don't know. But you need government involvement somewhere, in the most global way there is." (IK1). Nonetheless, IATA is a trade association that creates guidelines and policies for global aviation, but it does not have a legal mandate and thus cannot impose rules on other nations.

Story-line: Not only flying pollutes

There is another narrative that stood out from the interviews, which consists of relativising the impact of the aviation industry by comparing it to industries that also pollute and contribute to climate change. "*Sometimes I wonder if it's logical that so much energy in the climate debate or in the environmental impact debate is focused on the airline industry and not in other industries." (IK7).* The meat, cigarette, entertainment, electronic, and maritime industries were all examples of sectors given by the interviewees to question the focus placed on airlines. (IK5, IK12, IK2, IK10).

This narrative considers that there is too much emphasis on the polluting impact of the aviation industry while other activities are also big contributors to climate change. For instance, one interviewee stated that *"Not only flying is causing climate issues, but also the biggest part is being caused by meat consumption, for example." (IK5)*. Two different activities were compared on equal grounds based on their CO_2 contribution. However, this failed to consider that meat consumption is a more democratic activity than flying, meaning that bigger parts of the population eat meat than take a flight. In addition, another interviewee mentioned that not eating meat would be an easier feat than not taking a flight (IK1). This argument did not recognise that flying has a potentially different social distribution than eating meat or ordering a package from overseas which shadows the reasons why aviation is on the spot.

> *For some reason activists have chosen to focus fully on aviation. I always think, why? Because if you and I are watching Netflix or we are using our little phones, today, under the current division, this uses more CO_2 than aviation. And there are more industries that are like that. Of course, aviation is hard to abate. But so is the maritime industry, and nobody is saying: 'the packages that we are ordering from China, they should be forbidden. (IK10)*

What also appeared in this narrative of comparing aviation to other industries is the fact that flying adds value to the world. It pollutes but also connects people, cultures and fosters the global economy. *"At the same time, the airline industry also has a very important value for the world. It's not like cigarettes, where you see it's only bad. Aviation connects people, culture, that has value." (IK12).* This perspective also relates to the story-line 'flying is not damaging, fossil fuels are' that will be explained in section 5.2.5.

Another factor that is used to relativise the importance of aviation in climate change is the industry's share of CO_2 contribution.

> *We could take steps to reduce it, which for me it should also be done for other industries. Not only the airline industry but also others because airlines represent only 2% [of contribution to climate change], if we completely stop flying, the Earth will not be saved. (IK12)*

Using the 2% figure puts forward two narratives. The first one is that there is too much focus on the industry for its share of contributions. The second one states that if KLM and the aviation industry would stop flying, then climate change would still be a reality. This second narrative can also be seen in the following extract: "*Let's just say, for the sake of it, we kill aviation. No more flights, no more aircraft. Everything stops. Have we solved climate change?" (IK10).* This is a defence of the aviation industry, arguing that its role in climate change is minimal and, thus, halting its operations would not effectively address the climate issue. This line of reasoning perpetuates the downplaying of the environmental impact of air travel. By proposing that the only way to significantly reduce aviation's impact is to completely stop flying, it discredits the notion that limiting air travel could help mitigate climate change.

5.2.4 Counter-discourse to othering the responsibility

The dominant discourse suggested shifting the responsibility of reducing CO_2 emissions away from the aviation industry, but this counter-discourse puts that responsibility back on the airline and the industry as a whole. Instead of holding consumers accountable for their ticket-purchasing habits, the blame is directed toward the marketing strategies employed by airlines. Additionally, there is a call for shifting the airline's perception of environmental regulation instead of shying away from them, acknowledging the potential benefits they could entail for the airlines that show sustainable behaviour. Furthermore, the aviation industry is deemed incomparable to other industries in terms of its impact on the environment. While its share of pollution may be relatively small, the number of people utilising air travel is also small and largely limited to the wealthy. Together, these narratives highlight the need for the aviation industry to acknowledge its responsibility in reducing CO_2 emissions.

Story-line: The consumer has no choice

In this story-line, the consumer is led to buy more flight tickets because of the airline's marketing tactics. The following interviewee suggested that the airline should implement changes internally to address the issue of excessive flying and take responsibility for it.

Companies are promoting excessive flying: 'Go to these destinations for this cheap price.' So, the consumer basically has no choice but to fall for these traps. KLM stopped flights to Brussels, and they want to go to one flight a day instead of several. And I think they should be doing that for multiple destinations, to stop the flying and help people make the conscious decision not to fly, instead of creating traps for them to fall in." (IK6)

These participants blamed airlines for promoting excessive flying in its advertising efforts and wished KLM would, instead, create an environment where people could make conscious decisions whether to fly or not. Such a standpoint relieved consumers from their responsibility of contributing to the growth of emissions from aviation, which was replicated by the consumer's responsibility story-line.

Story-line: We should act first

With regards to the level playing field story-line, a former KLM employee pointed out that:

We should be lobbying for more sustainable behaviour instead of less sustainable behaviour. We should be asking for regulations to the government to give a special place or to assign privileges to sustainable airlines instead of the ones that are exploiting our planet and the environment. (IFK8)

This suggestion presented an alternative viewpoint to the dominant level playing field story-line. The dominant argument was that KLM opposed environmental regulations out of fear of being punished or of facing unfair competition from other airlines that would not be subject to those regulations. However, this alternative perspective suggested that instead of opposing sustainable regulations, KLM and other airlines should seek privileges and support for adopting more sustainable practices. This would require departing from the traditional level playing field argument, as it acknowledged the importance of promoting sustainability in the industry and actively working towards it rather than simply avoiding less-than-global environmental policies.

The importance of taking early action toward sustainability was also highlighted in another interview. The following employee emphasised the need for KLM to enable sustainable travel:

That doesn't mean that we shouldn't do anything with it. Because to me, all flights within a range of 600km should be banned. We should create an air-rail connection which works properly instead of the shitshow we have right now. So we need to facilitate sustainable travel. (IK3)

The focus of this statement is on the air-rail connection, specifically, the replacement of short flights with train rides. Here, the responsibility placed on the organisation to lead the transformation of travel practices beyond its current efforts was highlighted. It is important to note that this did not imply that the company has been evading responsibility altogether,

nor is it what is perceived in the dominant and counter-discourses. Rather, this story-line underscored the belief that KLM could do more to effectively advance sustainable aviation.

Story-line: Unfairly distributed

Lastly, some participants acknowledged that the airline industry is an unfairly distributed sector, with one interviewee stating that: *"I think that flying is an elitist thing for most of the people in the world."* (IK7). Another interviewee expanded on this reasoning:

> *Aviation, in my opinion, is very unfairly distributed to rich people compared to those who drive a car or eat meat. Eating meat or driving a car is more fairly spread than taking a flight. And in that sense, in a fair transition, there is a special responsibility for aviation to move first and have customers realise why travelling is specifically pointed out, even if it only represents a small portion of all CO_2 emissions. (IAK13)*

In this viewpoint, compared to driving a car or eating meat, flying was disproportionately used by the wealthy. It was argued that because of this unequal distribution, the aviation industry had a special responsibility to move first in a fair transition towards lowering CO2 emissions. Thus, the burden of decarbonisation would fall on the aviation industry due to the way the industry operates and its unique position in society. This narrative also ties into the previous story-lined of "we should act first," as it would be unfair to demand that the car or meat industry reduce its emissions first, given its more democratic usage. Ultimately, the unequal distribution of air travel is why airlines are asked to take the lead in reducing CO2 emissions.

5.2.5 No moral judgement discourse

This discourse is represented by two intertwined story-lines that justify the act of flying: one argues that flying is not inherently damaging, and the other posits that a valid purpose justifies taking a flight. Together, these story-lines form a discourse that prioritises the act of flying over its environmental and social impact. The discourse emphasises the value of flying for the economy and in connecting people, effectively separating the act of flying from its polluting consequences. This narrative also validates personal reasons for taking a flight without considering the environmental implications. It removes moral considerations about taking a flight. The discourse views flying as a utilitarian means to an end, where the end justifies the means as long as it has a valid purpose.

Story-line: Flying is not damaging, fossil fuels are

"Aviation has a future. People have an intrinsic urge to travel as it enriches their lives with memorable experiences and allows them to connect to other people. Aviation is key to a globalised economy, supporting businesses and local communities." (KLM, 2021, p. 9).

While KLM recognised its role in contributing to climate change, it also defended aviation as a valid activity because of the important value it delivered to society. There are two justifications in the extract above that advocate for the relevance of flying and, therefore, of KLM's activities. One is connecting people from across the world and cultures; the other is creating economic value not only for corporations but for other nations. The same argument can be seen in this section:

> *[...] we also think of sustainability more broadly as doing what is right and adding value to our other stakeholders. By connecting people and catalysing economic activity, flying itself generates tremendous value. With a global network of around 160 destinations operated from our Schiphol hub, we also contribute to the prosperity of other nations. (KLM, 2021, p. 29)*

KLM took measures to counter the consequences of its carbon emissions problem, and it also argued for the positive side of flying.

Flying was defended by two different employees when they stated that the act of flying is not damaging by itself; the problem is that burning fossil fuels is needed to fly: *"Flying, the art of flying, is not the damning thing. The damning thing is that it has to be done with fossil fuels at the moment." (IK7)* and *"If only we were able to take the polluting part out of the flying equation, that will be very nice." (IK3).* Since there is no real possibility of flying without polluting the environment for the next foreseeable decades, this argument seems to justify flying, even when it harms the environment. The positive sides of flying were mentioned by some employees; it connects the world (IK1), brings cultures together, and supports the global economy (IK12). Within KLM, there seems to be a narrative that advocates for the validity of flying above the environmental consequences it has.

Story-line: Purpose justifies

One story-line that appears is the purpose behind each flight. If there is a valid purpose to fly, then that flight was justifiable: *"If there's a purpose for me to go somewhere? When it's necessary, then I don't see that as excessive or unnecessary" (IK2)*. And such a purpose was treated as a personal consideration. Moral determinations of what is right or wrong, justified or excessive, were not factored in: *"You get the question: what is useful flying and what is useless? Well, good luck with defining that. That's very personal, and that's a debate I've had a lot also." (IK9).* Since it is a personal decision, the interviewees seemed to say that neither KLM nor society should dictate what flights should be taken and what flights should not be. Therefore, the question of frequent flying was also not seen as a topic that KLM should address in its strategy:

> *I don't know if frequent flying has to be addressed [as a problem]. There are some people that need to fly more often for good reasons. If, for family reasons, you have to fly regularly, or you have a very important job where you have to be physically in*

different locations, there is a reason also behind that. Maybe that movement saves other movements. It's too quick in my view, to say by definition, it's bad that somebody flies regularly. (IK12)

The argument that considers purpose over environmental consequence is seen in this extract again. Therefore, in this narrative, the fact that someone is flying frequently does not represent a problem in itself.

According to this argument, taking a flight must be justified by a valid purpose. Consequently, the question arose as to what would be considered an invalid purpose for air travel. One employee shared their perspective on what could be deemed unjustified flights:

It fully depends on the reasons, of course. But I would say if you were able to fly less and still have a fulfilling and good life, then you probably don't need to fly that much. […] Frequent flying is not good if you do it more often than you can. If you can't properly explain at a party why you are flying, then probably it's not the right thing to do. (IK7)

This reasoning puts more weight on a social justification of flying, namely, if the flight can be explained to others. However, the scale is still the wants and needs of the person flying and not an intrinsic judgement of what is good or bad for the environment.

5.2.6 Counter-discourse to no moral judgement

The counter-discourse reverses the idea presented in the dominant discourse above that highlights the validity of flying first and foremost. Instead of considering a purpose-driven justification, this counter-discourse considers environmental aspects to be at the forefront of what would justify air travel. Thus, personal struggles about their own flying patterns are an important marker of this discourse. Nonetheless, this narrative does not openly oppose the view that the purpose of flying is personal. Additionally, the damaging aspects of flying were highlighted when looking at the big emitters and the growth trend of the industry: *"I think you can say that at the current growth rate, it's not manageable for the industry to continue on the same path." (IK2)*.

Story-line: I struggle with it

Self-reflection on their travel behaviour has led the following interviewee to question the number of flights taken. They struggled with the purpose behind their flights, and while they had a motive for each flight, they also acknowledged that they flew too much by plane.

This is a conflict for me as well. I struggle with it. If I look at my own travel behaviour this year, I've been three times to Switzerland by plane, one time to America, once to Bonaire, one time to Ecuador, three times to Paris by plane. It's a lot. And in a way it's changed me if I look at it, but I'm doing it. I have enough reasons that I want to take

that flight. […] What is the balance if I don't take the flight? I'm sort of struggling with it. This is a big issue." (IK3)

The struggle of this interviewee marked an important departure from the argument that flying with a purpose is valid. While they reproduced the narrative that the purpose of flying made the trip valid, they also showed discomfort with this position. There was not a clear departure from it since the number of trips taken showed that discomfort did not prevail over the reasons to take the flights but signalled friction and personal debates within the former narrative.

Story-line: Some people fly too much

This story-line shows that there is an admittance that some flights taken might not be necessary. Acknowledging that some individuals fly too frequently has opened the door to exploring measures that could reduce excessive personal air travel. One interviewee believed that some flights were taken without much consideration, especially pointing at people that fly more often:

Yes, there is excessive flying. There is a lack of reflection on why we travel. So, the move towards more responsible, more sustainable tourism is super important in that sense to really think twice about why you want to take these trips and why you need to go that far. Why do you need to go that frequently. (IAK13)

Another interviewee went even further when considering that targeting frequent flying and private jet users from an environmental perspective was a valid point.

You see now that environmental organisations are beginning to focus more on frequent fliers or private jets, which is even the elite of the elite. But I think those ways of flying are a luxury. And in that sense, you could say a big part of that flying is unnecessary. Those are the things that make that type of flying a very good target. (IK7)

Possible solutions to the excessive flying problem were presented by the following two interviewees.

Maybe a first step is to look at private jets that are the most polluting. A step two could be to charge people [that fly frequently], and that could discourage them. But for people that really want to travel and have the money, it will be difficult to stop them. (IK12)

This first extract showed that the suggestion was to first target private jets, namely because they pollute more, and then focus on frequent flyers. Nonetheless, this participant did not see taxation as effective because it might not stop the truly wealthy. The second proposition departed from the dominant narrative and contradicted the company's anti-regulation stance.

You need to put in place policies and directions, and stories which come from the public and the political environment that steer the companies in the right direction. That's my opinion about this, and it's the same with limiting frequent flying. Maybe, at some point,

you want to impose a frequent flyer tax. As a company, we will probably not like it. But if you would do that at a European level, I'd maybe even vote for it as an individual, but as a company, I would say: 'Well, rather not'. (IK9)

This individual differentiated the company's position from their own stance on the need to regulate flying. Policies and regulations could be welcomed, as well as a frequent flyer tax, to diminish the amount of flying done.

To conclude, the results presented in this section first explored KLM's corporate discourse, to later combine it with the interviews and establish the dominant and counter-discourses present within the airline. At the beginning of this chapter, I delineated the evolution of the net-zero strategy of the airline throughout the years to gather the context of the organisation's thoughts about flying and climate change which allowed me to apprehend KLM's corporate discourse. Then, through the mapping of the story-lines, it was possible to define three main dominant discourses - 'business-as-usual', 'othering the responsibility, and 'no moral judgement' - and three counter-discourses that challenge or oppose them. These discourses capture different facets of the ideas, perceptions, and opinions surrounding KLM's net-zero strategy, which closely relate to the societal problem of flying and climate change. By understanding the different discourses, we gain valuable insights into the positioning within KLM about these topics.

5.3 Analysis: mechanisms of (de)legitimiation

In this next section, I will analyse the results with the theoretical framework in mind to understand the (de)legitimation mechanisms that occur in the discourses found. First, I will recap the theoretical framework used and then dive deeper into some of the discourses and story-lines to illustrate my understanding of the mechanism of legitimation and delegitimation.

Discourses represent reality through meaning-making by reiterating particular sets of ideas, concepts, rules, and systems, which are shaped by historical, social, and political factors (Hajer, 1995; Howarth et al., 2000; Young, 1981). There are multiple discourses that coexist that produce and reproduce knowledge and power in different ways, thus shaping the reality about the airline's net-zero pathway from its own perspectives. The dominant and counter-discourses found were mapped through the identification of story-lines, small narrative fragments that evoke a bigger discourse behind them (Hajer, 1995). In addition, story-lines are instrumental in legitimating or delegitimating different discourses by shaping what is justified or unjustified inside a discursive reality (Tschoerner-Budde, 2018). The self-referentiality of a discourse as an autopoietic system is another factor that explains the legitimation or delegitimation of a discourse. Within a discourse, the story-lines uttered will respond to the discourse's own logic, thus legitimating their meaning-making of reality.

5.3.1 Power in the discourses

In broad terms, individuals occupying higher hierarchical positions within the company exhibited greater alignment with the dominant discourse. This could be attributed to the internalisation of the institutional rules and perspectives, which allowed for the dominant discourse to be more effectively assimilated. Additionally, these individuals held a greater capacity to exercise power and act as key reproducers of the dominant discourse since the managerial and executive positions they hold entail enacting corporate positions and having spokesperson roles. At the same time, these positions could mean that they were more subject to the exercise of power, leading to their institutionalisation as individuals.

Contrastingly, those who had lower positions in the corporate hierarchy deviated more from the dominant discourse, thus being more prone to enact criticism. These counter-discourses were expressed in the margins of the dominant discourse. One possible explanation is that, in their position, there was less expectation of compliance with the official discourse. These individuals are more anonymous in the structure of the company, thus, must conform less to the institutional powers that shape the dominant discourse.

Nonetheless, it is important to note that all individuals reproduced both the dominant and counter-discourses simultaneously. As the subjectivities of the participants are not only related to identification as an airline employee but with other social roles, they enacted multiple discursive identities (Howarth et al., 2000). Many times, then, the power struggle of the dominant and counter-discourses occurred within the individual, creating perceptible contradictions in the same message, for instance, when an employee did not believe that the company was making false statements about decarbonisation but in the next instant recognised that indeed that could be the case. At times, these power dynamics created perceptible struggles between the two opposing discourses within an individual, as when an employee stated his conflicting feelings when justifying his own travel pattern.

5.3.2 Legitimation and delegitimation

Now I will delve into the legitimation and delegitimation mechanisms within the discourses and story-lines found.

Story-lines act by legitimising discourses. As stated by Hajer (1995), they are constantly repeated because they sound right to the individuals that reproduce them, assuming an almost ritualistic position. The 'level playing field' story-line is a compelling example of this as it has represented the airline's stance on climate regulation for years. The meaning evoked is that the airline does not support environmental policymaking, as it believes such policies could benefit its competitors and harm KLM. This narrative has been

circulating for so long that it seems to have become an uncontested belief. Indeed, through the authority of tradition that relates to the authorisation category (van Leeuwen, 2008), the story-line is rendered legitimate because it is how the organisation has always dealt with climate regulations. Tradition dictates that this is how it was always done, thus it is legitimised (van Leeuwen, 2008). This alone provides the story-line, and its overarching discourse, sufficient influence to remain unchallenged. Oppositely, the counter-discourse story-line 'we should act first' attempts to delegitimise the dominant narrative by departing from the conventional approach that views regulations as penalising sustainable airlines. Instead, it proposes alternative perspectives on environmental regulation that prioritise sustainable airlines while penalising unsustainable ones.

Trust and expert authority are other criteria that legitimise a story-line (Hajer, 1995; van Leeuwen, 2008). The legitimacy of the narrative 'KLM is a leader' is reinforced by the repetition of terms such as "front-runner," "leader," and "pioneer," as well as through external organisations that validate the airline's positions and strategies. The legitimacy of a story-line is based on trust when the actor voicing the narrative believes in the practice being described. In the case of this story-line, the employees' belief in KLM's leadership position affirms the legitimacy of the narrative. Expert authority provides legitimacy through external organisations that validate the sustainable position and strategies of the airline. The Dow Jones Sustainability Index and the SBTi, both of which are regarded as authorities on sustainability and climate mitigation strategies, awarded further legitimacy to KLM's position as a sustainable airline. In particular, the SBTi's approval of KLM's climate targets is significant because it offers scientific validation to the airline's claims, which further bolsters trust in the story-line. The high regard that society has for science also contributes to the legitimacy of this expert authorisation and thus of the story-line.

The discourse of 'no moral judgement' legitimises flying through moral evaluation (van Leeuwen, 2008). Flying is not seen as an inherently bad activity, on the contrary, this discourse goes to the extent of separating flying from its environmental impacts through the story-line 'flying is not damaging, fossil fuels are'. In addition, the positives of air travel were highlighted, especially its usefulness for the global economy and its contribution to social relations. Words such as "connectedness", "contribution", and "support" are positive adjectives used in this story-line that hint at equating flying with positive moral values (van Leeuwen, 2008). At the same time, the story-lines that counter this narrative 'some people fly too much' use words such as "luxury", "lack of reflection", and "unnecessary" which put negative connotation on the act of frequent flying. By doing this movement, it delegitimises the previous story-line, as it attempts to equate frequent flying with inherent negative values.

Credibility and acceptability also play a part in the legitimation of the discourse 'no moral judgement' and the story-line 'not only flying pollutes'. A story-line is more credible if it connects to the subjective positions of the interviewees in some way, and acceptability relates to the value that those subjective positions have for them (Hajer, 1995; Tschoerner-Budde, 2018). The perception that flying is not damaging to the environment is important for constructing the identities of the interviewees as airline employees. Indeed, they see air travel favourably and defend it because doing so is advantageous for the perception of their job at KLM. Air travel is also defended in the 'not only flying pollutes' story-line. These story-lines are thus necessary and valuable for their subject-positions, and they are legitimate for the individuals that reproduce them due to it.

Central to the mechanism that legitimises discourses is the concept of self-referentiality. This presupposes that the discourse is an autopoietic system that operates through its own logic, explaining how some of the dominant discourses maintain their cohesiveness in the face of strong challenges and pressures from counter-discourses, within and outside the airline (Kidwell, 2009). The self-referentiality of an autopoietic system is perceptible when a discourse legitimises itself through the same logic that forms the discourse. Simultaneously, the interactions that occur with counter-discourses are absorbed by the system through its own logic.

This is exemplarily illustrated in the business-as-usual discourse. In the story-line 'SAF optimism', the net-zero strategy of the company is presented as a realistic pathway to achieving the decarbonisation targets of the airline. This is despite the significant production challenges that SAF entails, which are recognised in the story-line. Namely, there is not enough feedstock to support the fuel needs of the aviation industry, SAF is very expensive to produce, so demand does not scale up, and supply is scarce. Even with these obstacles, there is optimism and trust that the airline will be able to achieve its mitigation targets, considering SAF as its main decarbonisation strategy. The only argument given that explained that confidence was possible was government support and forecasted industry investments that would accelerate the production of SAF. The academic and counter-discourse say, however, that it is doubtful that the production of SAF will be able to support the decarbonisation of the industry. The dominant discourse seems to be immune to this critique.

The story-line 'futuring the solution' allows the understanding of how this apparent controversy is dealt with. In this story-line, the optimist perception of KLM's strategy is explained by the following statements: "*It is challenging, but we have to strive for it*", "*we can solve this, we can overcome this*", "*if we really want it, it should be feasible*", and "*someone will come up with something in the future that will solve this*". There is no actual

evidence-based argument that would substantiate the confidence and support that the airline's climate strategy received. What substantiates this story-line seems to be a matter of mentality and blind confidence.

While these might seem feeble reasons to trust KLM's net-zero strategy, they show how self-referentiality legitimates a discourse. Since the discourse only answers and operates through its own logic, the claim that SAF or other technological innovation would be enough to decarbonise the industry is supported by the belief that it will be so. The discourse constitutes its own rationality, thus the claims made inside a discourse will always follow the logic of the discourse they are a part of. That is how reality is constructed inside that discourse because the logic of the system is set that way. Concomitantly, they do not require any arguments outside the discourse's boundary to legitimate themselves. As such, it does not matter what the counter-discourse says about the possibilities of SAF or the technological innovations to mitigate carbon emissions. Such claims lay outside the business-as-usual discourse thus they will be internalised and transformed by the internal logic of the discourse.

To conclude, the legitimation mechanisms described above have different ways of legitimising a discourse. Also, different story-lines use different legitimation methods or a combination of some. Story-lines are, in themselves, powerful narrative devices that legitimise a discourse through their sole repetition. Self-referentiality and rationality are the strongest legitimation mechanism of a well-formed discourse since they close off the discourse from outside interference and provide legitimacy through the discourse's own logic. This is different from the other legitimation mechanisms that need to draw on external elements to provide legitimacy. From this analysis, it is possible to conclude that the dominant discourse is hegemonic, in part because it engages with more legitimation mechanisms. In comparison, the counter-discourse legitimises itself by delegitimising the dominant discourse. In other words, it needs to oppose or challenge the counter-discourse to render itself more legitimate and coherent.

5.3.3 Counter-discourse story-lines and the margins

To finalise, I note that the counter-discourses found exist at the margins of the dominant discourse, where they are relegated by the power that the dominant discourse exercises. It became clear that while the dominant discourses have well-structured story-lines, the story-lines that form counter-discourses exist as loose sets of narratives that are held together, largely, by opposing or challenging the dominant discourse. There aren't many homogenous elements in the counter-story-lines such as figures, metaphors, or analogies. Nonetheless, one element that stood out was the appeal to collective fears. Thus, it is possible to state the best-formed story-line is 'worried, sceptical, and afraid', which leveraged the widespread worries that KLM's net-zero strategy would not be
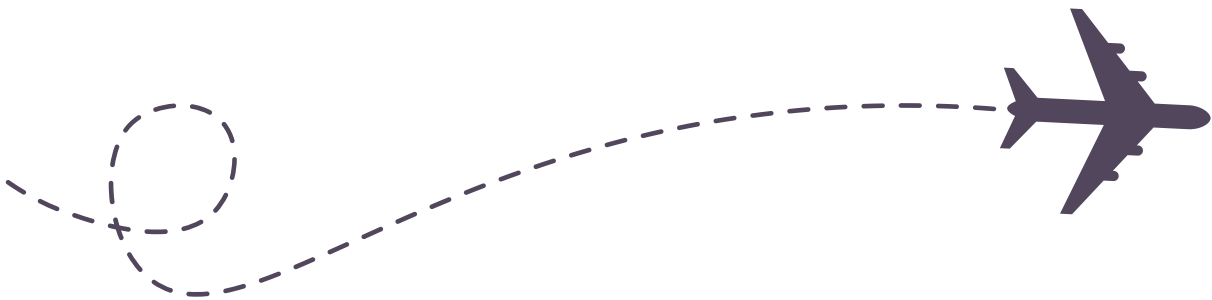
enough to reach the needed decarbonisation targets. This also leads to the conclusion that the counter-discourses are not as mature as the dominant discourses. For Hajer (1995) this means that discursive closure has not been achieved.

Nonetheless, the counter-discourses presence within the airline discourses are important since they represent challenges and oppositions to the dominant discourse. The existence of counter story-lines already denote the existence of alternative political positions, which make some elements of the dominant discourse seem problematic (Hajer, 1995). Within these counter-discourses, as they legitimise themselves, they also delegitimatise the dominant discourse. For instance, the 'false message' and 'some people fly too much' story-lines delegitimise the dominant discourse by moral evaluation and rationalisation. The claims of the airline industry are deemed: "not so real", "not a real message", and "made it worse" signifying negative inherent moral values. Therefore, the story-line gets this strength from the delegitimation of the dominant discourse. Similarly, the rationalisation of the story-line 'some people fly too much' follows the academic knowledge that states that some flying is unnecessary.

Overall, it is possible to see that within the airline, some story-lines are legitimised while others are delegitimised. While the dominant discourse has the institutional power on its side and leaves the counter-discourse in the periphery of knowledge creation, the employees do have agency in reproducing story-lines (Hajer, 1995). It is challenging to break free from the traditional story-lines and foster new narratives. Nonetheless, this process can already be perceived with the existence of these counter-discourses. Story-lines such as 'not the holy grail', 'false messages', and 'we should act first' demonstrate that alternative narrative devices and references can exist within the airline (Tschoerner-Budde, 2018). Subjectivity plays a part in this since more critical employees voiced story-lines that have other criteria of acceptability and trust than the dominant story-lines.

6.

DISCUSSION

6. Discussion

The aim of this study was to analyse the discourses present within an airline, specifically identifying the dominant discourse and verifying if a counter-discourse could be found. Furthermore, the study aimed to comprehend the ways in which these discourses were legitimised or delegitimised. This research departed from an understanding of two opposing discourses on the topic of flying and climate change. One comes from the aviation industry and another from activists and academia. In the aviation industry discourses, technological innovations would be enough to decarbonise flying, the industry has a negligible contribution to climate change considering the benefits air travel brings to society, and the sector does not believe that restrictive policy will help them with mitigation efforts. The discourse from activists and academia do not trust that the proposed technology will be able to bring aviation emissions in line with the Paris Agreement, and aviation is seen as an unequal social activity that needs more ambitious environmental regulation to be decarbonised.

As the discourses and counter-discourses were already identified and their (de)legitimation was analysed, now these results and analysis will be critically discussed.

6.1 KLM dominant discourse versus assumptions in the literature

The findings of this study show that in the dominant discourse, there is awareness of the harms that flying implies for the environment. However, it also relativises the industry's impacts by comparing it to other, more polluting, industries and by highlighting the value of air travel to society, namely connecting people, and contributing to the global economy. In addition, technological solutions were considered the primordial avenue to decarbonise flying. This confirms that three of the four arguments presented by Gössling & Peeters (2007) about flying and climate change are still valid in representing the airline industry's discourse. These are: air travel has a marginal contribution to CO_2 emissions, the economic and social significance of aviation make it too important to restrict, and technological solutions will solve air travel's emission problem. The fourth argument suggests that the aviation industry is subjected to unfair treatment in comparison to other transportation industries, as it is obligated to pay higher taxes. My findings suggest that while unfair treatment is still mentioned, the comparison is no longer made with train or car industries but with competing airlines. This is driven by unfair national or regional restrictive environmental policies, as seen in the 'level playing field' story-line. Thus, it seems that in the last 16 years, the aviation industry discourse has not changed significantly.

One of the main findings of the literature is the airline industry's belief that technological innovation would be able to successfully decarbonise air travel emissions (Burns &

Cowlishaw, 2014; Gössling & Peeters, 2007; Peeters et al., 2016). My findings corroborate this line of research by showing that KLM optimistically relies on technological improvements, such as fleet renewal and the development of SAF, to increase efficiency and reduce emissions (Gössling & Peeters, 2007). It does so also by promoting the narrative that in the future, technology will become more advanced because innovation will arrive. This is similar to the study of Peeters et al. (2016), where it is argued that the industry perpetuates technology myths that overstate the potential of emerging technologies, creating a false sense of "soon-to-become-sustainable" aviation industry.

Overstating the optimism of the technological projections, with reliance on unproven technological advancements, has led to greenwashing (Burns & Cowlishaw, 2014). Greenwashing statements come from misleading or false information, dubious and vague claims (Guix et al., 2022). While my findings are not able to corroborate the correlation of the technological optimism story-line with greenwashing, doubts, worries, and mistrust are apparent within the airline when employees consider the feasibility of KLM reaching its carbon mitigation targets. In addition, some individuals perceived that messages about carbon offsetting and the substitution of short-haul flights with train travel were false. This is a new perspective since, thus far, the literature has not pointed to airlines retracting from greenwashing claims (Burns & Cowlishaw, 2014; Guix et al., 2022; Higham et al., 2022) .

The results presented here also extrapolate the previous research (Burns & Cowlishaw, 2014; Gössling & Peeters, 2007; Peeters et al., 2016) as the dominant discourse acknowledged that these technologies carried real limits, which was not perceived in the literature thus far. The latest corporate report of the airline stated that to reduce emissions in air travel, it needed to rely on transitional measures since current technology could not support zero or low-emission flying until the next decade. Then, as one interviewee corroborated, SAF was not seen as a permanent solution to low-carbon flying but as a transition activity because its production costs presented a real obstacle to its scalability and due to its feedstock problem. Nonetheless, it must be recognised that the optimistic mentality overshadowed the recognition of the challenges that SAF entails. For instance, one employee saw SAF as the most sustainable option in terms of alternative fuels as, according to him, it did not compete with food production and did not cause deforestation.

6.2 Counter narratives versus the literature

While many researchers note that air travel has significant climate impacts (Gössling et al., 2021; Higham et al., 2016; Lee et al., 2021), the counter-discourse was not found to engage with this criticism in depth. On the contrary, the recognition of the fact that flying impacts the environment is already accepted in the dominant discourse, albeit not in much detail. While in the counter-discourse, it is possible to see ramifications of this recognition,

they are more concealed. For instance, when an employee mentioned their struggle with their own flying behaviour, this showed recognition that flights have negative climate impacts (Lee et al., 2021), even if the full range of the impacts was not mentioned.

Scholars have critiqued the possibility of alternative fuels in decarbonising aviation, noting the obstacles to its scalability and highlighting that SAF is not completely net-zero in its lifecycle (Gössling et al., 2021; Gössling & Humpe, 2020; Gössling & Lyle, 2021). The findings show that this critique is also reflected in the counter-discourse story-lines, when employees stated that SAF was not the Holy Grail that would solve all the carbon problems from flying. It is worth mentioning, however, that this perception was not based on scientific studies but mostly on the fact that there is a scarcity of such alternative fuels on the market.

When Köves & Bajmócy (2022) assess the decarbonisation path of the industry, they suggest alternative narratives to the growth path perpetuated by the airline industry to effectively reach the decarbonisation targets. The results found evidence of similar radical narratives in the counter-discourses. These include suggestions for new narratives for the business, such as lobbying for sustainable policies, innovative mergers with train companies, and bold suggestions to stop marketing strategies that promoted low-priced tickets. Although degrowth narratives were not observed, the results do suggest an interesting departure from the traditional business model of the airline.

The academic discourse focused on national-level policies to complement CORSIA and ETS, which were not seen to be sufficiently strong to lead the industry towards achievable climate targets (Gössling & Dolnicar, 2022; Higham et al., 2019). As such, some research suggested taxing frequent flyers as a policy mechanism that would burden the wealthiest (Büchs & Mattioli, 2022; Gössling & Lyle, 2021; Larsson et al., 2020). These proposals understand that the distribution of air travel is not egalitarian in the population. Thus they suggest the creation of just policy mechanisms. There are elements of the results that seem to agree with this perspective about possible taxation on the most frequent fliers. The counter-discourse noted that flying is an activity for the wealthy, and that is why it should be specially targeted through policy. The results also point to the acknowledgement that excessive air travel behaviours exist and warrant taxation. Although the results do not provide evidence of a unanimous perspective in the counter-discourse, it is apparent that certain story-lines within the airline align with the scholarly literature's perception of the taxation of frequent flying (Büchs & Mattioli, 2022; Gössling & Lyle, 2021; Larsson et al., 2020).

The findings discussed in this section hint at the penetration of the academic discourse within the airline. Clear references to the scholar's views about the decarbonisation of air

travel are visible such as the inequality of air travel (Gössling & Humpe, 2020; Higham et al., 2016), the need for more comprehensive policies to drive decarbonisation (Büchs & Mattioli, 2022; Gössling & Lyle, 2021; Larsson et al., 2019; Peeters, 2017), and the mistrust placed on SAF as the main strategy to mitigate the airline's CO_2 emissions (Gössling et al., 2021; Gössling & Humpe, 2020; Gössling & Lyle, 2021). Due to this, the results allow us to assume that the counter-discourse is informed by the academic discourse - a novel finding.

Indeed, the literature that studied the ideas and assumptions of the aviation industry has, thus far, only focused on official documents such as websites, magazines, newsletters, or industry reports, which could only verify the dominant discourses (Burns & Cowlishaw, 2014; Gössling & Peeters, 2007; Guix et al., 2022; Higham et al., 2022; Peeters et al., 2016). In addition, the research by Gössling & Peeters and Peeters et al. (2007; 2016) focused on fact-checking the airline discourses with state-of-the-art scientific knowledge instead of understanding the power dynamics that shaped those discourses. While that approach was valuable in understanding the corporate positions, it missed the complexity of positionalities that exist within the organisation, as well as possible power struggles. To this avail, my results demonstrate two things. First, following the dominant discourse about KLM's net-zero strategy, the climate problem from aviation seems to be under control. Second, the counter-discourses found tell a different story. There is not only one way to see reality, thus, subject-positions within the airline are less defined. This allows making the assumption that there are tensions and disagreements within the airline, voiced or not. This is a new finding since thus far the employee's perspective has been ignored in aviation discourse research.

6.3 Discourse change: Is it a possibility?

The analysis showed that the counter-discourses exist at the margins of the dominant discourse. In Hajer's (1995) framework, story-lines are the fundamental narratives that could enact discourse change since, through their reproduction, discourses are maintained or transformed. He understands that individuals have agency in the reproduction of discourses by fostering new narratives and using alternative story-lines (Hajer, 1995). Different story-lines were present within the airline, some that reproduced the dominant discourse and others that could potentially transform it. Therefore, the existence of the counter-story-lines at least presupposed the possibilities for change. However, the findings showed no indication of change, and it seemed that the counter-discourse lacked the strength and structure required to alter the power dynamics that maintained the dominant discourse in its hegemonic position.

As such, it is valid to question Hajer's model to explain discourse change. Perhaps the existence of alternative narratives, of counter-discourses, is not enough to foster change.

It needs to be recognised that the dominant discourse brings with it substantial institutional power. As the employer, KLM could require a certain level of conformity to the discourse of the company, and disconformity could lead to job insecurity. In addition, KLM is a multinational company with a lot of financial and political influence. Furthermore, the company is inserted in the capitalist market, which has its own discursive reality and even bigger formative power. It might be important to take these factors into account when considering the possibilities of change. Thus, the question remains, is it possible to assume that only through the repetition of alternative story-lines change would be possible within the airline and the aviation industry?

It needs to be stated that this research could not map the changes in the internal discourses over time, so it could not recognise if pressures from employees had fostered changes in the strategy of the airline. It became clear, however, that the airline's discourse about its net-zero strategy has changed significantly throughout the years, but this could be due to external pressures. At the same time, these changes were internalised through the rationality of the dominant discourse. Then, while this research was able to map opposing discourses, the question of how discourses change is still present.

7.

CONCLUSION
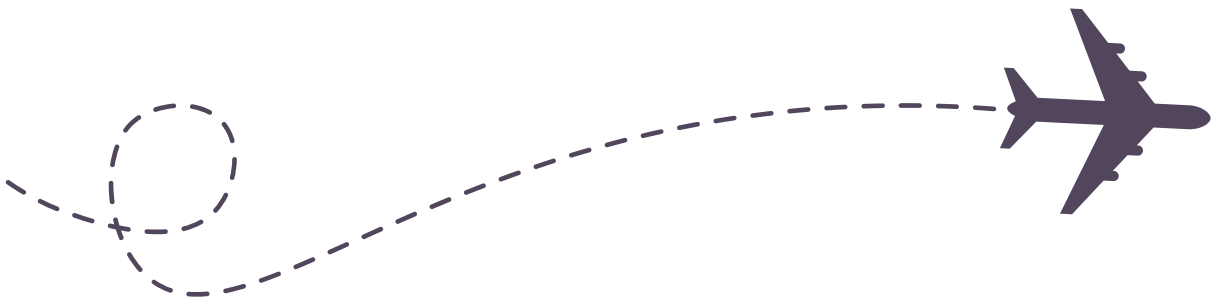
7. Conclusion

This research aimed to answer the following main research question:

How are the discourses and counter-discourses within an airline about its net-zero strategy legitimised or delegitimised?

To answer the overarching research question, the following sub-questions were formulated:

1. What is the corporate discourse of an airline about its net-zero strategy?
2. What are the dominant discourses of airline employees about the net-zero strategy?
3. What are the counter-discourses of airline employees about the net-zero strategy?
4. How do the mechanisms that legitimise or delegitimise those discourses operate?

The corporate discourse of KLM about its net-zero strategy was appraised through document analysis of the annual reports and of the Fly Responsibly website since it allowed to contextualise the climate strategy of KLM within the overall strategy of the airline. It is important to note that the climate strategy changed throughout the years, and the importance given to sustainability increased. In general, it follows a model of sustainable growth since it is believed that only with growth investments in cleaner technology would be possible. There are three main lines of arguments that stood out in the corporate discourse. The first is the belief that technological innovation will be sufficient to diminish the carbon emissions from flying, which relates to a discourse of ecological modernisation. The second states that KLM has a track record of engaging in sustainability as it positions itself as a leader in the field. The third is a movement of making pro-environmental statements and calling for collaboration to solve the emissions problem of flying while opposing restrictive climate policies due to a fear of unfair competition. The restriction to climate regulations is often also justified from an environmental perspective.

The dominant discourse is the hegemonic discourse found within the airline. It can be established as the sum of the corporate discourse and its interpretation and internalisation by employees. As such, the dominant discourse is a faithful replica of the corporate discourse, with some nuances. This shows a strong influence of KLM's strategy on how the participants relate to the problem of flying and climate change. I separated the dominant discourse into three different strands: 'business-as-usual', 'othering the responsibility', and 'no moral judgement'. The business-as-usual discourse supports the continuation of the traditional aviation strategy to mitigate carbon emissions. The belief

that KLM is a front-runner in sustainability initiatives, the opposition to regulatory policies, strong reliance on technological innovations, and optimist trust in the future characterise this discourse. The othering the responsibility discourse spreads the blame and obligation to mitigate carbon emissions with its consumers, the government, other airlines, and other industries. Thus, KLM alleviates the blame on its side, relativising its climate impact and its agency to decarbonise aviation. Lastly, the no moral judgement discourse magnifies the positive sides of air travel, its contribution to the global economy and interpersonal connectedness. Therefore, it justifies the act of flying through the reasons behind each flight.

The counter-discourses stand in opposition and challenge the dominant discourse. While they are visible, they exist at the margins of the dominant discourse. The counter-discourse to business-as-usual is formed by worries and fears that technological innovations will not be enough to solve the climate problems from flying. SAF is not believed to have the expected capacity to decarbonise the sector, and there is outright mistrust that the 2030/2050 targets will be reached with the current strategy. The counter-discourse to othering the responsibility asks for a different approach to the airline's climate problems, to lobby for policies that encourage the sustainable behaviour of airlines and thus accept its duty to become more sustainable. Finally, the counter-discourse of no moral judgement does not relativise the harms of air travel. On the contrary, it shows recognition that choosing to fly is in itself too damaging for the environment. Thus, accepting some form of taxation on frequent flying.

There are a couple of mechanisms that work to legitimise and delegitimise the discourses. Story-lines are important mechanisms of legitimation because their constant reproduction not only forms a discourse but it renders it more legitimate. Story-lines also bring criteria of credibility, acceptability, and trust that contribute to making a story-line credible for the individuals that take them up. For example, trust in the actor voicing a story-line contributes to its legitimacy. Three other criteria could be seen in the story-lines and discourses that legitimise themselves. These are authorisation, moral evaluation, and rationalisation. For this, external elements are leveraged, such as the SBTi giving authority to the story-line that KLM is a leader, moral considerations of what is useful and valuable in air travel serve to legitimise flying in the face of environmental concerns, and the rationalisation of how the market should operate, which defends the level playing field story-line. Moreover, the self-referentiality of discourses explains their strength in legitimising themselves, even in the face of challenges from opposing discourses. Since the discourses operate under their own logic, the visible contradictions in a discourse might not be contradictory at all when following the rationality of the discourse itself.

The aim of the research was to understand how the discourses about the net-zero strategy within the airline could be legitimised and delegitimised. It becomes apparent then that the dominant discourses inside the airline are hegemonic since they hold the institutional power and thus are able, to some extent, to mould the knowledge of its employees about its net-zero strategy. Nonetheless, the penetration of the academic discourse about flying and climate change is visible through the counter-discourse. The dominant discourse gathers its legitimacy from its power position but mainly from well-structured narratives that are extremely proficient in forming their own rationality. Thus, they are mostly immune to criticism and opposing viewpoints since they need less legitimacy from external mechanisms (authorisation, moral evaluation, and rationalisation). The counter-discourse attempts to delegitimise the dominant discourse in order to establish itself and to find space within the airline. Currently, they rely mostly on legitimation mechanisms that draw on external factors, such as scientific knowledge and societal viewpoints of rights and wrongs. At the moment, the power struggle between both discourses seems to happen within individuals only since the counter-discourses would lose the battle if trying to change institutionalised rules and strategies within KLM.

With this research, it was my goal to illustrate the multiplicity of discourses inside an airline to carve out spaces and possibilities for change. It was my hope that by understanding how the different discourses reproduce and legitimise themselves or delegitimise others, the positions regarding climate regulations would become apparent, as well as the rationalities that inform it, in order to support scholarly literature that maps and engages with discursive change.

Future research could move beyond the reproduction of story-lines towards the bigger power system that supports the dominant discourse of the airline. These could include global industry coalitions, the finances of the aviation industry, its investments and position in the financial market, its lobbying efforts, its involvement with national and regional politics, and the geopolitics involved in maintaining a strong airline network for nation-states.

In addition, as this thesis opens new avenues for the study of discourses within the aviation industry, the next step could be researching the discourses of the trade unions about the decarbonisation pathways of the industry. They are bound to have different perspectives than individual employees on such topics, as decarbonisation might mean job insecurities. This would then touch upon topics of climate justice which would make interesting future research perspectives.

To conclude, it cannot be said that transformation in the way airlines deal with climate change will come from within the organisation. But the existence of counter-discourses

within the airline might be reason enough for the encouragement of advocacy and activism efforts, as their viewpoint has successfully permeated the airline discourses. Activist movements should take note of the importance of seeing employees as allies and engaging with them in meaningful discussions about climate change in aviation instead of homogenising them as representatives of the industry. This could lead to more effective strategies to empower the counter-discourses. Overall, this research lays the groundwork for future studies and policy development to decarbonise the aviation industry, which will ultimately contribute to building a more sustainable future for both the industry and the planet at large.

8. Bibliography

10:10 Climate Action. (2019). *Public attitudes to tackling aviation's climate change impacts*. 10:10 Climate Action. https://s3-eu-west-1.amazonaws.com/media.afreeride.org/documents/Aviation_briefing_Jan2019+FINAL.pdf

A free ride. (n.d.). *A free ride*. Retrieved 26 October 2022, from https://afreeride.org/

Alcock, I., White, M. P., Taylor, T., Coldwell, D. F., Gribble, M. O., Evans, K. L., Corner, A., Vardoulakis, S., & Fleming, L. E. (2017). 'Green' on the ground but not in the air: Pro-environmental attitudes are related to household behaviours but not discretionary air travel. *Global Environmental Change*, *42*, 136–147. https://doi.org/10.1016/j.gloenvcha.2016.11.005

Becken, S., & Mackey, B. (2017). What role for offsetting aviation greenhouse gas emissions in a deep-cut carbon world? *Journal of Air Transport Management*, *63*, 71–83. https://doi.org/10.1016/j.jairtraman.2017.05.009

Björkvall, A., & Westberg, G. (2021). Shame and Pride in the Delegitimization and Relegitimization of Air Travel. *Critical Approaches to Discourse Analysis across Disciplines*, *13*(2), 63–83.

Boeije, H. (2010). *Analysis in qualitative research*. SAGE.

Büchs, M., & Mattioli, G. (2022). How socially just are taxes on air travel and 'frequent flyer levies'? *Journal of Sustainable Tourism*, 1–23. https://doi.org/10.1080/09669582.2022.2115050

Buijs, A., Mattijssen, T., & Arts, B. (2014). "The man, the administration and the counter-discourse": An analysis of the sudden turn in Dutch nature conservation policy. *Land Use Policy*, *38*, 676–684. https://doi.org/10.1016/j.landusepol.2014.01.010

Burns, P. M., & Cowlishaw, C. (2014). Climate change discourses: How UK airlines communicate their case to the public. *Journal of Sustainable Tourism*, *22*(5), 750–767. https://doi.org/10.1080/09669582.2014.884101

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (Fourth edition). SAGE.

Destination 2050. (n.d.). *A Route to Net Zero European Aviation*. Destination 2050. Retrieved 16 March 2023, from https://www.destination2050.eu/

Fleming, A., Vanclay, F., Hiller, C., & Wilson, S. (2014). Challenging dominant discourses of climate change. *Climatic Change*, *127*(3–4), 407–418. https://doi.org/10.1007/s10584-014-1268-z

Fouquet, R., & O'Garra, T. (2020). *The Behavioural, Welfare and Environmental Effects of Air Travel Reductions During and Beyond COVID-19. Unpublished Manuscript.* Centre for Climate Change Economics and Policy Working Paper No. 372, Grantham Research Institute on Climate Change and the Environment Working Paper No. 342. https:// ssrn.com/abstract=3628750.

Gössling, S. (2020). Risks, resilience, and pathways to sustainable aviation: A COVID-19 perspective. *Journal of Air Transport Management*, *89*, 101933. https://doi.org/10.1016/j.jairtraman.2020.101933

Gössling, S., & Dolnicar, S. (2022). A review of air travel behavior and climate change. *WIREs Climate Change*. https://doi.org/10.1002/wcc.802

Gössling, S., Hall, C. M., Peeters, P., & Scott, D. (2010). The Future of Tourism: Can

    Tourism Growth and Climate Policy be Reconciled? A Mitigation Perspective.

    Tourism Recreation Research, *35*(2), 119–130.

    https://doi.org/10.1080/02508281.2010.11081628

Gössling, S., Hanna, P., Higham, J., Cohen, S., & Hopkins, D. (2019). Can we fly less?

    Evaluating the 'necessity' of air travel. *Journal of Air Transport Management*, *81*,

    101722. https://doi.org/10.1016/j.jairtraman.2019.101722

Gössling, S., & Humpe, A. (2020). The global scale, distribution and growth of aviation:

    Implications for climate change. *Global Environmental Change*, *65*, 102194.

    https://doi.org/10.1016/j.gloenvcha.2020.102194

Gössling, S., & Humpe, A. (2023). Net-zero aviation: Time for a new business model?

    Journal of Air Transport Management, *107*, 102353.

    https://doi.org/10.1016/j.jairtraman.2022.102353

Gössling, S., Humpe, A., & Bausch, T. (2020). Does 'flight shame' affect social norms?

    Changing perspectives on the desirability of air travel in Germany. *Journal of*

    Cleaner Production, *266*, 122015. https://doi.org/10.1016/j.jclepro.2020.122015

Gössling, S., Humpe, A., Fichert, F., & Creutzig, F. (2021). COVID-19 and pathways to

    low-carbon air transport until 2050. *Environmental Research Letters*, *16*(3),

    034063. https://doi.org/10.1088/1748-9326/abe90b

Gössling, S., & Lyle, C. (2021). Transition policies for climatically sustainable aviation.

    Transport Reviews, *41*(5), 643–658.

    https://doi.org/10.1080/01441647.2021.1938284

Gössling, S., & Peeters, P. (2007). 'It Does Not Harm the Environment!' An Analysis of

    Industry Discourses on Tourism, Air Travel and the Environment. *Journal of*

    Sustainable Tourism, *15*(4), 402–417. https://doi.org/10.2167/jost672.0

Gu, C., & Tipton, R. (2020). (Re-)voicing Beijing's discourse through self-referentiality: A

    corpus-based CDA analysis of government interpreters' discursive mediation at

    China's political press conferences (1998–2017). *Perspectives*, *28*(3), 406–423.

    https://doi.org/10.1080/0907676X.2020.1717558

Guix, M., Ollé, C., & Font, X. (2022). Trustworthy or misleading communication of

    voluntary carbon offsets in the aviation industry. *Tourism Management*, *88*,

    104430. https://doi.org/10.1016/j.tourman.2021.104430

Hajer, M. A. (1995). *The politics of environmental discourse: Ecological modernization*

    and the policy process. Clarendon Press ; Oxford University Press.

Haßler, A., Dwarkasing, C., Reckmann, E., Sekulova, F., Scheinder, F., Inesta-Arandia,

    I., Edwards, L., Machler, L., Schmelzer, M., Grebenjak, M., Heuwieser, M.,

    Sanchez, N. B., Bridger, R., & Mingorría, S. (2020). *Degrowth of Aviation:*

    Reducing air travel in a just way. Stay Grounded. https://stay-

    grounded.org/report-degrowth-of-aviation/

Higham, J., Cohen, S. A., Cavaliere, C. T., Reis, A., & Finkler, W. (2016). Climate

    change, tourist air travel and radical emissions reduction. *Journal of Cleaner*

    Production, *111*, 336–347. https://doi.org/10.1016/j.jclepro.2014.10.100

Higham, J., Ellis, E., & Maclaurin, J. (2019). Tourist Aviation Emissions: A Problem of

    Collective Action. *Journal of Travel Research*, *58*(4), 535–548.

    https://doi.org/10.1177/0047287518769764

Higham, J., Hanna, P., Hopkins, D., Cohen, S., Gössling, S., & Cocolas, N. (2022).

    Reconfiguring Aviation for a Climate-Safe Future: Are Airlines Sending the

    Wrong Message? *Journal of Travel Research*, *61*(6), 1458–1473.

    https://doi.org/10.1177/00472875211033648

Hook, D. (2001). Discourse, Knowledge, Materiality, History: Foucault and Discourse

    Analysis. *Theory & Psychology*, *11*(4), 521–547.

    https://doi.org/10.1177/0959354301114006

Howarth, D. R. (2000). *Discourse*. Amsterdam University Press.

Howarth, D. R., Norwal, A. J., & Stavrakakis, Y. (2000). *Discourse theory and political*

    analysis: Identities, hegemonies, and social change. Manchester University

    Press.

IATA. (n.d.). *Our Commitment to Fly Net Zero by 2050*. Retrieved 23 November 2022,

    from https://www.iata.org/en/programs/environment/flynetzero/

IATA. (2021, October 4). *Net-Zero Carbon Emissions by 2050*. IATA.

    https://www.iata.org/en/pressroom/pressroom-archive/2021-releases/2021-10-

    04-03/

ICAO. (n.d.). *Climate Change*. ICAO. Retrieved 10 April 2023, from

    https://www.icao.int/environmental-protection/pages/climate-change.aspx

ICAO. (2022, October 7). *States adopt net-zero 2050 global aspirational goal for*

    international flight operations. ICAO.

    https://www.icao.int/Newsroom/Pages/States-adopts-netzero-2050-aspirational-

    goal-for-international-flight-

operations.aspx#:~:text=Montr%C3%A9al%2C%207%20October%202022%20%

E2%80%93%20Culminating,zero%20carbon%20emissions%20by%202050.

InfluenceMap. (2022). *Airlines and European Climate Policy*. InfluenceMap.

https://influencemap.org/report/Aviation-Industry-Lobbying-European-Climate-

Policy-131378131d9503b4d32b365e54756351

Irfan, U. (2019, November 21). *Airline CEOs to climate activists: You're right, our

industry is a big problem*. Vox.

https://www.vox.com/2019/11/21/20974722/climate-change-flying-flight-shame-

emirates-air-france-emirates-emissions

Kidwell, K. S. (2009). Politics, Performativity, Autopoiesis: Toward a Discourse Systems

Theory of Political Culture. *Cultural Studies ↔ Critical Methodologies*, *9*(4), 533–

558. https://doi.org/10.1177/1532708608321403

Kim, B. (2001). Social Constructivism. In M. Orey (Ed.), *Emerging Perspectives on

Learning, Teaching, and Technology* (pp. 55–61).

https://textbookequity.org/Textbooks/Orey_Emergin_Perspectives_Learning.pdf

KLM. (n.d.-a). *Fly Responsibly: What the industry can do*. Fly Responsibly. Retrieved 6

December 2022, from https://flyresponsibly.klm.com

KLM. (n.d.-b). *Fly Responsibly: What we do*. Fly Responsibly. Retrieved 6 December

2022, from https://flyresponsibly.klm.com

KLM. (n.d.-c). *Fly Responsibly: What you can do*. Fly Responsibly. Retrieved 6

December 2022, from https://flyresponsibly.klm.com

KLM. (n.d.-d). *Sustainable aviation fuel*. Retrieved 17 February 2022, from

https://www.klm.com/information/sustainability/sustainable-aviation-fuel

KLM. (2014). *Annual Report KLM 2014*.

KLM. (2016). *KLM 2016 Annual Report*.

KLM. (2017). *KLM 2017 Annual Report*.

KLM. (2018). *KLM 2018 Annual Report*.

KLM. (2019). *KLM 2019 Annual Report*.

KLM. (2020). *KLM 2020 Annual Report*.

KLM. (2021). *KLM 2021 Annual Report*. KLM.

KLM. (2022, December 16). *KLM's Group CO2 emission reduction targets for 2030 approved by SBTi*. News KLM. https://news.klm.com/klm-groups-co2-emission-reduction-targets-for-2030-approved-by-sbti/

Köves, A., & Bajmócy, Z. (2022). The end of business-as-usual? – A critical review of the air transport industry's climate strategy for 2050 from the perspectives of Degrowth. *Sustainable Production and Consumption*, *29*, 228–238. https://doi.org/10.1016/j.spc.2021.10.010

Lamb, W. F., Mattioli, G., Levi, S., Roberts, J. T., Capstick, S., Creutzig, F., Minx, J. C., Müller-Hansen, F., Culhane, T., & Steinberger, J. K. (2020). Discourses of climate delay. *Global Sustainability*, *3*, e17. https://doi.org/10.1017/sus.2020.13

Larsson, J., Elofsson, A., Sterner, T., & Åkerman, J. (2019). International and national climate policies for aviation: A review. *Climate Policy*, *19*(6), 787–799. https://doi.org/10.1080/14693062.2018.1562871

Larsson, J., Matti, S., & Nässén, J. (2020). Public support for aviation policy measures in Sweden. *Climate Policy*, *20*(10), 1305–1321. https://doi.org/10.1080/14693062.2020.1759499

Lee, D. S., Fahey, D. W., Skowron, A., Allen, M. R., Burkhardt, U., Chen, Q., Doherty, S. J., Freeman, S., Forster, P. M., Fuglestvedt, J., Gettelman, A., De León, R. R., Lim, L. L., Lund, M. T., Millar, R. J., Owen, B., Penner, J. E., Pitari, G., Prather, M. J., … Wilcox, L. J. (2021). The contribution of global aviation to anthropogenic climate forcing for 2000 to 2018. *Atmospheric Environment*, *244*, 117834. https://doi.org/10.1016/j.atmosenv.2020.117834

Mastini, R., Kallis, G., & Hickel, J. (2021). A Green New Deal without growth? *Ecological Economics*, *179*, 106832. https://doi.org/10.1016/j.ecolecon.2020.106832

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed). Sage Publications.

Nielsen, T. D. (2014). The role of discourses in governing forests to combat climate change. *International Environmental Agreements: Politics, Law and Economics*, *14*(3), 265–280. https://doi.org/10.1007/s10784-013-9223-4

NLR. (n.d.). *A Route to Net Zero European Aviation Executive Summary*.

Peeters, P. (2017). *Tourism's impact on climate change and its mitigation challenges: How can tourism become 'climatically sustainable'?* [Delft University of Technology]. https://doi.org/10.4233/UUID:615AC06E-D389-4C6C-810E-7A4AB5818E8D

Peeters, P., Higham, J., Cohen, S., Eijgelaar, E., & Gössling, S. (2019). Desirable tourism transport futures. *Journal of Sustainable Tourism*, *27*(2), 173–188. https://doi.org/10.1080/09669582.2018.1477785

Peeters, P., Higham, J., Kutzner, D., Cohen, S., & Gössling, S. (2016). Are technology
myths stalling aviation climate policy? *Transportation Research Part D: Transport
and Environment*, *44*, 30–42. https://doi.org/10.1016/j.trd.2016.02.004

Pülzl, H., Kleinschmit, D., & Arts, B. (2014). Bioeconomy – an emerging meta-discourse
affecting forest discourses? *Scandinavian Journal of Forest Research*, *29*(4),
386–393. https://doi.org/10.1080/02827581.2014.920044

Tschoerner-Budde, C. (2018). *Sustainable Mobility in Munich*. Springer Berlin
Heidelberg. https://doi.org/10.1007/978-3-658-24180-3

Ullström, S., Stripple, J., & Nicholas, K. A. (2021). From aspirational luxury to
hypermobility to staying on the ground: Changing discourses of holiday air travel
in Sweden. *Journal of Sustainable Tourism*, 1–18.
https://doi.org/10.1080/09669582.2021.1998079

van Dijk, T. (2000). *Ideology: A Multidisciplinary Approach*. SAGE Publications Ltd.
https://doi.org/10.4135/9781446217856

van Leeuwen, T. (2008). *Discourse and Practice: New Tools for Critical Discourse
Analysis*. Oxford University Press.

Young, R. (Ed.). (1981). *Untying the text: A post-structuralist reader*. Routledge &
Kegan Paul.

Appendix 1

Interview Guide

Introduction:

Thank you for agreeing to participate in this interview.

My name is Jimena, I am doing my master's in Tourism, Society & Environment at Wageningen University & Research. I worked for AFKL in São Paulo, in the Digital Marketing team until 2021, where I developed an interest in tourism, aviation and sustainability. I was especially concerned with the impacts that flying have on the environment and how to reconcile the need/urge to travel with the fight against climate change. That is what led me to the research I am doing now, investigating how the aviation industry views frequent flying and its role in climate change.

The goal of this interview is to learn about your opinions and thoughts on frequent flying, climate change and sustainable air travel as someone who works in the aviation industry. With your help I will be able to build an informed picture of how the people at KLM see this topic.

The interview should last for maximum 1 hour. So I can manage time properly, do you have a hard stop at the one hour mark? I would like to record the interview to have a faithful recollection of what we discussed here and be able to analyse the data later. Do you agree to have the interview recorded?

I am also going to be taking some notes

turn recording on

It is important that you know that the interviews will be treated confidentially, meaning that your name, position in the company or any identifiable characteristics will not be reported in my data. Only my two direct supervisors will be able to access my interview transcripts and the name of the interviewees. Also, if at any time you do not want me to use this data, do not want to answer a question or want me to stop recording, it is your right to do so.

Do you have any questions before we start?

PART 1
Introductory questions

1. Can you tell me a little bit about your story with KLM?
   a. Position at the company (current and past)
   b. Time working
   c. Feelings towards the work/company
   d. Connection with sustainability in aviation
   e. Bold Moves group?

Flying and Climate Impacts

2. There is a growing debate about the consequences that flying has for the environment. A lot of pressure is put on airlines to decarbonise their flights and flight shaming has been gaining force. What are your thoughts on this debate?
   a. Decarbonise: issue less CO2 as an industry – mostly from substituting fossil fuels
   b. Flight shame: uneasiness about flying due to the harms that it causes on the environment
   c. Is it fair to put pressure on airlines?
   d. Have you experienced flight shame?

3. How should carbon emissions from flying be diminished?
   a. Overall or government, society, technology…
   b. How should KLM do it?

4. What do you think about KLM's strategy to lower their CO2 emissions from flying?
   a. Doing enough?
   b. Lobby to increase EU mandate SAF?

5. How confident do you feel that the group will reach the 2030/2050 goals?

6. Is there excessive flying?
   a. Meaning: flying when it is not needed. Ex: if there is another suitable transport method
   b. Flying more than the planet can handle

Hypermobility and Climate Impacts

Now I want to ask you questions about frequent flying specifically. With frequent flying I don't mean Flying Blue members, but I refer to flying regularly, either for short or long distances.

  7. How do you think that frequent flying impacts the planet?
          a. Ideas of solutions?

  8. How does KLM deal with that problem?
          a. Should KLM still encourage flying?

  9. Is there any strategy, action or initiative that you would like to see KLM take to address this issue of frequent flying?

PART 2
Personal struggles

I have heard from some people, that when they go to parties people are constantly questioning them about their work, why do they work for an airline, etc. And I also have experienced something similar. Have you also experienced something like this?

  10. What would you say to the colleagues that are not as critical as you?

  11. If they have a critical outlook: do you think leadership also shares your view?

  12. How is it like to work at KLM at the moment – considering all these pressures?

Alignment or opposition to the emerging policy discourse about hypermobility

Now I want to share with you some policy proposal ideas, that target frequent flying specifically. The frequent flyer levy proposes a tax on flights, calculated on top of recurrent flights in a given year. Taxes get progressively more expensive as more flights are flown. Another proposal suggests a tax that combines miles travelled and number of flights taken. Another idea is a policy that would ban frequent flying programs since they encourage people to fly more. These proposals represent a policy idea that aim at diminishing the number of flights taken per person, and that put the heavier burden on the people that fly more

  13. What do you think about this type of approach to diminish carbon emissions from aviation?

<u>Closing</u>

14. Thinking about everything we talked about now, is there anything you would like to say that I haven't asked you about?
    a. Any personal remarks, comments, or stories you would like to share?