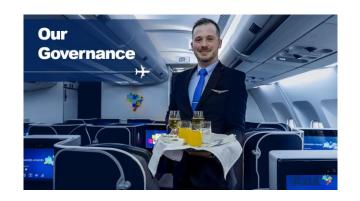


# Climate Report



## **Summary**

















## **About this report**

This report presents our climate strategy, in line with the TCFD recommendations for Governance, Strategy, Risk Management, and Climate Metrics and Targets.

Our strategy is structured in governance and risk management processes, market standards and regulations based on a process of continuous improvement.

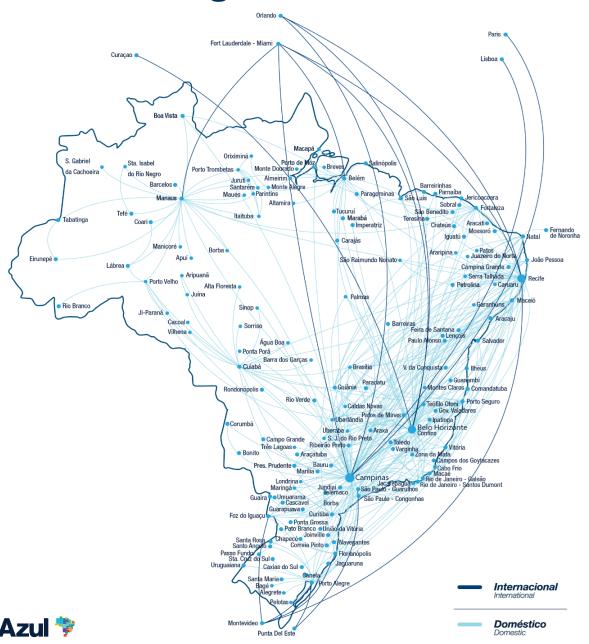
Understanding risks, opportunities and impacts is the basis for defining our key goals, commitments and action plans, and has been considered at every stage the construction of decarbonization targets.

The implementation of our Net Zero 2045 strategy, five years ahead of the aviation industry's commitment, involves engaging stakeholders and the value chain for the climate transition and managing the risks, opportunities and impacts suffered or caused by our business and operations.

ndependent Assurance
n this report, we present data regarding climate, emissions and eco-efficiency in general that have been ensured within the scope of our Annual Sustainability



## **Connecting Brazil**

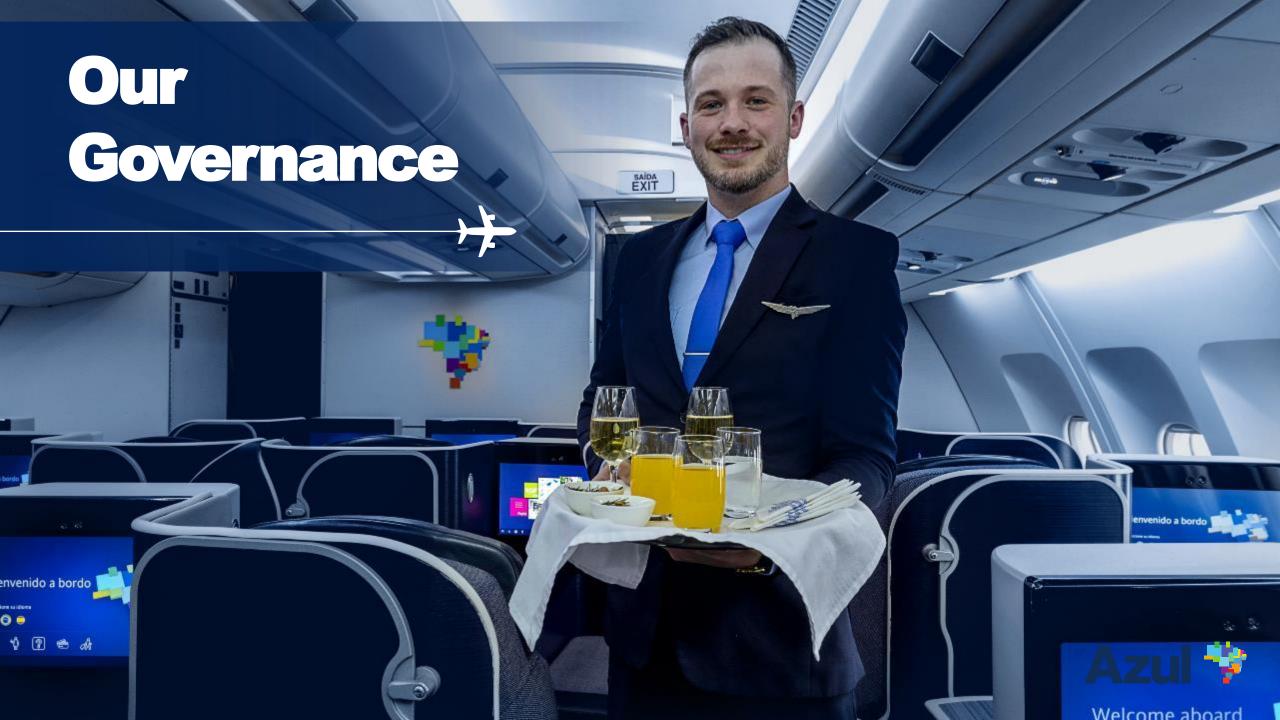


Azul S.A. is the largest airline in Brazil in terms of number of flights and cities served, with approximately 1,000 daily flights to approximately 167 destinations.

It has the newest and most diversified fleet in the market, operating more than 180 aircraft, consolidating itself as the main regional aviation company in the country.

Azul was named by Cirium (a leading aviation data analytics company) as the most punctual airline in the world in 2022, and the second most punctual in the world in 2023.

Azul has the purpose of being the best airline in the world and for the world



## **Our Climate Governance**

#### **Roles and responsibilities**

#### **Board of Directors**

It defines the general strategies regarding Azul's social and environmental responsibility, approves Azul's ESG strategy and policies, in addition to monitoring the company's action plans and sustainability indicators, the company's climate change and decarbonization strategy, as well as the strategy to promote biodiversity conservation and the promotion of the bioeconomy.

#### **ESG Committee**

Statutory Committee of the Board of Directors. It carries out the continuous evaluation of the ESG plans and strategies instituted by Azul, as well as encourages the monitoring of trends in topics related to the sustainability of the business, proposing the inclusion of Azul in global, national or regional policies related to corporate sustainability. It analyzes the need to propose updates, changes and innovations to the Code of Ethics and Conduct, and may recommend our adherence to protocols, agreements, pacts, initiatives or treaties related to ESG topics.

#### **CEO**

matrix, which guides Azul's projects and sustainability program.

It ensures that the Company's long-term strategies consider the social and environmental impacts of the business.

Establishes goals for the Company to ensure the process of continuous improvement in its sustainability program and projects..

Monitors the evolution of the Company's climate change and decarbonization strategy and monitors its performance indicators

Monitor the evolution of the Company's biodiversity and bioeconomy strategy and monitor its performance indicators.

It defines priorities based on our materiality



## **Our Climate Governance**

#### **Roles and responsibilities**

#### Vice President of People, Clients and ESG

Conducts processes to evaluate the effectiveness and effectiveness of sustainability strategy and actions.

Monitors projects related to the company's climate change and decarbonization strategy, addressing matters to the ESG Committee and the Board of Directors on a regular basis.

Monitors ESG performance indicators and emissions reduction linked to variable remuneration, when applicable.

Develops Azul's sustainability-aligned activities and projects and ensures that all Company leaders are aligned with Azul's ESG strategy.

It monitors the evolution of the biodiversity and bioeconomy strategy and monitors its performance indicators.

#### **ESG Management**

It develops Azul's socio-environmental projects and plays the role of guardian of materiality. It seeks to mitigate social and environmental impacts and considers in its decisions the most efficient means to reduce social and environmental impact throughout the chain.

It ensures the strategic alignment of all areas with the Company's ESG strategy: the company's decarbonization strategy, selective collection, circular economy and upcycling. It promotes projects to protect conservation and biodiversity, combat deforestation, fostering the bioeconomy and local populations. It develops indicators and frameworks for the analysis of socio-environmental and climate risks to monitor the Corporate Risk Matrix and ensures that sustainability and ESG reports are carried out with transparency and excellence.

Other positions and responsibilities can be consulted in our Política de Sustentabilidade



### Our Governance: Our Other Committees and Policies

#### **Committees**

- Azul's Safety Committee
- Culture and Social Responsibility Committee
- Ethics and Conduct Committee
- Compensation Committee
- Audit Committee

#### **Policies**

- Sustainability Policy
- Environmental Policy
- Corporate Risk Management Policy
- Diversity Policy
- Stakeholder Relations Policy
- Supplier Approval Policy
- Operational Safety Policy
- Conflict of Interest Policy
- Variable Compensation Policy
- Securities Disclosure and Trading Policy
- Antitrust Policy
- Anti-Corruption Policy
- Extra Audit Services Policy
- Social Investment Policy
- Azul's Donation and Sponsorship Policy

All documents and descriptions can be accessed on our website Relação com Investidores.



## **Our Partnerships**

In discussions on climate change and social impact, Azul recognizes its role in the aviation industry as a driver of innovation throughout the value chain. That is why our strategy is to involve aircraft manufacturers, engine manufacturers, biofuel production and distribution chains, airports, handling and catering activities, partnerships with regulatory agencies and commercial customers.

In recent years, we have signed technical partnerships to deepen discussions and joint efforts for the decarbonization of the sector.

































## **Climate change**

The Intergovernmental Panel on Climate Change (IPCC) has been monitoring the rising concentration of greenhouse gases (GHG) for decades. And scientists point to a strong correlation between direct and indirect human activities, since the Industrial Revolution, and the alteration of the composition of the atmosphere.

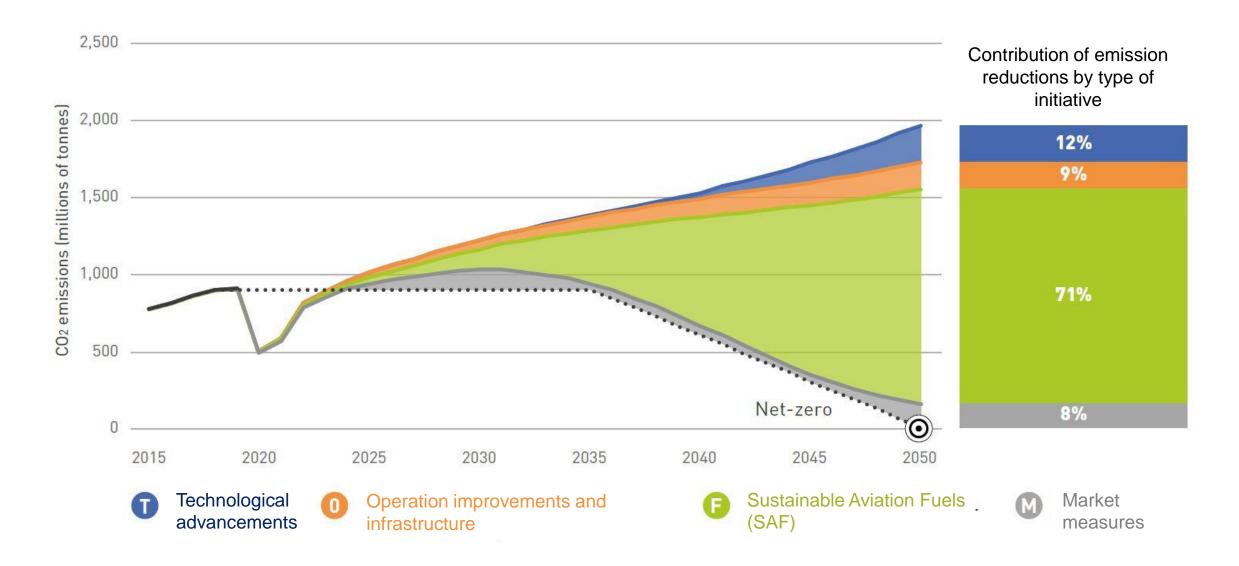
By 2022, the planet's temperature had already increased by 1.1°C compared to pre-industrial levels. The implications of transformations in the planet's climate and temperature patterns can last for the long term and cause significant impacts on our ecosystem, including:

- increasing the frequency of extreme weather events,
- the imbalance of the rainfall regime,
- imbalance of sea currents,
- reduction of marine photosynthesis with compromise of the food chain;
- sea level rise.

Although emissions from the aviation sector correspond to 2% of global emissions and 0.4% of national emissions, Azul has been mobilizing to look at the decarbonization process and build important opportunities for the country to stimulate low-carbon agriculture, the bioeconomy, biofuels and the conservation of our ecosystems.



## **Decarbonisation**

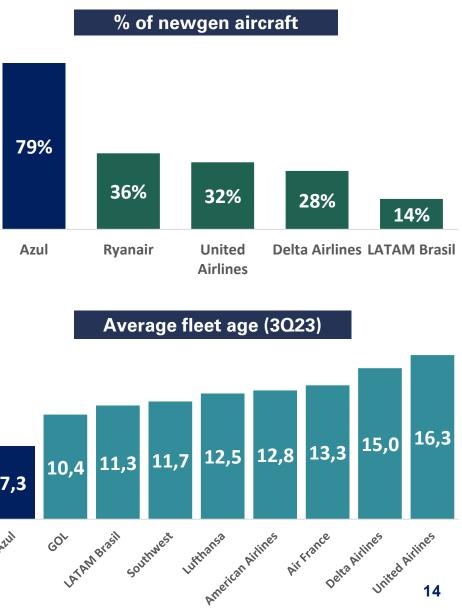




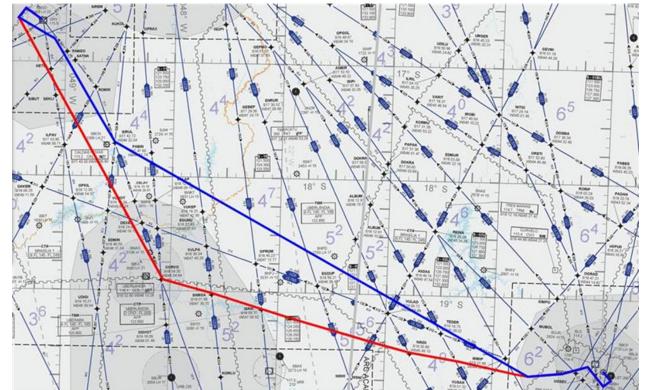
## Our New Generation Fleet: Economy and Efficiency

- Azul operates 4 different types of aircraft, offering 9 to 335 seats per flight, we guarantee the right aircraft on the right route.
  - Turboprops: Cessna Caravan and ATR-72
  - Regional jets: Embraer 195 and 195-E2
  - Narrowbodies: Airbus A320 and A321
  - Widebodies: A330 and A330Neo
- We have the youngest fleet compared to the world's leading airlines and the new generation aircraft burn 20% less fuel per passenger, which translates into lower carbon emissions.
- At Azul, 79% of the seat supply is made up of new generation aircraft and our expansion plan is to ensure the largest number of new generation aircraft.





- We have been developing the Fuel Efficiency Program (PEC) since 2016, as an important mechanism to reduce fossil fuel consumption and, consequently, to reduce emissions.
- The PEC is an umbrella of initiatives that involve before, during and after flight.
  - 1) Flight planning
    Proposal and discussions of route shortening for efficiency gains with DECEA



In red: original route

In blue: proposed route

This change saved 180,000 liters of fuel in one year, reducing 455 tons of emissions.

The proposal sent by Azul was accepted and already benefits the entire Brazilian airspace.



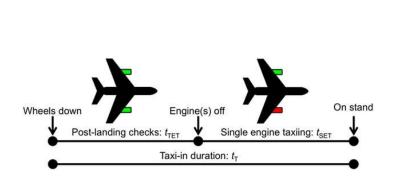
2) During the flight

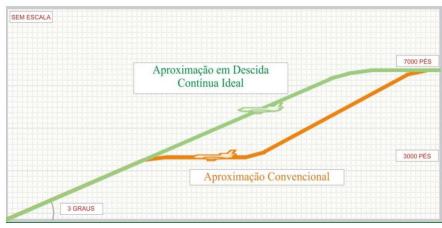
SETI (tax in with one engine),

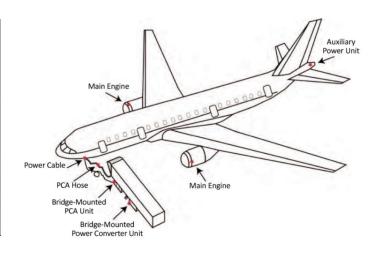
SETO (tax out with one engine),

DPO (Optimized Descent Profile),

APU Zero (use of ground generators that provide power to the aircraft during boarding and disembarking, preventing kerosene burning by the aircraft's "APU" auxiliary engine)









#### 3) Post Flight:

Follow-up of the % of adherence to procedures Monitoring of average fleet consumption



Azul's Fuel Committee monitors operational performance on a monthly basis through reports developed by the Fuel Efficiency Program (PEC) team.



 We also have other initiatives to reduce the weight of the aircraft, always prioritizing operational safety.

#### 1) Paperless Design;

In 2022, Azul received authorization from ANAC to use the Electronic Flight Bag (EFB), equipment that provides electronic documents and manuals, software for performance, weight and balance calculations, and electronic charts for navigation, in addition to several other important functions in flight operations, facilitating the work of Crew members and completely dispensing with the use of printed materials. Azul was the first Brazilian company to operate the EFB.

#### 2) Catering optimization;

Optimal use of space for refreshments and snacks, ensuring that we can always offer the best experience on board

#### 3) Optimization of water use on board;

Improvements to the automatic shut-off of aircraft toilet taps

4) Modifications in the transport of oxygen cylinders and fire extinguishers;



## SAF

- Sustainable Aviation Fuel (SAF) is the main term used by the aviation industry to describe an unconventional aviation fuel, i.e. fuel that comes from renewable resources such as vegetable oils, biomass, animal fat, waste gases, among others.
- The chemical and physical characteristics of SAF are almost identical to those of conventional fuels and can be blended with them to varying degrees, within the parameters indicated by the international safety committee.
- They are called "drop-in" when they do not need adaptation in the aircraft or engines. But to be sustainable fuels, they need to meet sustainability criteria, such as reducing life-cycle carbon emissions, limited freshwater needs, not competing with food production, and not generating deforestation.
- It is the main instrument for decarbonizing the sector.

## SAF

Main Brazilian inputs*	Technological Routes
Sugar cane	ATJ
Corn	ATJ
Eucalyptus and wood waste	ATJ
Soy	HEFA
Macao oil	HEFA
Palm oil	HEFA
Beef tallow	HEFA
Used cooking oil	HEFA
Urban waste	FT

 There is great synergy between the geographical distribution of crops, potential plants and refineries producing SAF, the production flow system and proximity to the hubs of consuming airports.



Brazil has unique potential in the production of SAF worldwide, combining soil and climate conditions with historical expertise in the production of biofuels.

<sup>\*</sup> Study developed by Unicamp in the SafMaps project

## SAF

- We are preparing for the consumption of SAF: our new generation aircraft are already able to receive SAF in the proportions recommended by the safety committee.
- We are enthusiastic about the use of SAF as the main decarbonization mechanism in the 2030s-50s and understand the crucial role that is in Brazil's DNA: the country has the potential to be one of the main players in the production and consumption of biofuel, given our agricultural vocation and expertise in biofuels since the 1970s.
- It is important to note that:
- In Brazil, SAF is not yet available;
  - We are establishing partnerships with study centers, universities and companies in the value chain to promote the production chain;
  - One of the main points of discussion for SAF involves Brazil's Tax Reform and the incidence of taxation, taxes and fiscal and financial incentives for this fuel, which directly reflects on the operating costs of airlines.



## **Carbon Capture and Storage (CCS)**

- Carbon Capture and Storage is a technology that involves capturing carbon dioxide (CO<sub>2</sub>)
  emissions from industrial processes, such as steel and cement production, or from burning
  fossil fuels in energy production. This carbon is then transported from where it was produced,
  via ship or pipeline, and stored underground in geological formations.
- Although it is a very promising technology for emissions mitigation, there are still many technical uncertainties surrounding the process.
- Azul is following the discussions on the technical feasibility of the CCS and also instigating discussions before regulators. Our position of using this instrument as emission mitigation awaits the technical understanding of the regulators (ICAO, ANAC, SBTi) on the acceptance of the CCS.



## **Carbon Offsetting**

- Voluntary carbon offsetting is a market-based instrument to balance carbon emissions that have not been reduced domestically.
- There are also some compulsory compensation programs and Azul participates, in accordance with international regulations:
  - European Union Emissions Trading Scheme (EU-ETS);
  - United Kingdom Emissions Trading Scheme (EU-UK);
  - CORSIA: we participate in MRV and compensation will begin in 2027, according to international regulations

We recognize the role of aviation in the sustainable development of the planet as a driving source of economic development and cultural enrichment through tourism.

As signatories to the NetZero Commitment, we believe that global efforts should focus on reducing emissions, and we are proud to be doing our part with fleet renewal, operational improvements and SAF readiness.

Thus, we understand that offsetting should be the last resort to be used to neutralize residual emissions, after all internal reduction efforts have been developed. Offsetting without reducing is a reckless move that delays global decarbonization.



# Risks and Opportunies





## **Risk and Opportunity Matrix**

 Azul recognizes the importance of analyzing climate risks so that we can increasingly improve the sustainable development of our company. We use the TCFD methodology to map climate risks and opportunities.



- The risks and opportunities were classified according to their relevance of impact based on their chance of materialization
- The financial impacts were also ranked according to their relevance













Change in customer preference to opt for another transport model



Physical Risks	Fleet Operations Infra structure	Increased operating and maintenance costs and damage to facilities and aircraft due to extreme weather events	
		Safety risk due to increased in-flight weather incidents	
		Decreased revenue due to disruption of flights to areas affected by extreme weather events	
		Loss of airport bases in coastal cities due to sea level rise, requiring relocation	
		Increased cost to adapt bases and airports to withstand incidences of high temperatures	
		Increase in electricity costs due to water scarcity	
		Increased cost to retrofit airport bases to withstand atypical winds and rainfall	
	Demand	Negative impact on the airline industry caused by pandemics stemming from climate change and changes in ecosystems	
		Decrease in passengers due to flight interruption/cancellation caused by high temperatures, precipitation and changing weather patterns	



	Carbon Market	Internal Carbon Pricing  Carbon offsseting – cargo and Corporate clients	•
Opportunities	Fleet Operations Infra structure	Grid planning based on observation of climate data  Reduced fuel costs due to increased fleet efficiency  Partnerships with airports to improve infrastructure for climate adaptation and resilience  Reduction in annual energy costs with the implementation of renewable sources  Implementation of biofuels in ground equipment	
	SAF	SAF supply SAF partnerships – Corporate and cargo clients	
	Demand	Expansion in hubs at lower risk to the adverse effects of climate change  Increase in customers seeking low-carbon services  Enhance brand value with proactive sustainability initiatives around climate change by attracting investment from ESG funds	
Azul 🧚		Creation of new business and new revenue inputs based on a low-carbon economy	28



## Adapting to climate change

- Adaptation is the set of initiatives and measures to reduce the vulnerability of natural and human systems to the current and expected effects of climate change.
- Planned adaptation strategies often focus on measures aimed at sharing the risk, assuming the risk and its associated loss, modifying or avoiding the effects of the event, or modifying the location, reducing or eliminating the exposure of some asset (including human lives) to a given climate risk.
- Thus, one approach to adaptation is to reduce risk by reducing a system's vulnerability and the system's exposure to climate change. It is also possible to think of adaptation strategies that increase the resilience of the system so that it copes/responds to the effects of climate change.
- The synergy between mitigation and adaptation actions increases cost-effectiveness, social benefits, and makes the socio-economic system less carbon-intensive and at the same time more resilient.



## Adapting to climate change: Operation



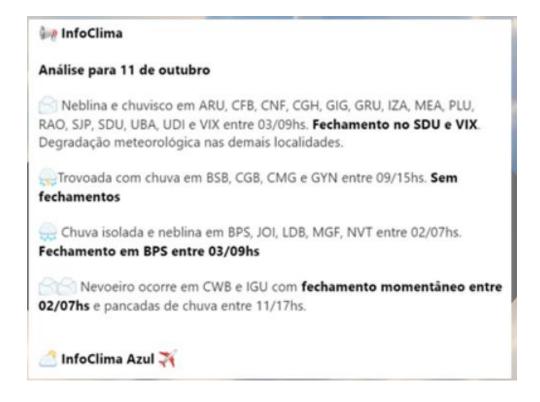
Azul has an InfoClima team, with meteorological specialists who perform analysis and prepare daily reports to assist in the planning of operations.

This team is located within our Operational Control Center (COO) and is responsible for initiating the company's response process to weather events. Thus, decisions to continue with the flight or cancel are made considering the **safety of the operation**.

The monitoring and accommodation of all passengers of cancelled flights are carried out within the rules and regulations of the sector, always offering the best Azul experience.



## Adapting to climate change: Operation



#### **Daily Scans**

- Issued twice a day
- Contains the type of phenomenon, bases impacted, time, and possibilities of airport closures



#### **Events**

- Holidays and amendments
- Contains the type of phenomenon, bases impacted, time, and possibilities of airport closures



## Adapting to climate change: Operation

10:44



#### Alerts of critical situations for the operation:

- Hurricanes, Volcanoes
- Strong winds
- Critical weather events such as intense storms



InfoClima Azul X

## Climate Change Adaptation: Partnerships with Airports

Azul has partnered with the main managers of the airports in our hubs to jointly deepen the understanding of the impacts of climate change on operations and carry out a survey of resilience points and infrastructure improvement gains.

It is important to highlight that during extreme weather events, airports suffer from greater damage to infrastructure: runway conditions that can deteriorate, physical infrastructure such as roof and roof conditions, energy supply and/or overload, among others.

In addition, Azul is a partner and has made available GHG emission data for some airports, especially the concessionaires Aena Brasil and Zurich Aeroportos.

This is an effort to ensure the engagement of the entire chain in MRV programs, even if voluntary: monitoring of emissions, preparation of reduction projects and periodic verification of information.

Climate adaptation can be an important driver for conducting airport infrastructure works and reinforcements, thus increasing the resilience of Brazil's airports.



## **Adapting to Climate Change: New Airports**

In order for the opening of new operational bases, there is a very important prior procedure for assessing the infrastructure conditions of the airport.

In this procedure, a specialized team from Azul goes to the base and checks the general conditions: size, length, width and conditions of the runway, fencing, vertical and horizontal signals, existence of security equipment (surveillance cameras, X-ray), weather stations, radio communication stations and approach and descent equipment (Precision Approach Path Indicator). In addition, the size of the waiting hall, quality of infrastructure, availability of rest and food areas are also evaluated.

From this visit, we prepared a report that is shared with the airport to understand and size Azul's operations. In this way, we are contributing to the improvement of the infrastructure of hundreds of operating bases throughout Brazil, bringing not only tourism and direct income generation when we open the bases, but also supporting resilience and adaptation to climate change with indication of necessary improvements for the operation of flights.

Thus, we identify the best equipment that suits each type of runway, infrastructure and demand, reinforcing our non-negotiable value with operational safety and our DNA of operating the right aircraft on the right route.





### Metrics: SBTi & Net Zero 2045



We are the first airline in Latin America and the 5th in the world to have a medium-term target approved by the SBTi in the 1.5°C protocol.

By 2030 we will reduce emissions by 46% compared to 2019 emission levels.

Our Net Zero 2045 target, which advances the aviation industry's commitment by 5 years, is being evaluated by the SBTi technical committee.



## **Metrics**

We carry out our inventory of greenhouse gas (GHG) emissions in accordance with the recommendations of the GHG Protocol.

We account for Scope 1, Scope 2 (location and purchase choice) and Scope 3 emissions.

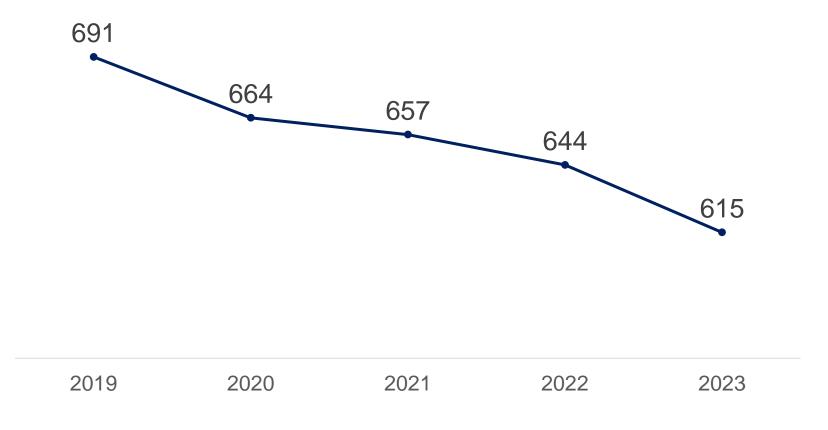
Our carbon information is audited by a third party at three times:

- GHG emissions inventory for the Public Emissions Registry
- Emissions from international flights to CORSIA
- Emissions from flights between countries in Europe (EU-ETS)



## **Carbon intensity indicators**

gCO<sub>2</sub> (Scope 1 + Scope 3 WTT querosene) / RTK



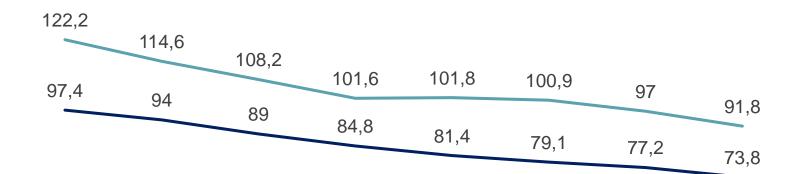
This indicator is standardized for the aviation sector in the SBTi. It considers emissions from burning kerosene (Scope 1) and emissions related to kerosene production (WTT) in Scope 3 – category 3.



SCIENCE



## **Carbon intensity indicators**



2016 2017 2018 2019 2020 2021 2022 2023

Considering that 99% of our emissions come from the burning of kerosene, only kerosene emissions (E1) are represented here.



# A flight into the future





## **Climate scenarios**

Azul's climate transition plan is supported by climate scenario analysis that helped us identify and measure risks and opportunities, bringing a strategic vision of how we should act.

#### The main frameworks consulted were:

- IPCC: SSP 1 2.6; SSP 2 4.5, SSP 3 7.0, SSP 5 8.5
- IEA: Net Zero, National Pledges (NDCs), Current Policy Landscape
- Climate Modeling and Sectoral Vulnerabilities to Climate Change in Brazil (MCTI)



## **Climate scenarios**

#### **NET ZERO 2045\***

- SSP 1 2.6
- Decarbonization RoadMap
- MACC Curve
- Internal carbon pricing (considering the value of the carbon credit of the European Union Offset Scheme – EU ETS)

#### **NET ZERO 2050**

- SSP 2 4.5
- Decarbonization RoadMap considers a delay in the development and accessibility (taxation and incentives) of SAF
- MACC Curve
- Internal Carbon Pricing

#### **NET ZERO 2060**

- SSP 3 7.0
- Decarbonization RoadMap considers difficulties in SAF accessibility (taxation and incentives) and delay in technological disruptions in aircraft manufacturing
- MACC Curve
- Internal Carbon Pricing

\*Our Net Zero 2045 goal advances the commitment of the international industry by 5 years and is being evaluated by SBTi.



### References\*

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- TCFD: <a href="https://www.fsb-tcfd.org/">https://www.fsb-tcfd.org/</a>



## Thank you.

sustentabilidade@voeazul.com.br



