

**OUR  
ENVIRONMENT**

**TOWARDS  
A GREENER  
AIRPORT**

***WHEN PEOPLE*** with different backgrounds, knowledge and ideas come together, new ideas are born. That's why we need a planet where we have the possibility to meet in a simple, yet sustainable, way. As an airport, we're an important part of that possibility. We know that we haven't reached our destination yet, but we're convinced that new ideas and innovations will help us get there.

***TO SUCCEED***, we are constantly working to improve our environmental work. The following pages present five of our work areas.

***WELCOME TO*** the journey we are on together with our visitors and the airlines that use Stockholm Skavsta Airport. Also, please feel free to give us your ideas on how we can be a more sustainable airport!



## ***GLOBAL GOALS AND AGENDA 2030***

In 2015, leaders of the 193 UN Member States adopted Agenda 2030 and the Global Sustainable Development Goals. The global goals and Agenda 2030 aim to eradicate poverty and hunger, to realize human rights for all, to achieve gender equality and empowerment for all women and girls, and to assure lasting protection for the planet and its natural resources. The global goals are integral and inseparable, and balance the three dimensions of sustainable development: economic, social and environmental.

The 17 Sustainable Development Goals (SDGs) have 169 sub-goals and 230 indicators. An airport like Skavsta is a far-reaching operation that affects many of the SDGs. This is why the Sustainable Development Goals are a natural part of our everyday work.

***READ MORE ABOUT THE SUSTAINABLE DEVELOPMENT GOALS HERE >>***

**1** NO  
POVERTY



**2** ZERO  
HUNGER



**3** GOOD HEALTH  
AND WELL-BEING



**4** QUALITY  
EDUCATION



**5** GENDER  
EQUALITY



**6** CLEAN WATER  
AND SANITATION



**7** AFFORDABLE AND  
CLEAN ENERGY



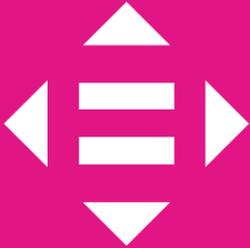
**8** DECENT WORK AND  
ECONOMIC GROWTH



**9** INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



**10** REDUCED  
INEQUALITIES



**11** SUSTAINABLE CITIES  
AND COMMUNITIES



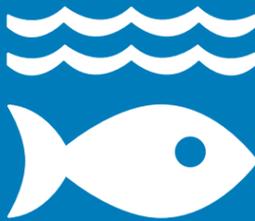
**12** RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



**13** CLIMATE  
ACTION



**14** LIFE BELOW  
WATER



**15** LIFE  
ON LAND



**16** PEACE, JUSTICE  
AND STRONG  
INSTITUTIONS



**17** PARTNERSHIPS  
FOR THE GOALS



**THE GLOBAL GOALS**  
For Sustainable Development

***OUR ENVIRONMENT #1  
BIRDS AT  
THE AIRPORT***





*»WE WANT TO SEE AS FEW BIRDS AS POSSIBLE AT AIRPORTS, TO REDUCE THE RISK OF BIRDS COLLIDING WITH AIRCRAFT AS THEY TAKE-OFF OR LAND. AT SKAVSTA, WE ARE WORKING PROACTIVELY TO REMOVE ANYTHING THAT BIRDS MAY FIND ATTRACTIVE OR INVITING AT THE AIRPORT.*

# ***KEEP THE BIRDS AWAY!***



To date in Sweden, there have been no serious accidents caused by bird collisions, but take-offs and landings do sometimes have to be abandoned. To keep birds away from the runways, birds have previously been culled by shooting. We now aim to avoid this, and are instead reviewing the airport environment and removing anything that may be attractive to bird life.



*SHOULD BIRDS COME TO THE AIRPORT IN ANY CASE, WE DRIVE TO THE SITE WITH A MEGAPHONE AND PLAY RECORDED BIRD SOUNDS, SUCH AS A GULL'S WARNING SHRIEK.*



# ***SHORT GRASS HELPS***

It needs to be difficult for birds to find food, nesting sites and nest materials in the airport zone. The grass at the airport is cut with a disc mower and removed in bales, rather than being left on the ground. The land is not fertilized, and this combined with grass removal makes the ground very dry and nutrient poor. This reduces the availability of field mice and small animals which many bird species live on.



## ***HELP US BOOST FLIGHT SAFETY!***

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Rubbish and food waste attract a lot of birds. Help to keep birds away from the airport and discard your trash in waste bins, rather than on the ground.





## ***BIRD SCARERS DO THEIR JOB!***

There are auto-fire gas guns positioned around the fields to scare birds away. The bangs can sometimes cause confusion among passengers, so it's good to know that it's just the bird scarers.



***OUR ENVIRONMENT #2***

***SKAVSTA'S  
WETLAND***



*»STORM WATER FROM AIRPORT ZONES NEEDS TO BE PURIFIED OF POLLUTANTS AND NUTRIENTS. SKAVSTA'S WETLAND CLEANS THE WATER NATURALLY, WHILE ALSO CREATING A FAVOURABLE HABITAT FOR MANY PLANTS AND ANIMALS.*

## ***IMPORTANT LANDS***

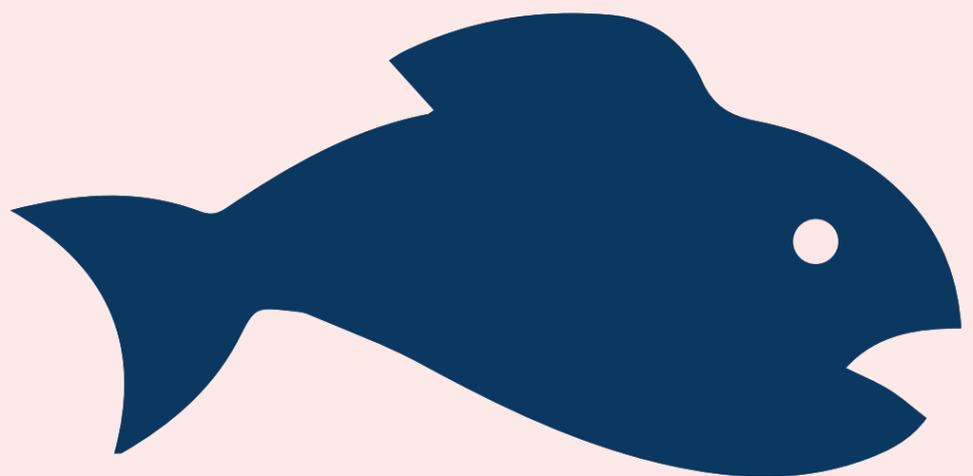
Wetlands are an important biotope or habitat, and a great many plants and animals depend on their ecological function. Many of Sweden's wetlands disappeared in the 19th century when moist soil was dried out to make the land arable. Consequently there is a great need to recreate ponds and wetlands, particularly in central and southern Sweden.

# ***FROM THE AIRPORT TO THE BALTIC SEA***

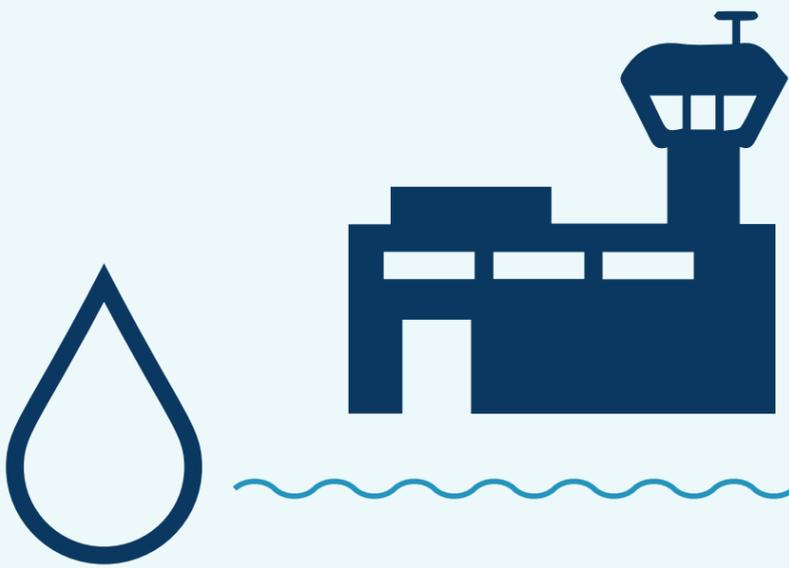
At Skavsta, storm water from the airport zone is led to a gully, where equipment takes samples to test it.

Generally speaking the pollution content is low, but during the winter when we use a lot of glycol to de-ice the aircraft, there can be elevated glycol residues in the storm water. The water is then led on to Skavsta's wetland, which has been created to capture pollutants and nutrients.

In the wetland, any glycol residue is spread across a wide area. This ensures that the glycol comes into contact with the oxygen in the air and thus breaks down. After the wetland, the cleaned water runs into the Nyköping River and eventually ends up in the Baltic Sea.



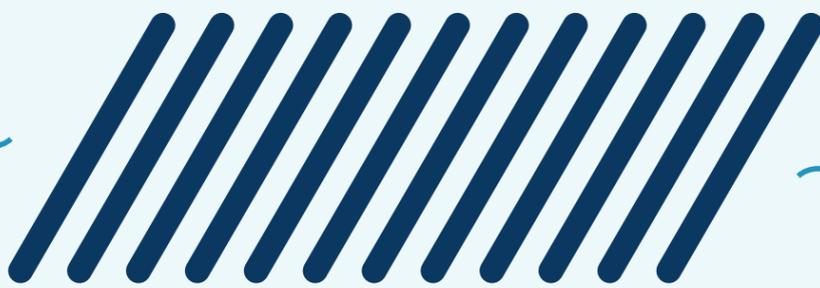
# **STORM WATER'S JOURNEY FROM AIRPORT TO BALTIC SEA**



**STORM WATER FROM THE AIRPORT ZONE IS LED TO A GULLY, WHERE THE WATER IS TESTED.**

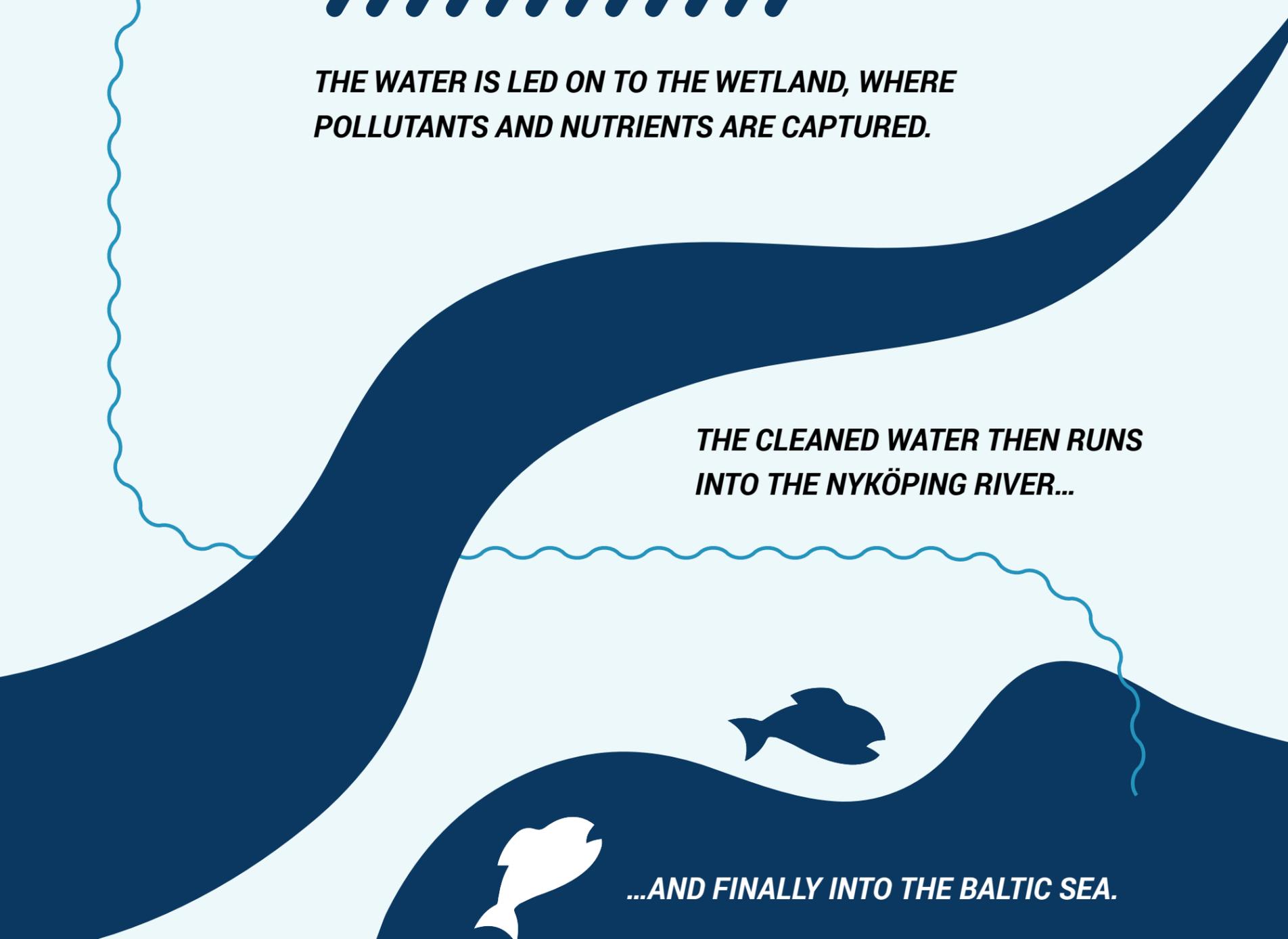


**ANY GLYCOL RESIDUE IS BROKEN DOWN BY THE OXYGEN IN THE AIR.**



**THE WATER IS LED ON TO THE WETLAND, WHERE POLLUTANTS AND NUTRIENTS ARE CAPTURED.**

**THE CLEANED WATER THEN RUNS INTO THE NYKÖPING RIVER...**



**...AND FINALLY INTO THE BALTIC SEA.**



»DUCKS, HERONS,  
RED DEER AND WILD  
BOAR ALL THRIVE  
AT SKAVSTA'S  
WETLAND.



## ***AN EFFECTIVE TRAP***

Well-managed wetland is an effective trap for nutrients, which can otherwise cause eutrophication, or 'over-nourishment', in lakes, seas and other bodies of water. The wetland slows the speed of the water run-off, ensuring that nutrients bound to particles can settle and be absorbed by the vegetation in the wetland, rather than being carried out to sea with the storm water.



***OUR ENVIRONMENT #3***

***CIRCULAR  
GLYCOL  
MANAGEMENT***

# ***ICE ON THE AIRCRAFT***

When flying at maximum altitude, the temperature outside an aircraft can reach down to  $-55^{\circ}\text{C}$ . When the aircraft then comes down through the moist air of the troposphere to land, a layer of ice sometimes forms when the moist air makes contact with the plane's cold surfaces. Ice can also form on the wings when it's snowing or raining and the aircraft is on the ground, since the fuel in the wings is cooled.

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***» BEFORE AN AIRCRAFT CAN TAKE OFF, THE ICE HAS TO BE REMOVED.***

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Glycol is used to remove ice, or to prevent it from sticking. This is what you can see us spraying on the aircraft in cold temperatures. Glycol generally needs to be used from about  $+5^{\circ}\text{C}$  and below.



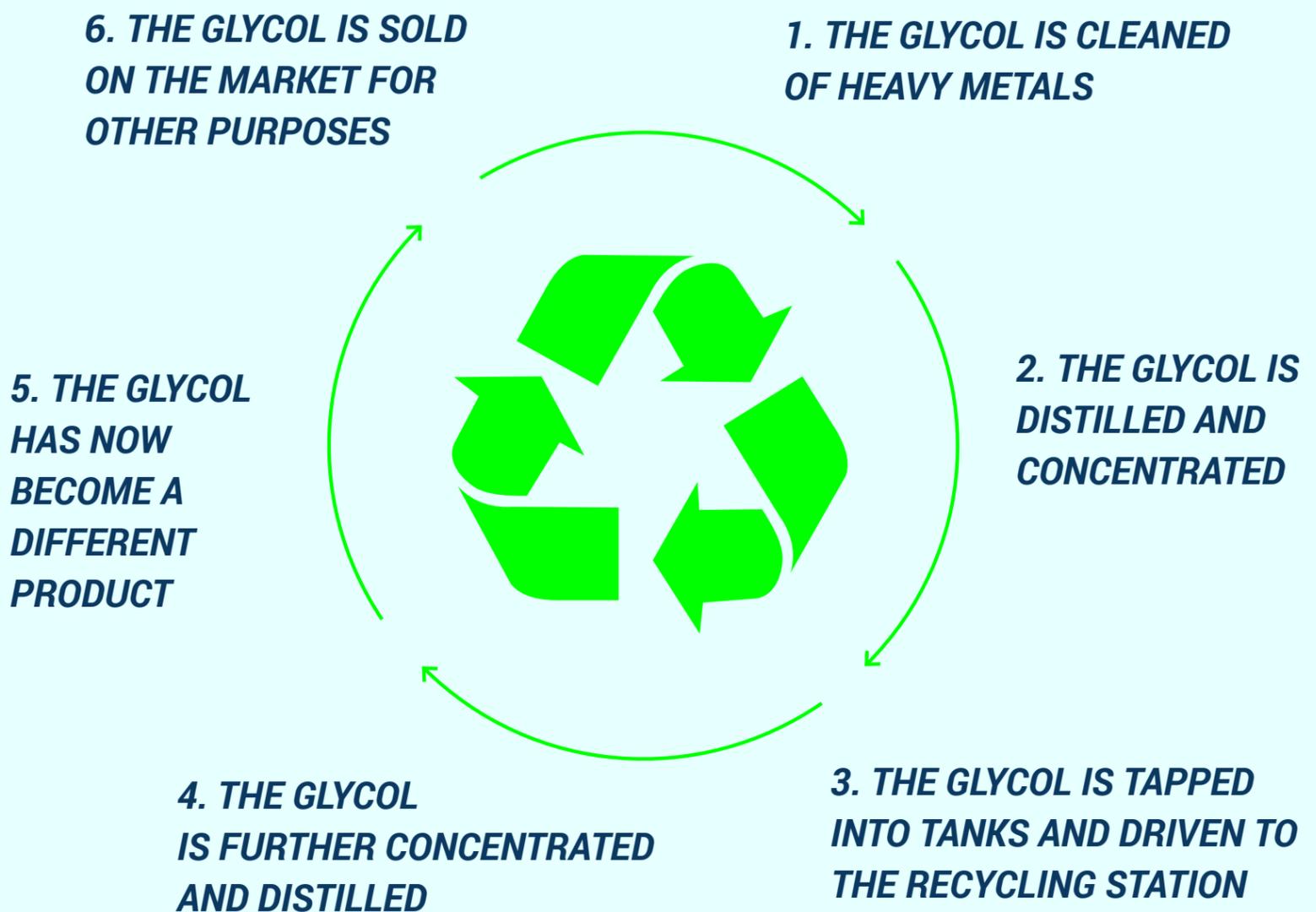
# ***RECYCLING GLYCOL***

The glycol is sprayed onto the aircraft while they are parked, and is then collected in a separate pipework system, where it is led to collection wells and then pumped on to a large glycol basin.

Any glycol that does not automatically run down into the system is collected by a glycol recovery vehicle, which is then emptied straight into the basin. The basin is fitted with a pump which forwards the glycol to a special meter which gauges the glycol content.



# ***CIRCULAR GLYCOL MANAGEMENT – HOW IT WORKS***



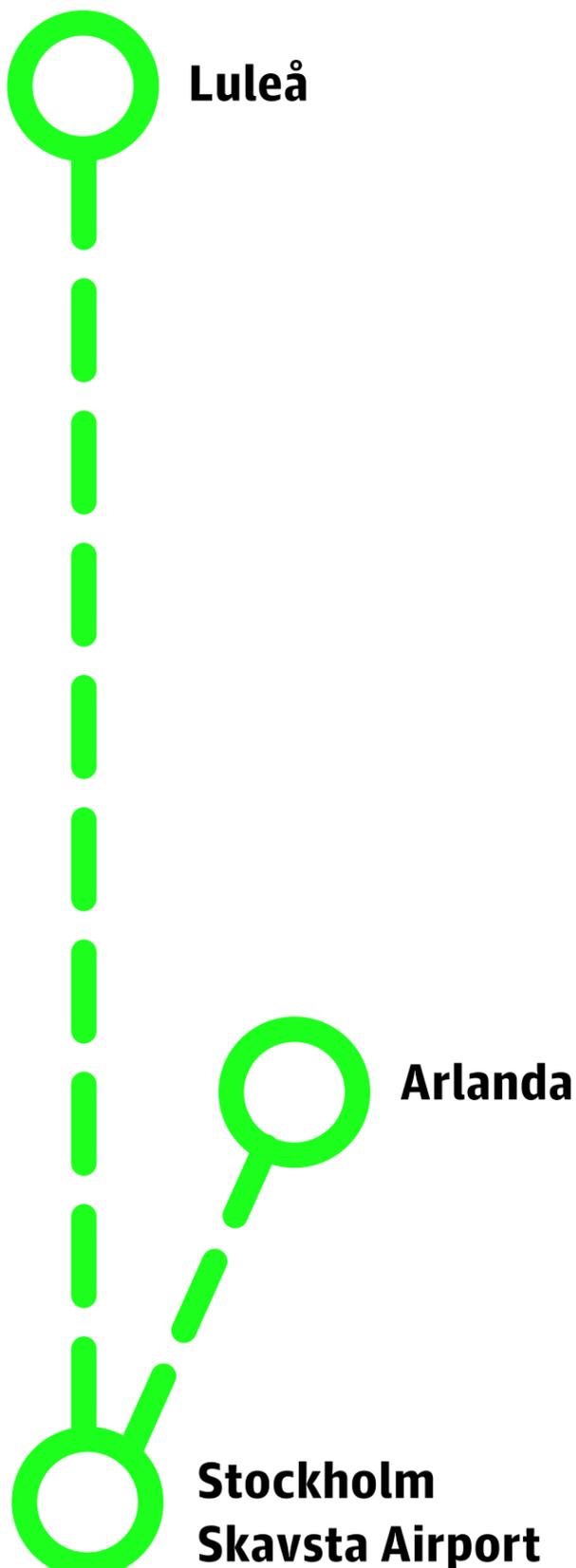
## ***A NEW PRODUCT***

The glycol is cleaned of heavy metals in a metal filter. The liquid is then distilled and concentrated using an evaporator, until the glycol content is 50%. Following the first distillation and concentration, the glycol is tapped into tanks and then forwarded for further distillation and concentration. By the time the solution has reached a glycol content of 95%, it has become a new product that can be sold on the market for other purposes.

# ***GO SWEDEN!***



Sweden is a pioneer in dealing with de-icing fluid. Selling the glycol on after cleaning it and reducing the volume, as well as increasing the concentration of glycol, helps to create a circular system that reduces not only emissions of hazardous chemicals, but also transport and the use of natural resources.



## ***LESS TANKER TRANSPORT WITH A NEW RECYCLING STATION***

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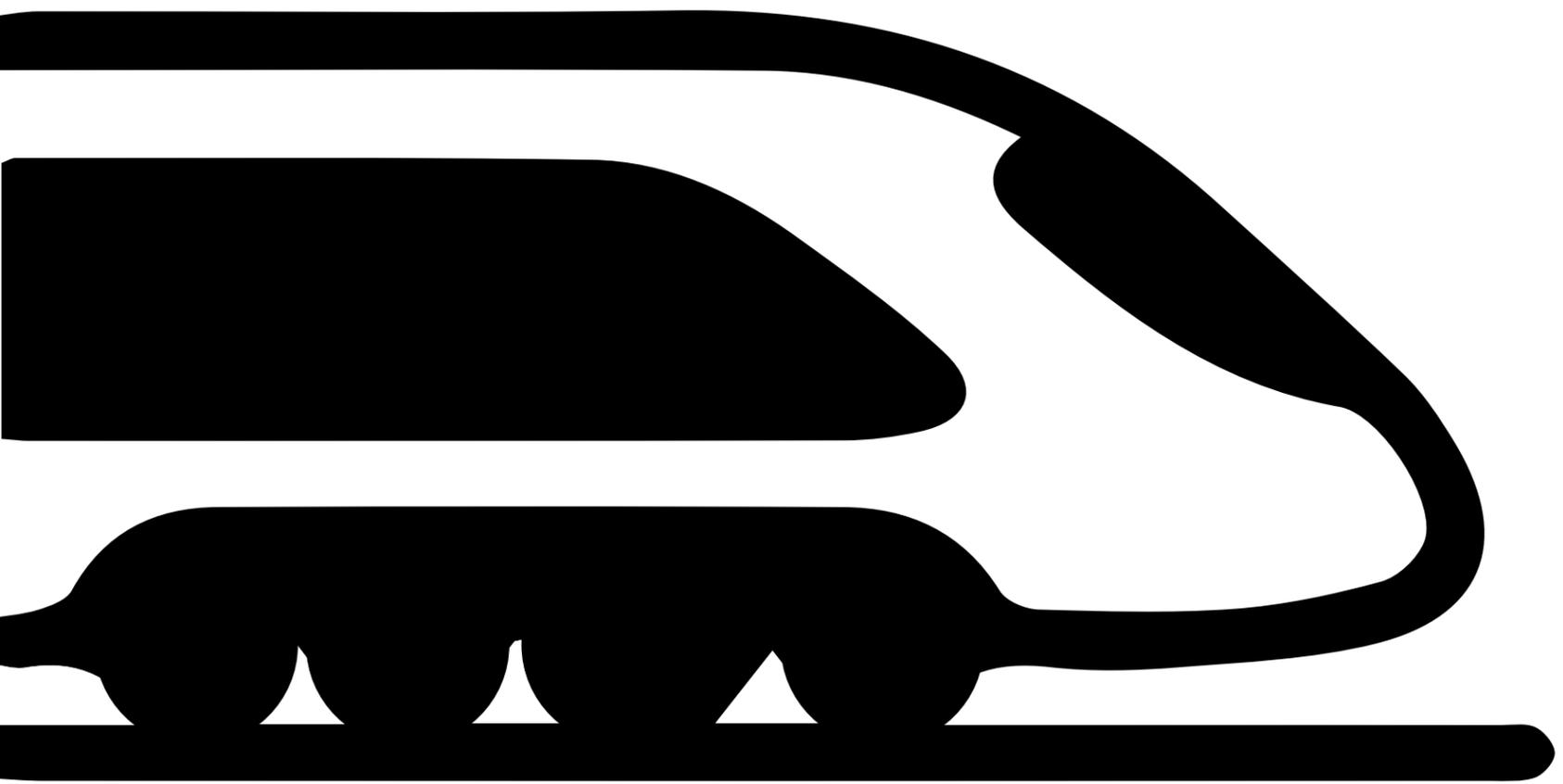
Until now the last stage of the glycol process has been dealt with in Luleå in northern Sweden, but since October 2018 a new glycol recycling station has opened at Stockholm Arlanda Airport. This will reduce tanker transport considerably.

## ***OUR ENVIRONMENT #4***

# ***SKAVSTA***

# ***GETS A TRAIN***

# ***STATION***



## ***A QUICK, SUSTAINABLE JOURNEY***

In future it will be possible to take the train to Skavsta; when the high-speed East Link railway is built, Skavsta will have its own train station. The journey will take about 50 minutes from Stockholm.

For us at Skavsta, it is a great boost that people will be able to access the airport in a sustainable way. The new station will also increase the airport's catchment area, as it will be quicker to get to the airport also for people who live far away.

The journey  
time from  
Stockholm  
will be around  
50 minutes

## ***JUMP ON IN NYKÖPING***

It will also be possible to get on the train at Nyköping Travel Centre, and from there the journey should take about five minutes. Construction of the East Link began in 2017, and the first train should be running by around 2033–2035.

**STOCKHOLM  
SKAVSTA  
AIRPORT**

**5  
MINUTES**

**NYKÖPING C**



# ***OUR ENVIRONMENT #5***

# ***LOST & FOUND***

# ***ITEMS HELP***

Passengers often forget various electronic devices at the airport. Lost and found items are saved for three months. If the owner doesn't claim their property within that time, we donate it to the Red Cross, which sells it on to help fund their aid efforts.





# SKAVSTA 2020

» We shall reduce our water consumption by 20% by 2020, compared to 2010 according to set criteria.

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» 100% of heating for the terminal building shall come from environmentally friendly alternatives by 2020.

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» We shall reduce our energy consumption by 30% by 2020, in relation to the number of m<sup>2</sup> at Skavsta Airport in 2010.

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» We shall reduce our emissions of CO<sub>2</sub> by 50% by 2020, compared to 2010.

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» We shall promote awareness of how to reduce climate gas emissions among our personnel.

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» We shall increase the volume of recycled waste by 30% by 2020, compared to 2010.

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» We shall promote flight paths that reduce noise impact.



## ***WHAT CAN YOU DO?***

Compensate for your carbon dioxide emissions.

There are various pages online where you can calculate your carbon footprint in connection with a flight, and then climate compensate.



**FORWARD»»**

**#1**

## ***NEW CABIN HEATER TO SAVE ENERGY***

Next year, the plan is to purchase a new aircraft cabin heater. During the cold winter season, an interior heater similar to the ones used in cars, only bigger, will be used to pre-heat the aircraft cabin. The new heater will save energy.

**#2**

## ***BETTER GLYCOL COLLECTION***

With the aim of reducing the amount of water that needs cleaning, the glycol collection facility is planned for remodelling, which will lead to reduced energy consumption.

**#3**

## ***NEW DE-ICING VEHICLE***

Another plan is to buy a new de-icing vehicle next year, which will lead to lower glycol consumption and thereby a lower glycol content in the storm water.

**#4**

## ***MORE CHARGING POINTS***

A further 20 charging points for electric vehicles will be installed during 2019.

# ***GREEN FACTS***



## **GREEN FACTS**

# ***ELECTRIC VEHICLES AT THE AIRPORT***

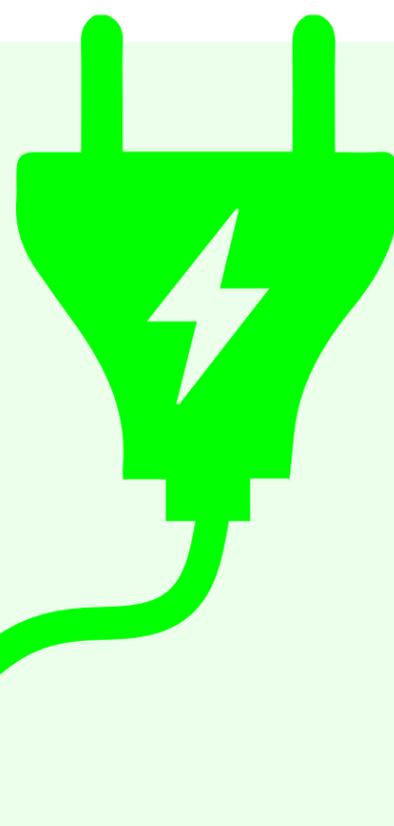
There are 40 spaces where electric vehicles can be charged, all in the airport's indoor car-park.

Since November 2014, the number of spaces with charging points has increased from 4 to 40.

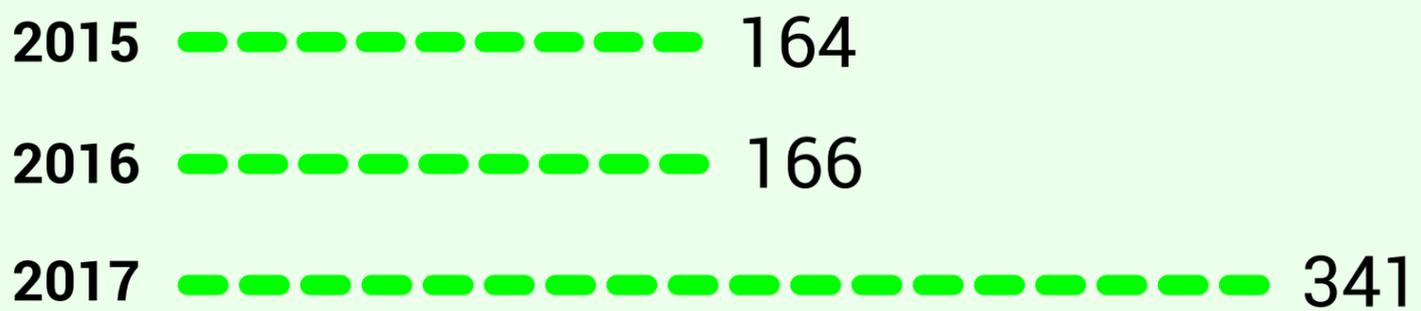
**40**

**4**

**STATISTICS**



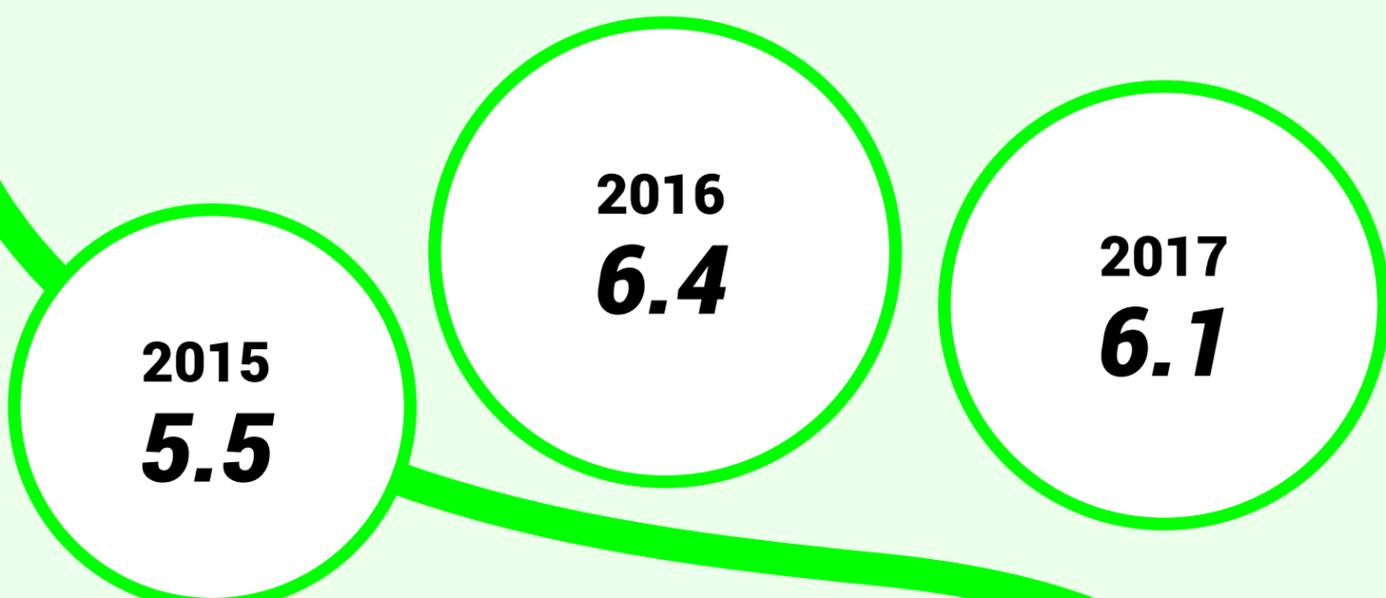
## ***NO. OF BOOKINGS OF CHARGING SPACES***



## ***NO. OF BOOKED DAYS***

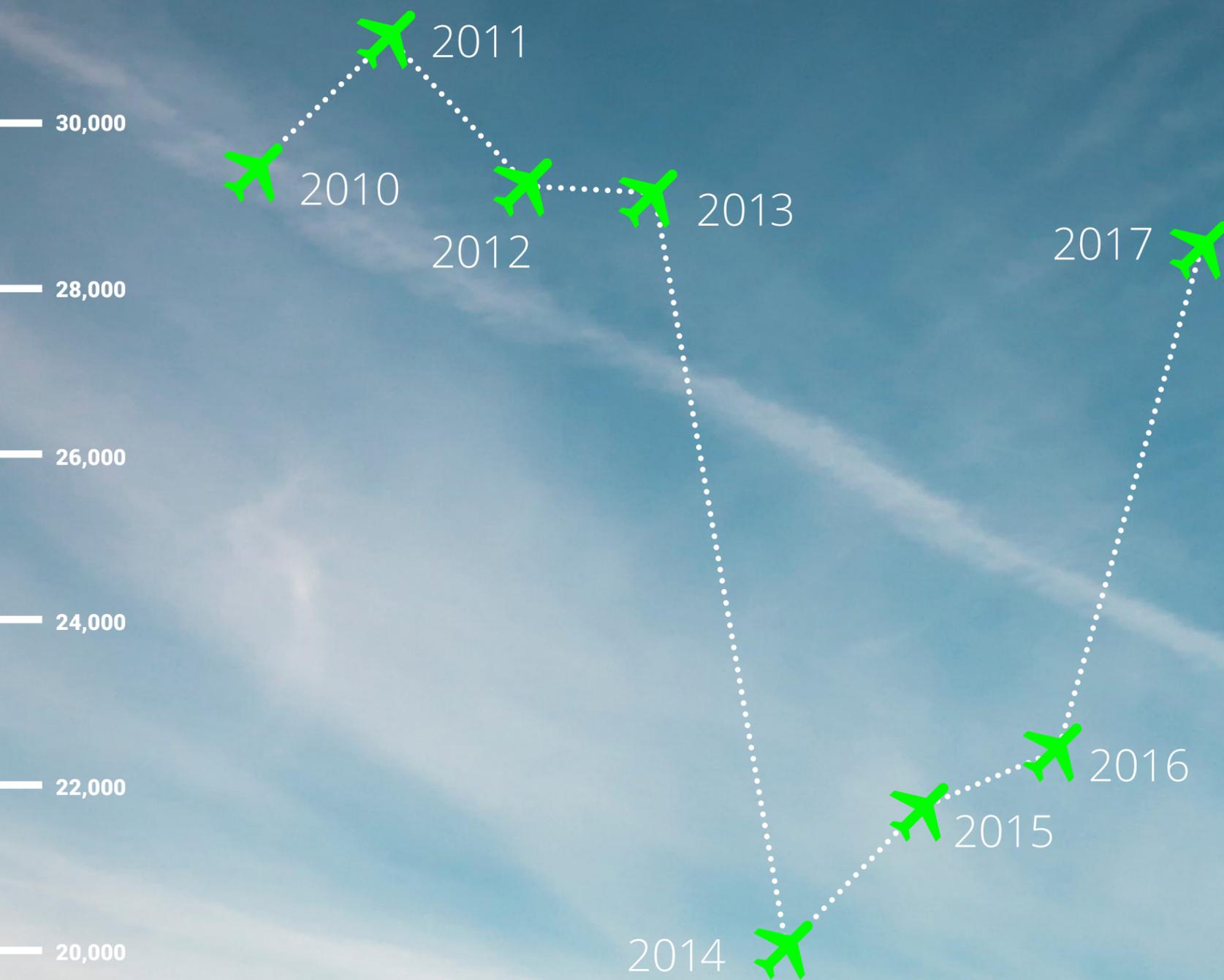


## ***NO. OF DAYS PER BOOKING***



# TAKE-OFFS /LANDINGS

(AIRCRAFT MOVEMENTS)



# PASSENGER DEVELOPMENT



# ***QUIETER, GREENER AIRCRAFT***

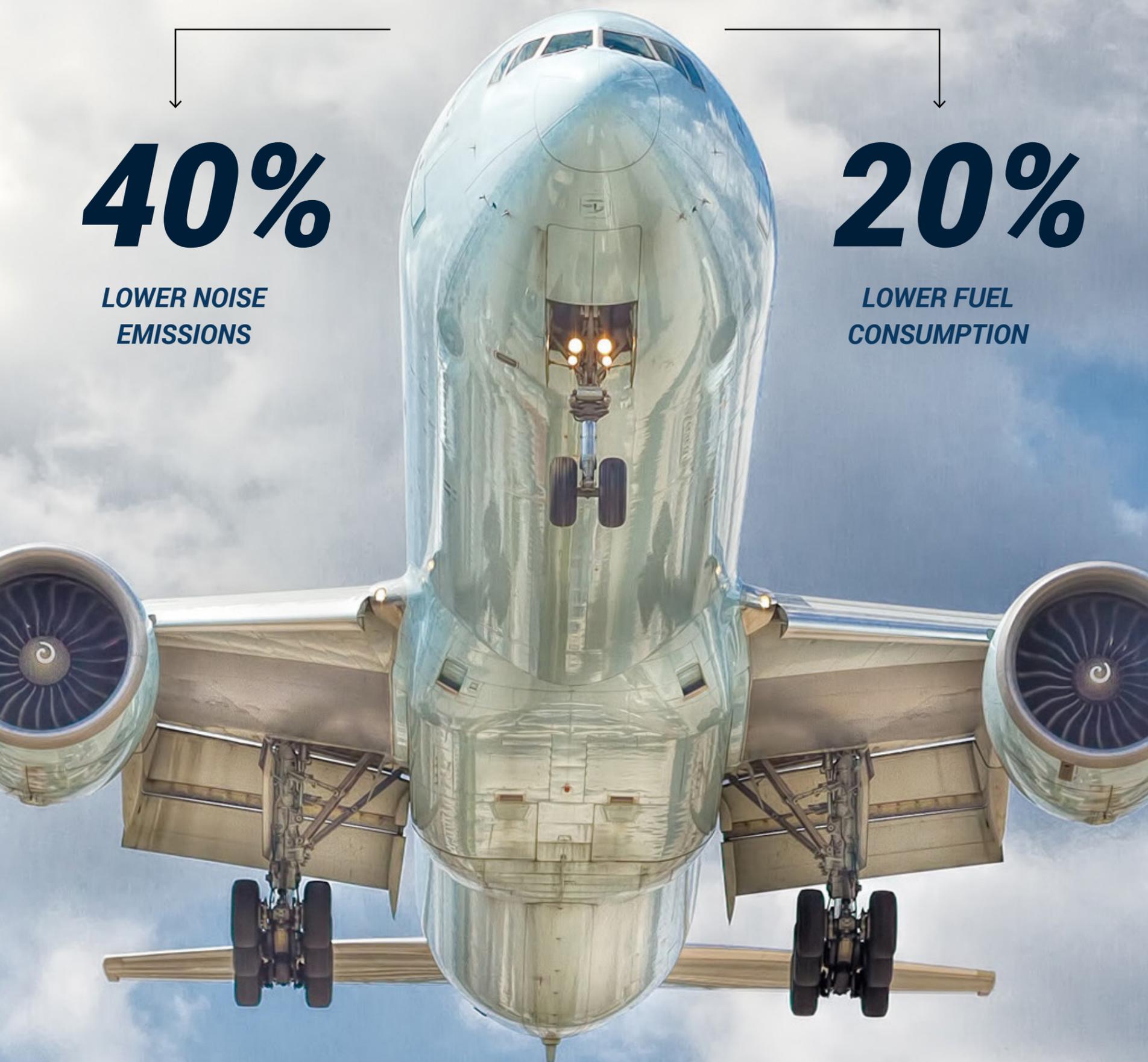
The majority of aircraft that serve Skavsta Airport are new Boeing and Airbus aeroplanes. These are environmentally efficient in terms of noise and emissions. The very latest version of the Boeing, the Boeing 737 MAX, reduces fuel consumption by up to 20% and reduces noise by 40% compared to older aircraft.

**40%**

***LOWER NOISE  
EMISSIONS***

**20%**

***LOWER FUEL  
CONSUMPTION***

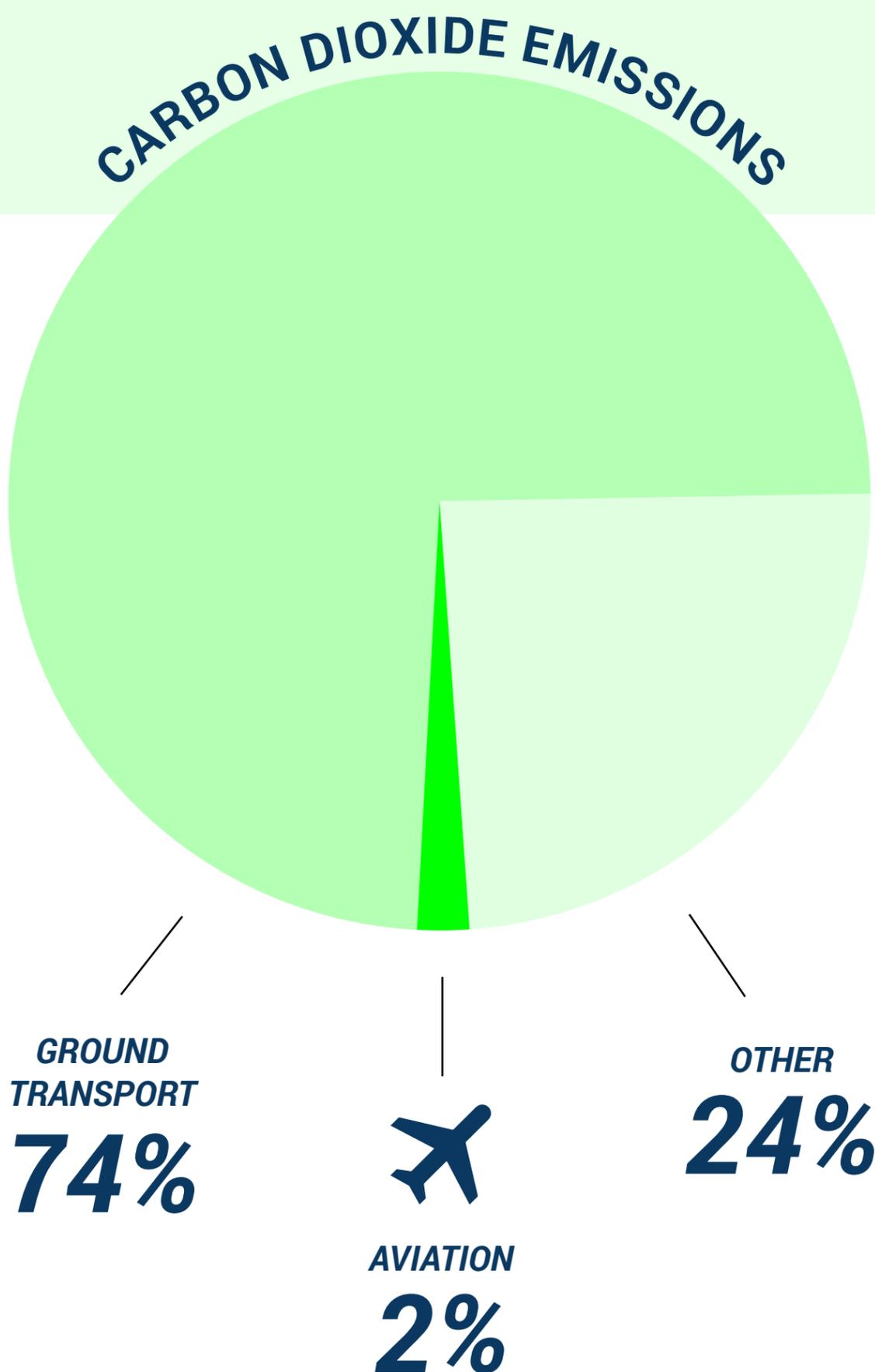




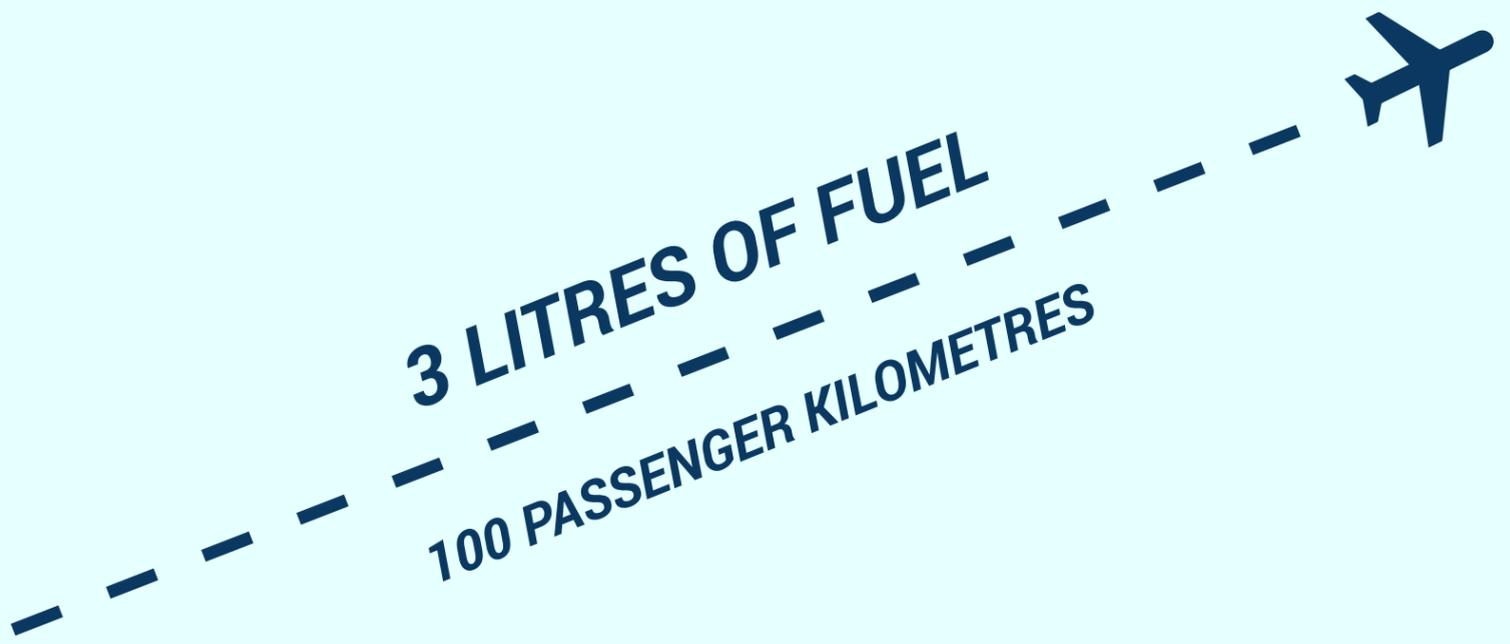


## ***AVIATION FOCUSING ON SUSTAINABILITY***

The aviation industry accounts for around 2% of carbon dioxide emissions. Ground transport accounts for around 74%. Roughly 80% of carbon dioxide emissions from aviation come from flights of over 1,500 kilometres, where no other realistic modes of transport exist.



**3 LITRES OF FUEL**  
**100 PASSENGER KILOMETRES**

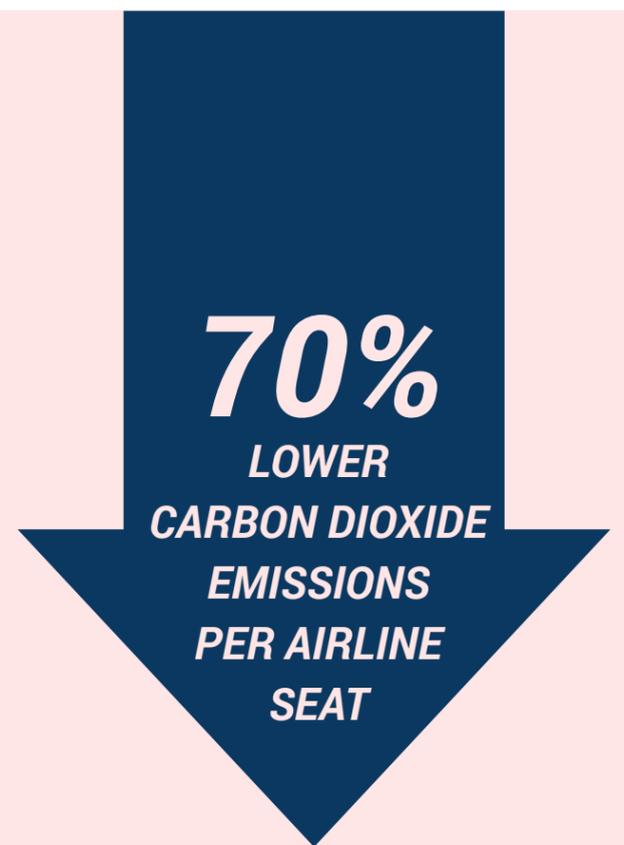


## **AVIATION DELIVERS**

The new Airbus A380, Boeing 787, ATR 72/42-600 and Airbus A220 aircraft use less than 3 litres of fuel per 100 passenger kilometres. This is equivalent to the fuel consumption in a modern small car.

## **AVIATION TAKES RESPONSIBILITY**

- » As much jet fuel was sold in Sweden in 2012 as 20 years ago.
- » In 40 years, emissions of carbon dioxide have fallen by 70% per airline seat.
- » Aviation aims to halve its emissions in 2050 compared to 2005.





***DO YOU HAVE ANY IDEAS FOR  
A BETTER ENVIRONMENT?***

***CONTACT US!***

***→ SKAVSTA.SE/ENVIRONMENT***