

Will Geneva Airport Be Carbon Neutral?

Planes produce 8% of Swiss pollution which is a lot. How Geneva airport's can reduce its carbon footprint to become carbon neutral one day? Find out what possibilities there are to reduce aviation's pollution as well as improve sound reduction and energy consumption caused by airports due to the passenger transportation industry.

Geneva Airport welcomes around 5 million passengers annually. This international airport is connected to 137 destinations and is used by 48 airlines. Established in 1920, Geneva airport is one of the oldest airports on the European Continent. [1] Due to heavy usage, the airport has a large carbon footprint. Can Geneva Airport (GVA airport) become carbon neutral one day? Let's analyze the possibility of a carbon neutral airport in the heart of Europe. Mr. Schneider, GVA airport's general manager, gave us an exclusive interview allowing us to dive deeply into this key topic about the airport.

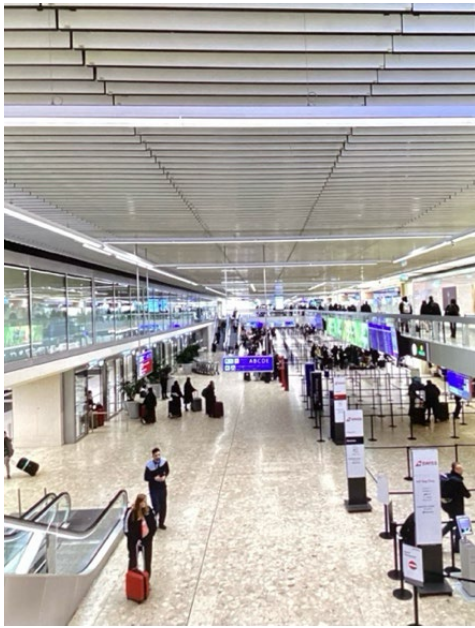
GVA airport has defined two sets of goals to reduce its carbon footprint to become a carbon neutral airport. First, concerning the carbon footprint over which GVA airport has control of (the airport's heating and cooling, cars, waste), and second, concerning the carbon footprint over which GVA airport does not have control (the planes landing at the airport, the passengers using the airport and travelling to and from the airport, and the fuel used in the planes). According to Mr. Schneider, the goals that have

been set consist in reaching carbon neutrality for the airport amenities by 2037 and for the Swiss aviation by 2050. [5]

The airport's amenities have different issues, which will have to be solved before having a totally neutral carbon footprint in 2037. Of course, the planes are polluting a lot, because of the fuel they are using and the long distance they are travelling but they are also making a lot of noise, when taking off and landing. This so-called 'sound pollution' is a big issue, mostly for the people living near by the airport. But GVA airport has decided not to rely only on the airlines to improve its carbon footprint and has initiated its own carbon footprint reduction program.

GVA airport has started to think about how this could be improved. The buildings hosting the airport use a lot of energy as well and would need to be oriented towards green energy only before 2037. [5] All of these issues would need to be solved for GVA airport to become a carbon neutral airport. Some solutions are already existing, but would they be

affordable and realistic? Relying on what Mr. Schneider said, the carbon neutrality of the airport's amenities in 2037 is realistic, and the financing of the corresponding measures is already in place. 1.5 billion CHF will be invested by GVA airport until 2034. [5]



Matilde O., Geneva airport's hall on a typical Friday morning at 8:00 AM.

Aviation pollution

The biggest issue for planes landing and taking off from the airport is regarding the fuel they are using, kerosene, rather than how planes are built up. Kerosene is a mixture of hydrocarbon and is a fossil energy. The solution to this problem for the GVA airport would be to replace kerosene and use SAF (sustainable aviation fuel) instead. SAF is a new revolutionary type of fuel, made of compost, used cooking oils and yard

waste portion of municipal solids. GVA airport is already giving a bonus to companies that are landing in Geneva with planes using SAF. Today most planes are certified with 50% usage of SAF. By the 2nd of January 2025, planes will need to have at least 2% of SAF in their engine to be authorized to fly. The only problem with SAF is its cost, as it is 2-2.5 times more expensive than kerosene. [5] It also has a lower density than kerosene, in other words, a plane would need way more SAF than kerosene to travel the same distance.

Sound pollution

The sound pollution is a different type of pollution but is as important as the other ones. It is defined as an unwanted or disturbing sound in the environment that affects the health and well-being of humans and other living organisms. GVA airport is a city airport surrounded with cities all around (Meyrin, Bellevue, etc..) who have built themselves around the airport since 1920 [5] and are disturbed by the noise of the planes taking off and landing. Sound pollution leads to sleep interruptions, illness and hearing loss. There is no miraculous solution to this problem but GVA airport is trying its best to improve the situation. It has already invested more than 55 million Swiss francs in renovating houses and apartments in the nearby area and 87 million more Swiss francs will be invested before 2027. [1] The airport doesn't allow planes to take off after

10:00PM and to land after 00:00AM therefore people living near the airport can have a quieter night. [5] Companies flying with more recent planes (A320 neo, etc...) are also receiving bonus when landing in Geneva. By 2030 the noise will have been reduced of 20%, the same noise level as in the 2000's. [1]

Passenger's transportation

The transportation passengers are using to come to the airport by train, but for most of them they use their own car and they pollute a lot. The airport achieved to have 48% of its passengers coming in public transports to and from the airport. It has set up a network of 10 public transport lines connecting the airport to different regions of Geneva which works well. People coming with their own transportation means (eg. car, scooter, etc), will be charged higher prices for parking encouraging them to come by public transports. [10]



Chloé M., Mr. Schneider's office (GVA airport):
Prototype of an A320 neo, a brand-new type of plane that makes less noise. It also consumes 15% less kerosene than an old plane.

Energy consumption at GVA airport

The heating for the airport is constitutes around 40% of its own pollution, but pollution caused by passenger transportation is even higher. Today the energy used by GVA airport is coming from the SIG - a state owned company - and is entirely labelled as green energy. The airport also has more than 22'000 meters of solar panels and it has geothermal probe built 100 meters under the airport to cool down the airport during the summer. [2 and 6] Recently, GVA airport started preparing its buildings to host a new green way of heating and cooling which is called Genilac and consists in bringing the lake water to the airport to heat it in the winter and cool it in the summer.

GVA airport also sets the objective of having 90% of the vehicles on the tarmac being electric by 2030. Today 31% of them are already electric, which is a good start. [5] Finally GVA airport has defined a specific goal for all newly constructed buildings: they must produce more energy than they consume, and be qualified as positive energy buildings. All the new buildings that will be built in the future will be constructed this way. The facts speak for themselves, GVA airport is at the forefront in terms of carbon footprint strategies!

GVA airport has a real conviction into being totally carbon neutral by 2037. As Mr. Schneider said: «We will be carbon neutral by then if everything goes well. It's for sure that if another Covid crisis begins it would probably happen later, but what we announced is what we can do and afford.» [5] It is the most advanced Swiss airport in terms of carbon neutrality, and they really want to achieve it. In term of the Swiss aviation, it will probably be a carbon neutral aviation nation by 2050, which is very good sign to counter global warming!

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