



Misconceptions about airfreight

There are numerous popular misconceptions about the role of aviation in the generation of greenhouse gasses and concurrent damage to the environment. Here are 10 of the most common.

Taken from a Swedish perspective – and that of Stockholm’s main flight hub at Arlanda – most of them are equally valid for Norway and Denmark and, for that matter, the rest of the world.

1. “Over 30 percent of the Swedish people believe that flying accounts for 20 percent or more of the world’s carbon dioxide emissions ¹⁾.”

The human impact on climate through emissions of carbon dioxide is the main environmental problem, and this is a global problem. Aviation’s share of global carbon emissions is two percent, according to the UN climate panel, and the airplanes that start from Swedish airports account for a little less than 0.01 percent ²⁾. But everyone can say that their emissions are small and therefore, each one has to take responsibility for their emissions. The aerospace industry takes aviation emissions very seriously and is working with everything from straighter routes to the development of new engines and fuels to reduce the emissions.

2. “An airplane has such a long lifecycle – 30 years – that no improvements can be reached for a long time.”

The next generation of aircraft, which will come in seven to eight years, is estimated to be 20–35 ³⁾ percent better from the fuel- and emissions point of view. But we must not wait until all the planes are exchanged: modernization of the engine, aerodynamics (so-called Winglets), in-flight and taxiing procedures as well as flight paths can make cuts much faster. Shorter routes in Europe, which are dependent on political decisions, can provide 10 percent in both time and emission reduction ⁴⁾. In addition to this comes the impending ability to use biofuels that meet aviation’s strict safety requirements. What is lacking today is the production of such fuel on an industrial scale, and that the material should not compete with crops for human consumption. Biofuels based on cultured algae and black liquor, which is a byproduct of the papermaking industry, can be attractive alternatives.

3. “Flight has such high emissions per kilometer that it is not reasonable to continue flying.”

All transport affects the climate and has opportunities and challenges in relation to this. One passenger seated on an airplane generates about the same carbon dioxide emissions per kilometer as a moped, but at speeds of up to 900 km/hour – essential to bridge long distances, such as for travel to other parts of the world. Flying has its due role in long-distance transport, and 80 percent of aircraft emissions come from journeys over 1 500 kilometers. The flights are also flexible, and easy to adapt to a varying number of passengers over shorter distances. Road travel is by far the largest source of emissions in the transport sector. A higher degree of interaction between public transport alternatives such as air and rail can actually contribute to the overall reduction in carbon dioxide emissions from transport.

4. “But flight’s total emissions are so much more dangerous, up to five times more dangerous than the carbon dioxide emitted.”

In aviation, as in other parts of society, in addition to carbon dioxide, other greenhouse gases are released that may affect the environment. There is great scientific uncertainty about the impact of such emissions from aviation. The UN climate panel therefore considers that the flight’s carbon dioxide emissions must be counted twice to include other greenhouse gases in aviation’s climate impact. Nitrogen and water vapor at high altitude are among them. A recent scientific analysis by the Norwegian research institute TÖI and the Center for Climate Research indicates that aviation emissions should rather be listed 1.2 to 1.8 times. Nitrogen emissions will decrease in the engines now under development, but water vapor is more difficult to get rid of, even with biofuels. Condensation trails, the white water vapor often visible after an airplane’s passage, are however a problem that can be avoided by flying at different altitudes.

5. “Aviation is growing ... vigorous efforts are required against aviation emissions!”

In Sweden, the number of flights is assessed to increase by less than three percent per year⁵⁾ and it is the foreign travel that is increasing most. It is mainly in other parts of the world that the big growth in aviation occurs. In Sweden, aviation emissions – counting every plane starting from Swedish airports – are at the same level as 10 years ago⁶⁾. Some of air travel's growth is compensated by a reduction in emissions per passenger - a rule of thumb says that five percent increase in flights gives two to three percent increase in carbon dioxide emissions. For example, SAS expects by 2020 to reduce its carbon dioxide emissions by 20 percent despite simultaneous traffic growth. In the longer term - 2050 - the global airline industry has a vision of zero emissions.

6. “We must impose a tax to limit flying.”

We quote Environment Minister Andreas Carlgren: “We will not chase the flight, we will chase the flight's emissions.” Good communications are a part of the trade, knowledge, and cultural exchanges that contribute to the supply and quality of life for a growing population. Aviation in Sweden is in favor of trading with certificates of emission. The greater the proportion of all the world's emissions being part of the same trading systems, the more effective it becomes. Emission certificates produce results in the form of a common emission target, where the price is determined by demand – an aviation tax gives a fixed price, but no emission targets. A Swedish aviation tax reduces the accessibility of Sweden, which is bad for our competitiveness. Sweden is a small country with 0.2 percent of the world's population, but also one of the world's most export-dependent countries, and thus depends on globalization for its own development. It requires resources to produce environment-friendly technologies – an aviation tax would reduce the air industry's own ability to solve the challenge. Emission certificate trading instead provides aviation with additional incentive to speed the development of technologies that reduce emissions.

7. “An aviation tax would not affect the business and the economy - the plane to Paris will always go to Paris, even if the price is higher.”

Sure, there would be occasional trips anyway. But the liberalized aviation market looks for better profitability wherever it is. With a Swedish aviation tax, many airlines seek other, more profitable routes, which do not reduce any emissions. This would impair our present good relations with major cities in Europe as well as in the U.S. and Asia. Sweden would suffer a geographic handicap that would affect our growth as well as our ability to contribute to a positive global development.

8. “The flights are subsidized, because aviation fuel is not being taxed.”

A subsidy involves a transfer of state or municipal funds to someone or something. Such a transfer is not made to air travel (more than a marginal amount to make remote areas accessible and attractive). Through international agreements related to flight's international nature, aviation fuel is not taxed. On the other hand, the aviation industry stands for its own infrastructure - where air traffic management, airports, etc. are ultimately paid for through airline tickets and transport. With other transport modes, taxpayers pay for the infrastructure, but the fuel is taxed.

9. “The Arlanda emission ceilings are good for reducing greenhouse gases.”

The intention was certainly good, but the design risks reducing central Sweden's availability and, at the same time, increasing overall climate impact. With the ceiling, all land travel to and from the flight stands for half of the total emissions, which are difficult for the airport to influence. These emissions increase, while emissions from the airport's own operations and from starting and landing aircraft is reduced. If the airport, because of increasing ground traffic emissions, is not able to serve the increasing air traffic, the airplanes will operate other airports in Mälardalen, decreasing the passenger base for direct routes from Arlanda. We will then have several airports in the region, each with a limited offering but with fewer direct destinations for the entire region. It provides less accessibility, thus disadvantaging the region's residents, businesses and tourist industry. And longer travel distances by both air and land will further increase emissions. This applies both to passenger traffic and air cargo.

10. “A large part of air travel is unnecessary.”

This depends on who determines what is necessary. Both Sweden's and the EU's transport policy are based on citizens' rights to travel wherever they want with the traffic form that best meets their needs. Half of all air travelers are business travelers – that is, necessary for the economy, welfare and quality of life. This is also important for the environment - countries with weak economies rarely have a good environmental development but are forced to choose low-cost solutions regardless of environmental impact. Therefore, we in the rich part of the world must work out better solutions, which can also be used in other countries. Private travel is about meeting friends and relatives who live far away, recreation, experiences and cultural understanding. Exactly this type of travel is something Sweden as a nation invests in - the growing tourism industry- the export value of which is today greater than that of all Swedish passenger car exports, provides development opportunities not only in big cities but also in sparsely populated rural areas.

¹⁾ SIFO May 2008

²⁾ The UN climate panel and the Environmental Protection Agency

³⁾ ACARE, ICAO, IATA, Airbus, Boeing, Volvo Aero and others

⁴⁾ Eurocontrol

⁵⁾ Airport Inquiry

⁶⁾ The Civil Aviation Authority