# What comes in and goes out – the SAS Group's most significant environmental aspects[1]

## In the air

**IN**

**SAS's responsibility**

Jet fuel
Engine oil
Halons

| SAS's responsibility | Emmissions to Air | Ground | Water |
|---|---|---|---|
| Carbon dioxide ($CO_2$) | ● | ○ | ○ |
| Nitrogen oxides ($NO_x$) | ● | ○ | ○ |
| Unburnt hydrocarbons (HC) | ● | ○ | ○ |
| Volatile organic compounds (VOC) | ● | ○ | ○ |
| Oil aerosols | ● | ○ | ○ |
| Jettisoned fuel | ● | (○) | (○) |
| Noise | ● | ○ | ○ |
| Water vapor (H2O) | ● | ○ | ○ |
| Sulfur dioxide ($SO_2$) | ● | ○ | ○ |
| Carbon monoxide (CO) | ● | ○ | ○ |
| Halons (CFC)[2] | ● | ○ | ○ |

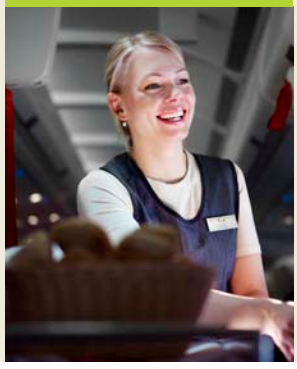
**OUT**

## Onboard

**IN**

**SAS's responsibility**

Food and beverages
Packaging
Disposable/semidisposable items
Articles for sale
Newspapers
Chlorinated water
Germicides



| SAS's responsibility | Emmissions to Air | Ground | Water |
|---|---|---|---|
| Organic waste | ○ | ● | ○ |
| Waste | ○ | ● | ○ |
| Unopened packaging | ○ | ● | ○ |
| Waste and recycling | ○ | ● | ○ |
| Lavatory waste | ○ | ○ | ● |
| Germicides | ○ | ○ | ● |
| **Airport-owner responsibility** | | | |
| Wastewater (disposal) | ○ | ○ | ● |
| Lavatory waste (disposal) | ○ | ○ | ● |

**OUT**

## On the ground

**IN**

**SAS's responsibility**

Glycols
Water
Maintenance supplies
Energy
Vehicle fuel
Office supplies
Chemicals
Solvents
Equipment
Work clothes and uniforms

**Airport-owner responsib.**

Urea/Acetat

| SAS's responsibility | Emmissions to Air | Ground | Water |
|---|---|---|---|
| Waste | ○ | ● | ○ |
| Hazardous waste | ○ | ● | ● |
| Waste water, incl. flooded water | ○ | ○ | ● |
| Sulfur dioxide ($SO_2$), Carbon dioxide ($CO_2$) | ● | ○ | ○ |
| Nitrogen oxides ($NO_x$), HC | ● | ○ | ○ |
| Soot och particulates, VOC | ● | ○ | ○ |
| Heavy metals[3] | ○ | ● | ● |
| Recycling | ○ | ○ | ○ |
| Particles | ● | ○ | ○ |
| **Airport-owner responsibility** | | | |
| Glycols (disposals) | ○ | ● | ● |
| Urea/Acetate | ○ | ● | (○) |
| Wastewater (disposals) | ○ | ○ | ● |

**OUT**

1. Definitions in the table of what we emit are immediate emissions.
2. Civil aircraft operation is allowed to use halon 1301 and 1211 for fire protection under critical use clauses, where no alternative substances are yet certified. Research on alternatives is ongoing.
3. Heavy metals such as cadmium and chromium are used as alloys and very small amounts can be cast off during washing and rainy weather, which during aircraft maintenance is confined in the closed sewage systems in the hangars. The process is strictly regulated through measurements and approval from municipalities.