Environmental report 2010

OSLO LUFTHAVN

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Environmental Status

Oslo Airport Gardermoen is Norway's biggest and most important traffic hub. It is also one of Norway's largest workplaces. The airport administration, Oslo lufthavn AS (OSL) has a policy aimed at ensuring a sustainable development of the airport, balancing growth and efficiency against social and environmental considerations. As an airport operator with considerable social responsibility, OSL is continually working to meet the expectations and demands it is faced with.

In 2010, OSL had a higher passenger number than in the passenger boom year of 2007. Despite an increase in passengers, the number of aircraft movements has gone down by over 10 000 from 2007 to 2010. Larger aircraft and a 6 per cent increase the average distance travelled from 2007 to 2010 have contributed to increased fuel consumption in 2010.

The percentage of travellers choosing public transportation to the airport is high and growing. According to ACI's Airport Service Quality survey, 67 per cent of the travellers chose bus or train for their travel to and from the airport; 47 per cent took the train and 21 per cent took the bus. This is the highest public transport share for any European airport.

Since 2006, OSL has purchased emission allowances through the UN-system to compensate for its greenhouse gas (GHG) emissions. OSL became Airport Carbon Accredited at the highest level in 2010. This is a sector-specific scheme for certification of an airport operator's efforts to manage and reduce GHG-emissions within its direct control. This involves having set GHG-emission reduction targets in a long-term action plan, with the ambition to decouple emissions from projected traffic growth. OSL is a carbon neutral airport operator compensating for the remaining direct emissions within its direct control by purchasing emission allowances.

Each year, OSL prepares an annual carbon inventory that complies with the standards of ISO 14064 and the Greenhouse Gas Protocol. In the 2010 inventory, emissions totalled 4759 tonnes of CO2 equivalents. OSL's carbon inventory includes emissions from the company's own activities, classified as direct or indirect emissions, as well as an optional selection of direct or indirect emissions from other sources. The carbon inventory is verified by a third party in compliance with requirements in ACA.

In 2010, OSL installed 21 electric car charging stations of which eight stations can be found at parking zone P10, seven at zone P2 and six at P5. Last year's plan for modernizing and down-sizing the company's fleet of small cars has been completed, with a 20 per cent reduction in the vehicle fleet. For the winter season 2009-2010, the consumption of de-icing chemicals was somewhat higher than the average for earlier years. The consumption of runway de-icing chemicals was lower than for the previous season due to a cold and dry winter season with less precipitation. In the course of 2010, one breach of the groundwater discharge permit was recorded, but none related to river systems. Eighty per cent of the aircraft de-icing chemicals used in this season were collected and put to use at external wastewater treatment plants.

A routine inspection of oil separators at the fire drill area revealed a leakage of oil-contaminated water. A temporary system was installed in order to maintain operations until a permanent solution is in place. In 2010, there was an accident that triggered the release of fire-fighting foam in one of the airline hangars at the airport, resulting in some of the foam infiltrating the aquifer. Tests showed that the foam contained PFOS, a substance that has been prohibited since 2007. The aquifer status is being monitored, and options are being considered for cleaning up the soil pollution.

OSL will continue to look for ways to improve waste management at the airport. In 2010, OSL achieved a 12 per cent reduction in total amount of generated waste, and the source-separation rate increased by 12 per cent. After an extended period of focus on source separation of waste from aircraft, OSL signed an agreement with Norsk Resirk AS for recovering recyclable drink containers of steel, aluminium and PET-plastics from aircraft. The resulting recycling refunds are donated to charities. In addition, OSL has established a collaboration with the local Red Cross chapter to handle drink bottles and cans collected from public areas in the terminal.

The total consumption of electricity increased in 2010 due to recent development projects at the airport, such as a new parking garage, a new hotel and new aprons. OSL will maintain its focus on energy-economising measures, such as replacing old lighting fixtures with ones designed for low-energy light sources.

The overall aircraft noise impact in the vicinity of the airport increased slightly from 2009 to 2010, as did the number of aircraft movements. However, the increase in mean aircraft noise cannot be fully explained by the overall growth in aircraft movements. Part of the increase in the time-weighted noise value can probably be accounted for by a disproportionate traffic increase between 23:00 and midnight. Further testing of a new take-off procedure for northward departures from the eastern runway was carried out in 2010. This procedure is adapted to the Civil Aviation Authority's new noise-abatement regulations, implemented on April 7th 2011.

In 2010, OSL's facility for monitoring local air quality did not record any exceedances of limit values for particulate matter, PM10. Only two exceedances were recorded of the recommended 24-hour average. In the winter 2009/2010, two series of cumulative NO2-samples were collected at and around the airport in collaboration with the Norwegian Institute for Air Research (NILU). The results show the expected dispersion patterns of nitrogen dioxide from known sources such as aircraft, handling operations and road traffic.

In December 2010 the Norwegian ministry of Transport and Communications granted OSL permission to expand the terminal building. The project will increase the capacity of the airport to 28 million passengers per year. OSL emphasizes environmentally sustainable solutions for this development project, both during construction and in the subsequent operation of the new terminal areas.

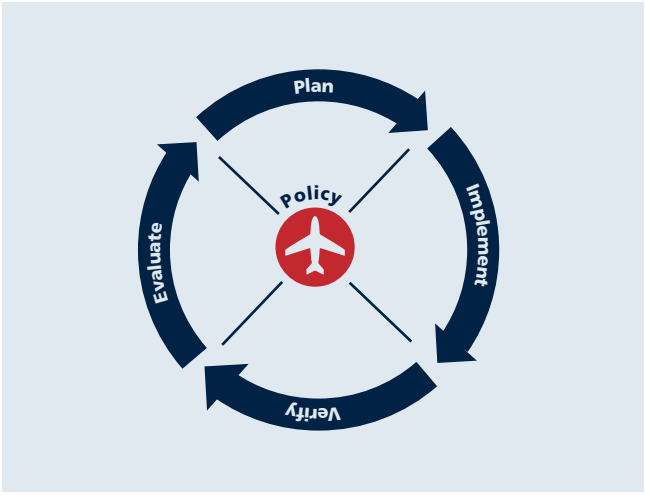
Gardermoen, April 2011

Nic. Nilsen
Managing Director

Environmental management

Environmental goals

OSL's policy is to ensure a sustainable development of the airport, where growth and efficiency are balanced against social and environmental concerns. OSL is dedicated to operating the airport in a manner that minimizes any adverse environmental impact. The noise impact should be predictable, and the number of people exposed to significant aircraft noise should be minimized. Groundwater and river systems must not be degraded and air pollution should be minimized. Energy consumption should be cut by implementing energy conservation measures and the waste management scheme must promote reuse, recycling and waste minimization. While OSL will strive to minimize its carbon footprint by reducing its own emissions, its remaining emissions will be compensated for by investments in UN-approved carbon-offset projects. OSL will also work to ensure that other parties at the airport participate in reducing the overall greenhouse gas emissions from the airport.



Managing environmental work

Environmental management is an integral part of OSL's overall management system, a system based on international standards such as ISO 9001 and 14001, fulfilling all regulatory requirements for internal control. OSL methodically applies environmental management tools to ensure comprehensive supervision of the environmental work within the company as well as that of other parties at the airport.

Environmental management requires an overview of the company's environmental impact and all applicable environmental regulations. These constitute the environmental framework for the airport's operations. Of particular importance are the aiport's licensing requirements regarding public transportation, the discharge permits from the Climate and Pollution Agency and the noise-abatement regulations for arriving and departing aircraft, as specified by the Civil Aviation Authority. Together, these impose strict constraints on airport operations.

In 2010, OSL decided to certify its environmental management system according to ISO 14001 by the end of 2011. A status analysis of OSL's environmental management system was completed by a third party in December 2010 to identify any potential for improvement.

OSL has, in compliance with ISO 14001, assessed the different aspects of its environmental impact, identifying the most significant ones as being related to noise, water and soil, climate, energy, waste and air quality. In each of these areas, operating routines and monitoring systems have been implemented to ensure that airport operations are in compliance with the relevant regulatory framework. Furthermore, environmental requirements are included in all contracts with parties operating at the airport.

Risk assessments are an important tool in environmental management and are used to prevent or mitigate potential incidents. Risk assessments are conducted on a regular basis in a number of fields that relate to the environment. They are aimed at providing an overview of activities involving a risk of pollution that might be hazardous to human health or to the environment and identifying risk-reducing measures.

OSL has established procedures for handling non-compliance with environmental regulations; audits are performed internally by OSL as well as by the regulatory authorities. In 2010, OSL conducted four internal audits and two risk analyses focusing on the external environment. Furthermore, OSL carries out inspections to ensure regulatory compliance by other, external parties operating at the airport; OSL conducted one environmental audit and three environmental reviews in 2010. Breaches of statutory requirements are reported to the authorities on a running basis, while audit and monitoring results are summarized in separate reports for each environmental topic, providing a basis for the annual report.

Aircraft noise

Aircraft noise in brief

Aircraft noise affects the communities surrounding the airport. It is a goal for OSL that aircraft noise should be predictable for its neighbours. Monthly reports on traffic developments and noise levels that are submitted to the Civil Aviation Authority and neighbouring municipalities are therefore made available to the public on our website. A Noise and Track Monitoring System (NTMS) operated by OSL continuously records aircraft movements and aircraft noise in the vicinity of the airport. Aircraft movements are subsequently assessed for compliance with the regulations applying to arriving and departing aircraft. New regulations – with noise-abatement procedures designed to increase predictability of aircraft noise impact – are effective from April 7th 2011.

OSL's website has pages dedicated to noise issues. Here, neighbours can find regulations for arriving and departing aircraft, look up the airport's noise zone map or contact OSL regarding aircraft noise. OSL also has a dedicated telephone number for complaints or inquiries regarding aircraft noise. A summary of received noise complaints – and a description of how aircraft operations affect noise levels in the vicinity of the airport – are submitted to the Civil Aviation Authority in the monthly report based on data from the NTMS.

Aircraft noise status 2010

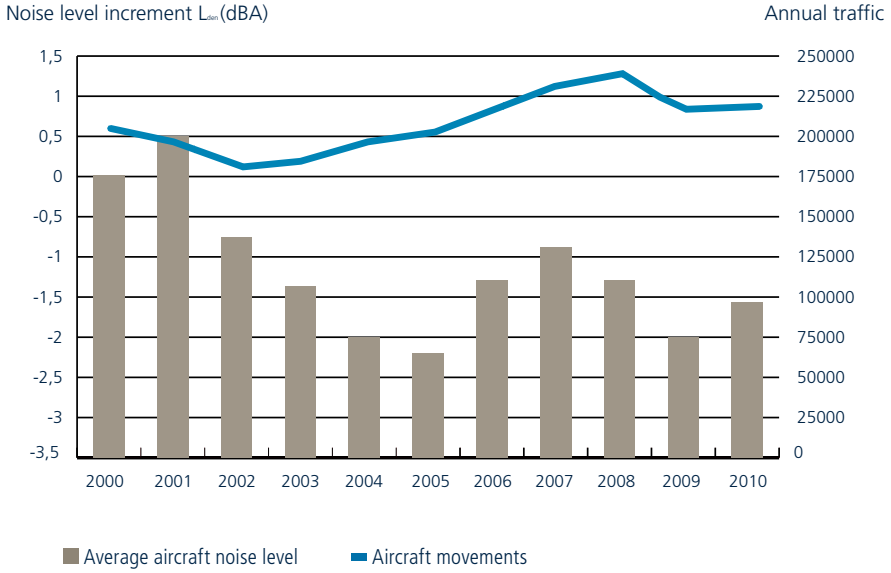
In 2010, a new take-off procedure for northward take-offs from the eastern runway was further developed and tested. This procedure, for which compliance is defined by an associated "tolerance corridor", was tailored to meet the requirements of the Civil Aviation Authority's new noise abatement regulations at Oslo Airport, the implementation of which coincides with the introduction of a new airspace structure for the Oslo Area of Responsibility on April 7th 2011. The NTMS is being updated to comply with changes in the noise-abatement regulations.

In the summer of 2010, the Ministry of Transport and Communications decided that an amended proposal for new noise abatement regulations was to be submitted to public review. The new regulations facilitate reduced fuel consumption and CO2 emissions, and impose night-time restrictions on air traffic (22.30-06.30).

In 2010, the number of aircraft movements totalled 219 352, an increase of 0.7 % over the previous year. Mean noise impact for all registered traffic (total Lden) – a measure in which noise in the evening and at night carries more weight than daytime noise – increased by 0.4 dB. This increase is greater than what might be expected based only on the growth in total traffic and can, in part, be attributed to a disproportionately large increase in traffic between 23:00 hrs and midnight.

The figure below shows changes in total aircraft noise levels and the total traffic volumes for 2000-2010. The histogram plots noise level increments or decrements referenced to the year 2000.

Trends in aircraft noise and movements



Water and Soil

Water and soil in brief

Oslo Airport extends over part of the Romerike aquifer and in the north, about half of the eastern runway overlies a potential future drinking water reservoir. In the northeast, the airport borders a nature preservation area and in the southwest it borders a landscape conservation area. The rivers Sogna and Vikka run through the ravines that characterize the landscape in the southwest.

Surface water is generally processed locally at the airport. In the event of large run-offs, especially during snowmelts, there will be some influx of surface water from the western runway into the river Sogna. Along the western runway and the railway line, the natural water table has been lowered to protect the infrastructure. The groundwater that is pumped out is released into the Sogna river or re-infiltrated into the groundwater reservoir. Wastewater and some of the collected de-icing chemicals (glycol and formate) are processed at the Gardermoen treatment plant. Collected surface water with high glycol concentrations is delivered to other treatment plants as a carbon source for purification processes. The remainder of the de-icing chemicals degrades locally in the ground and along the runway systems. Surface water from the fire-drill field may contain jet fuel residuals. This water is collected and led through an oil/water separator to the municipal sewage network.

Water and soil status 2010

A single breach of the discharge permit for groundwater was recorded in 2010, at a sampling site by the western runway, south of the groundwater divide. The follow-up of previous events of groundwater contamination continues, with monitoring and treatment of three hydrocarbon-contaminated sites predating the opening of Oslo Airport at Gardermoen as well as three sites affected by later release of de-icing chemicals. Measures that may speed up the groundwater restoration process are being assessed. There was no recorded breach of the discharge permit for river systems in 2010.

The collection rate for aircraft de-icing chemicals during the 2009-2010 winter season was 80 per cent. The limit value for the discharge of oil-contaminated water from the fire drill area into the municipal sewage system was exceeded in one of a total of 14 samples.

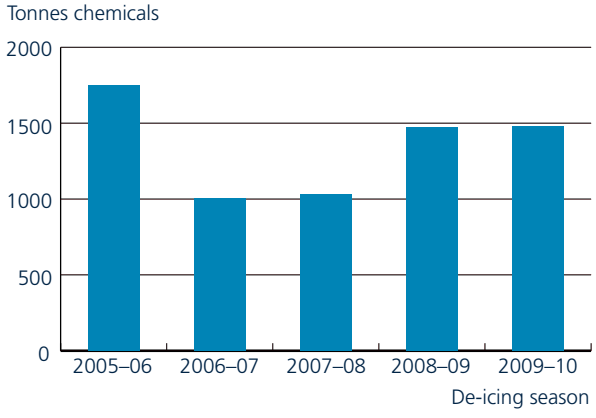
In 2010, there was an accident that triggered the release of fire fighting foam in one of the airline hangars owned and operated by an external party at the airport. Some of the foam escaped from the building and infiltrated the aquifer. Tests showed that the foam contained PFOS, a prohibited substance. The aquifer is being monitored, and options are being considered for cleaning up the ground pollution.

A routine inspection of the fire drill area revealed a leak in an old oil separator. The separator provides the initial processing of surface water from the fire drill area before it is released into the municipal sewage network. A temporary system was set up in the summer 2010 in order to maintain operations until a permanent installation is established. Plans have been made for a new oil separator and an action plan is being worked out for cleaning any contaminated soil from earlier fire drills.
Future challenges in the area of water and soil relate to the handling of surface water and wastewater from new aprons and taxiways after the completion of the terminal expansion (T2).

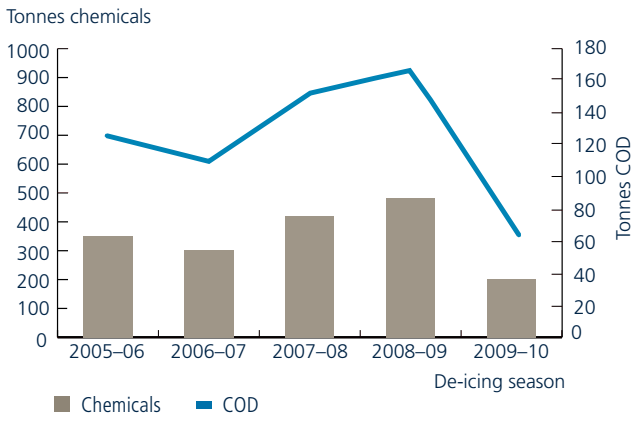
Another area of focus is the evaluation of long-term effects of de-icing chemicals that are applied on runways and taxiways. One limiting factor in the most critical areas is access to oxygen. A system for infusion of oxygen into the soil and groundwater along the western runway will be tested in the 2010/2011 winter season.

Strict environmental requirements are imposed on contractors participating in the terminal expansion (T2) to prevent any emissions to soil, groundwater or river systems and to ensure that the natural water balance is maintained. This includes requirements for handling surface water and for securing fuelling areas and sites for equipment maintenance and cleaning. Requirements are also imposed on machinery to prevent leakage and spills.

Consumption of aircraft de-icing fluid (glycol)



Consumption of runway de-icing fluid (formate)



Energy

Energy in brief

The Energy Centre at OSL – which provides heating and cooling energy for OSL's buildings, OSL's tenants and its pavement heating installations – consists of a distant heating plant, a distant cooling plant and a ground-water heat exchange system. The distant heating plant provides heating for buildings in winter while the distant cooling plant provides cooling for buildings in summer. The groundwater heat exchange system extracts heat from OSL's buildings in summer and stores it for use in winter.

The Energy Centre at OSL has equipment for producing heat from other sources as well: an electric boiler, four oil-fuelled boilers and four heat exchangers that are provided with biomass-fuelled heat from Hafslund District Heating. Due to their high capacity, the four oil-fuelled boilers at OSL's Energy Centre are subject to regulations regarding GHG emission allowance trading. OSL has quota-regulated emission permits from the Norwegian Climate and Pollution Agency (Klif) and compensates for CO2 emissions from the oil-fuelled boilers though trade in the European Union emission Trading Scheme (EU ETS). The oil-fuelled boilers are only used for test runs and in periods with insufficient energy supply from the electric boiler and Hafslund District Heating.

Energy status 2010

OSL has focused on energy conservation measures for several years. In 2010, uplight fixtures for 1000-Watt lamps in the terminal were modified to give a 552 MWh reduction in annual energy consumption. The replacement of a series of downlight fixtures with LED-downlights was started in December 2010, a measure that is expected to yield a 33 MWh reduction in annual electricity consumption.

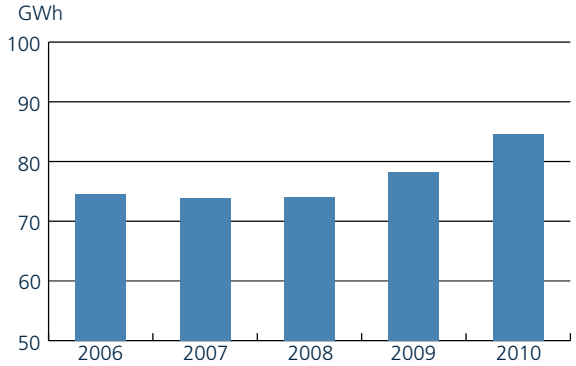
Recent development projects at Oslo Airport, such as the eastern extension of the terminal building, the apron extension on the west side of the airport, a new parking facility and the new hotel Park Inn, have resulted in an increase in OSL's total energy consumption. Apart from the increase in energy consumption due to new facilities at the airport, the energy consumption in 2010 was roughly the same as the average for preceding years. As a result of the expansions and new facilities, however, the total energy consumption at the Energy Centre increased by 10 – 20 % compared to the average for the last ten years. Further increases in energy consumption are expected as a result of additional major development projects planned at Oslo Airport. In the future, heating energy will increasingly be derived from electric power rather than from oil.

The heating degree day index for 2010 was higher than normal, 2010 being the third coldest winter since 1957. The increase in consumption of thermal energy, bio-mass fuelled energy and electricity reflects the cold winter. Long periods with temperatures below -10°C reduced the need for apron pavement heating by 30% compared to 2009 while increasing the need for aircraft heating at gates by 30%.

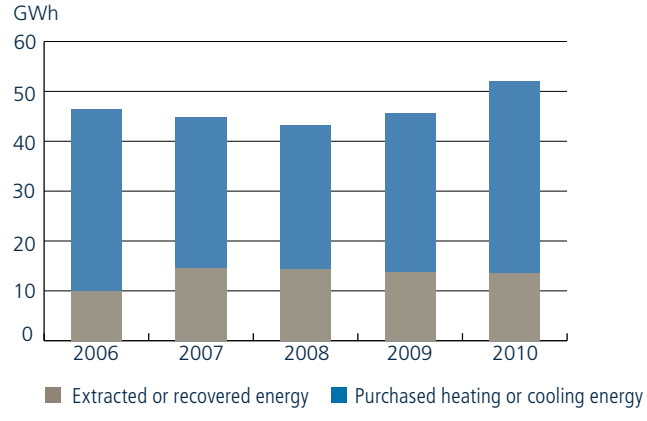
In 2010, the oil-fuelled boilers at the Energy Centre were used only when the other energy sources had been fully deployed – electric power, district heating from Hafslund and groundwater heat through the heat exchange system. This is a direct result of OSL's efforts to reduce greenhouse gas emissions.

The design of the terminal expansion is geared towards minimizing its carbon footprint and its general environmental impact. One of the main environmental goals is a 50 per cent reduction in thermal energy consumption when referenced to the current situation.

Total consumption of electrical energy



Consumption of heating and cooling energy



Waste

Waste in brief

The major sources of solid waste at the airport are the airlines, the handling companies, catering companies, cargo handlers, tenants, airline passengers and OSL operations.

All companies operating at the airport participate in a joint waste management scheme in which all waste is handled by the same waste disposal company. Waste is separated at the source, brought to fixed waste collection points at the airport and subsequently collected by the waste disposal company. The waste management scheme is flexible, allowing waste fractions, container sizes and collection rates to be adjusted when necessary.

Waste fractions generated in the public areas of the terminal are transported by a suction system to a central waste collection point for removal by the waste disposal company. The airport administration building and the Flyporten Business Centre are also linked to this disposal system. The waste is weighed by the waste disposal company and delivered to approve waste management plants for final processing and recycling. The waste disposal company provides monthly statistics on separation rates and tonnage at all collection points.

Waste status 2010

OSL is responsible for organizing the waste management scheme at the airport and is a driving force in ensuring that the airport as a whole achieves high performance scores on waste management. As a result, OSL has chosen to report waste statistics for the entire airport, not only for OSL. In the terminal expansion project, contractors are required to sort all construction-related waste and take measures to limit the amount of waste that is generated,

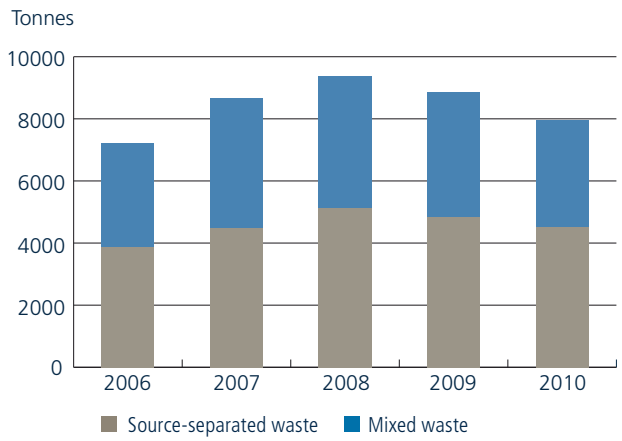
The waste tonnage for the whole airport was 7940 tonnes in 2010, compared to 8836 in 2009, a 12 per cent reduction. Of this, 4509 tonnes was source-separated waste and 3432 tonnes was mixed waste. This gives a separation rate of 57 per cent, up 2 percent from 2009. Increased focus on separating paper in aircraft waste accounts for most of the increase.

The amount of waste from areas connected to the suction system, from waste collection points in the terminal and from OSL's operational areas dropped by 12 per cent compared to 2009, from 5419 to 4847 tonnes. This accounts for more than half of the total waste at the airport. The source-separation rate from these areas was 47 per cent in 2010, up 4 per cent from 2009.

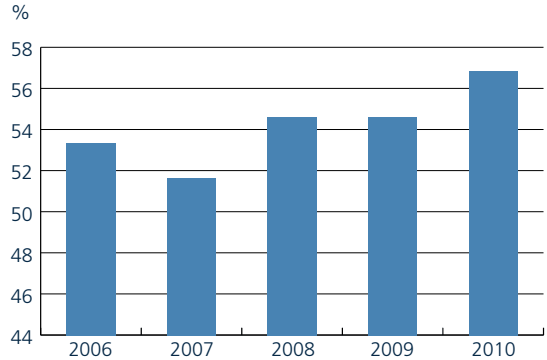
In 2010, SAS, Norwegian, Thomas Cook and Sodexo, joined forces in a project aimed at collecting plastic bottles and metal drink cans from aircraft waste. In 2010, 15.5 tonnes of recyclable material was collected as a result of this effort. The resulting recycling refunds are donated to charities supported by the companies involved.

OSL has established an agreement wit the local Red Cross chapter for handling drink bottles and drink cans collected from public areas in the terminal; the bottles and cans must be emptied and sorted before recycling. Since February 2010, the local Red Cross chapter has submitted about 350 000 bottles and cans for recycling. The recycling refunds go to the Red Cross.

Waste tonnage for the airport as a whole



Source separations rates for the airport as a whole



Climate

Climate in brief

In recent years there has been increasing focus on greenhouse gas (GHG) emissions from aviation. As is the case for aircraft, the environmental impact of emissions from airport operations is both local and global. OSL acknowledges its burden of responsibility as Norway's principal airport. Each year, OSL accounts for its climate impact in accordance with the Greenhouse Gas Protocol and the ISO 14064 series. In this context, "OSL" includes Oslo Airport AS, Oslo Airport Property AS (a fully-owned subsidiary) and 50 per cent of Oslo Lufthavn Tele og Data AS. The methodology used for developing the carbon inventory is verified by a third party, and in 2010 OSL became Airport Carbon Accredited at the highest level. OSL's carbon inventory includes emissions from the company's own activities, classified either as direct or indirect emissions, as well as an optional selection of indirect emissions from other sources. The Airport Carbon Accreditation scheme provides further categorizations according to the degree of control held by the airport administration. OSL's Energy Centre is subject to the regulations regarding GHG emissions allowance trading. Each year OSL compensates for CO2 emissions from its oil-fuelled boilers through the EU Emissions Trading Scheme. To compensate for the remaining GHG-emissions under OSL's control, the company contributes to the UN's green development mechanism (CDM – Clean Development Mechanism)

The 2010 carbon inventory for Oslo Airport Gardermoen:

Control Directly controlled by the airport operator	**Guide** Carried out by a third party, but central to the operation of the airport	**Influence** Independently carried out by third party
• OSL-owned vehicles • Thermal energy • Runway de-icing • Fire drills • Purchased electricity • Business trips	• Aircraft operations: taxiing • Ground operations: Aircraft de-icing • Waste disposal: transport from airport to processing plant	• Aircraft operations: approach, landing, take-off and climb-out (< 3000 feet above airport level) • Passenger surface access • Waste disposal: final processing • Employee commuting Not included in inventory: • Business activities of tenants • Transportation related to sale and services
approx. 4800 tonnes	approx. 81 500 tonnes	approx. 156 500 tonnes

Climate status 2010

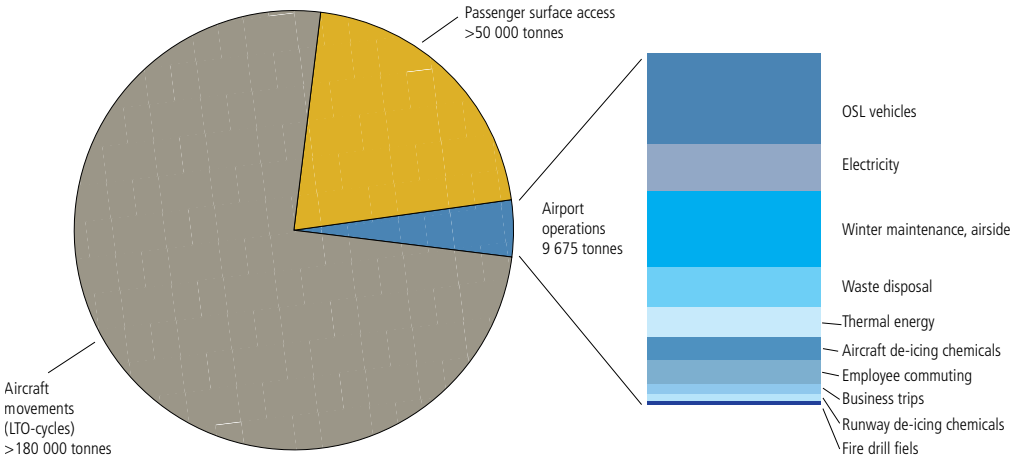
Airport Carbon Accreditation consists of four accreditation levels: 'Mapping', 'Reduction', 'Optimisation' & 'Neutrality'. OSL became Airport Carbon Accredited at the highest level in 2010. This requires an initiative for involving other parties at the airport in a collaboration aimed at reducing the airport's combined greenhouse gas emissions. In the fall of 2010, OSL arranged a joint kick-off meeting for all involved parties. OSL has adopted an action plan with targets for GHG-reductions in the period 2010-2016. The goal is to decouple emissions from projected traffic growth. Work groups have been appointed to coordinate the implementation of measures set down in the action plan.

Several fators that contribute heavily to the carbon inventory are strongly dependent on winter conditions. In addition, the emission factor for electricity varies significantly from year to year.

District heating and groundwater energy are not included in carbon inventory although these energy sources contribute to reducing the need for purchased electricity.

The figure below demonstrates GHG emissions at the Airport. Emissions within OSL's control are shown in the column for airport operations.

CO_2 emissions at Oslo Airport 2010



Air quality

Air quality in brief

Air quality in and around the airport area is affected by local and regional emissions as well as by weather conditions and the local terrain. Emissions from airport operations have the greatest impact on ambient air quality locally at the airport, with aircraft and vehicles being the largest contributors. Outside the airport, the most significant source of emsissions is road traffic. Other factors that may affect local air quality incude industrial emissions, emissions from domestic oil furnaces or wood-stove heating and long-range pollution.

OSL has two permits from the Climate and Pollution Agency that regulate emissions to air; one is related to fire drills and one to the Energy Centre. Furthermore, chapter 7 of the Pollution Regulations stipulates limit values, national goals and recommended values for various pollutants in the ambient air.

The limit value for the hourly mean concentration of nitrogen dioxide (NO2) is set at 200 µg/m3. This limit value is not to be exceeded more than 18 times per year. An maximum hourly mean of 150 µg/m3 (with no more than 8 exceedances per year) is a national goal while 100 µg/m3 is the recommended maximum hourly average. The limit value for the annual mean NO2 concentration is set at 40 µg/m3 while 30 µg/m3 is the recommended maximum annual mean concentration.

The limit value for daily mean density of coarse particulate matter (PM10) is set at 50 µg/m3 by the environmental authorities. This limit value is not to be exceeded more than 35 times per year. The limit value for the annual mean PM10-density is set at 40 µg/m3. The recommended maximum annual mean density is given as 35 µg/m3.

From 2010, the authorities have set as a target that the annual mean density of fine particulate matter (PM2.5) in outdoor air should not exceed 25 µg/m3. This will apply as a limit value from 2015.

The weight-based measure for PM10-density includes all particles with a diameter smaller than 10 micrometers. Emissions from aircraft and diesel motors are usually dominated by particles with a diameter of less than 2.5 µm, also referred to as fine particulate matter, or PM2.5. Because the fine particulate matter in one of the fractions in the measure for PM10, a weight-based measure for PM2.5 density in a given air sample will always yield a value lower than or equal to the value for PM10-density.

Air quality status 2010

OSL operates a mobile unit for monitoring air quality at the airport. Throughout 2010, it was located near the southern end of the western runway. The air quality monitoring system provides continuous measurements of the density of particulate matter and the concentration of nitrogen oxides. Annual reports based on data from this monitoring unit are available on OSL's website: www.osl.no

In 2010, there were no recorded exceedances of the limit value or national goal for maximum hourly mean concentrations of nitrogen dioxide (NO2). The recommended maximum hourly mean was exceeded 27 times, mainly during cold winter months. The annual mean concentration of nitrogen dioxide was about 20 µg/m3. However, due to technical failure in January and December the actual annual average may have been somewhat higher.

In 2010, there were no recorded exceedances of limit values for average daily PM10 densities. The recommended maximum daily mean density value was exceeded only twice during 2010.

The registered annual mean value for PM10-density indicates that the annual mean value for PM2.5-density at the given sampling point was less than 10 µg/m3, which is well below the national goal for annual mean density of fine particulate matter.

In 2009/2010, OSL enlisted the help of the Norwegian Institute for Air Research (NILU) to conduct two series of measurements of NO2 concentration at 40 different locations around the airport, with an averaging period of 2-4 weeks. The results showed the expected dispersion pattern of nitrogen dioxide from known sources such as aircraft, handling operations and road traffic.

Key figures

		2006	2007	2008	2009	2010
Air traffic						
Passengers	number	17 672 179	19 043 800	19 344 459	18 087 722	19 091 113
Domestic	number	8 379 738	8 916 521	8 991 678	8 627 881	8 964 169
International	number	9 292 441	10 127 279	10 352 781	9 459 841	10 126 944
Aircraft movements	number	212 087	223 495	230 495	211 003	212 244
Passengers per aircraft movement (scheduled/charter)	number	86	89	88	90	94
Noise						
Change in total noise dose relative to reference year, 2000	dBA	-1,4	-0,9	-1,3	-2,0	-1,6
Energy						
Total electricity consumption	GWh	74,5	73,8	73,9	78,1	84,5
Electricity for electricity-specific installations	GWh	63,0	65,3	67,2	68,3	72,3
Purchased heating and cooling energy	GWh	36,5	30,2	29,0	31,9	38,5
Electricity for boiler	GWh	4,5	2,1	0,8	3,8	5,7
Electricity for compressors, pumps, etc.	GWh	6,9	6,4	6,0	6,0	6,4
Hafslund District Heating	GWh	22,6	17,6	18,7	21,2	24,9
Heating oil	GWh	2,6	4,0	3,5	0,9	1,5
Extracted or recovered energy	GWh	9,8	14,5	14,2	13,7	13,4
Consumed heating and cooling energy	GWh	46,4	44,6	43,2	45,5	51,9
Fossil fuels						
Aviation fuels	m3	432 132	433 517	469 533	442 821	475 497
Heating oil	m3	381	550	528	214	283
Fuel for OSL's vehicles	m3	633	724	811	895	774
Fuel for fire drills (paraffin)	m3	62,6	48,0	42,5	45,2	31,4
Fuel for fire drills (propane)	m3	2,3	1,4	1,4	1,3	1,9
Waste						
Source-separated waste	tonnes	3 847	4 459	5 120	4822	4509
Mixed waste	tonnes	3 371	4 185	4 250	4014	3431
Total amount of waste	tonnes	7 218	8 644	9 370	8836	7940
Source separation rate	%	53,3	51,6	54,6	54,6	56,8
Hazardous waste *	tonnes	151	166	208	320	233
Climate Carbon inventory as CO2 equivalents *						
Control – OSL emissions	tonnes				4214	4759
Guide – third party emissions	tonnes				81 145	81 515
Influence – third party emissions	tonnes				150 003	156 536
Water supply and sewage						
Water consumption OSL	m3	175 000	191 000	192 000	237 000	185000
Wastewater volume, airport	m3	239 000	260 000	267000	245 000	243000
Drainage water volume	m3	1 567 000	1 863 000	1 794 800	1 621 500	1562000
De-icing chemicals (per season)		2005/06	2006/07	2007/08	2008/09	2009/10
Aircraft de-icing:						
Total consumption of glycol	tonnes	1 748	1 006	1 027	1 470	1481
Specific consumption of glycol	kg/aircraft	160	127	118	139	137
Collection rate for glycol	%	80	81	85	79	80
Runway de-icing:						
Total consumption of runway de-icing chemicals	tonnes	354	309	428	469	200
Environmental load given as COD **	Tonnes KOF	124	108	150	164	70

* Reporting initiated for Airport Carbon Accreditation in 2009

** COD = chemical oxygen demand