

Copenhagen Airports A/S
Environmental Report 2005





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Contents

Looking back at the 2005 environmental year	3
Airport environment: A question of partnership	4
New noise requirements effective January 2005	6
Air quality still below the threshold value	10
Many activities affect surface water	12
Snow and ice increase consumption of resources	13
Unchanged energy consumption in general	14
Renovation of waste water system	16
Changing waste flows	17
Number of industrial accidents showed favourable trend	18
Environmental impact of Roskilde Airport	19
Accounting policies	21
Auditors' statement	23
Glossary	24
Environmental data	26



Looking back at the 2005 environmental year

On 1 January 2005, the Danish Environmental Protection Agency's new regulations for noise exposure in residential areas surrounding Copenhagen Airport came into force. The regulations govern the noise exposure from departures and arrivals in general and the maximum night-time noise level.

The ongoing monitoring of noise shows that the overall noise exposure continues to be substantially below the limit set in the Environmental Protection Agency's environmental approval. The noise exposure decreased slightly from 2004 to 2005, primarily due to a 1.4% reduction in the number of aircraft operations as airlines increased their load factors and the number of aircraft operations with large aircraft increased. The total number of passengers increased by 5% during the period.

CPH's noise monitoring system logged events that exceeded the night-time noise limit in the residential areas surrounding Copenhagen Airport in 2005. This information was passed on to the Danish Civil Aviation Administration (CAA) for an assessment of whether there had been violations of the regulatory noise restrictions in the Danish aviation legislation. The CAA found that none of the events logged exceeded the restrictions.

The Environmental Protection Agency has demanded a noise barrier to be established along the old domestic terminal, to be completed by year-end 2005. The

noise barrier was erected along the north side of the existing terminal buildings and later the barrier will be used as a connecting walkway between Terminal 1 and the remaining terminal complex.

In 2005, CPH submitted the technical reports for an environmental impact assessment (EIA) of Roskilde Airport to the Greater Copenhagen Council (HUR) and an environmental approval application was filed with the County of Roskilde. The application is for both operation of the existing airport and construction and operation of an expansion of the facilities and in the number of operations. HUR and Roskilde County are currently preparing drafts of an amendment to the regional plan with the EIA report and the environmental approval, all of which are expected to be made available to the public in 2006.

This Environmental Report has been reviewed by external auditors and includes their statement on the review.

Copenhagen, 20 february 2006



Peter Rasmussen
Senior Vice President

Airport environment: A question of partnership

Many players have an impact on the environmental performance of an airport. CPH, the owner and operator of the airports at Copenhagen and Roskilde, makes the infrastructure, buildings and service facilities available to the many companies that operate their businesses at these two airports. These companies – which include airlines, lessees, public authorities, air traffic control, catering, fuel suppliers and the companies operating in the terminal area – all contribute to the environmental impact of the airport.

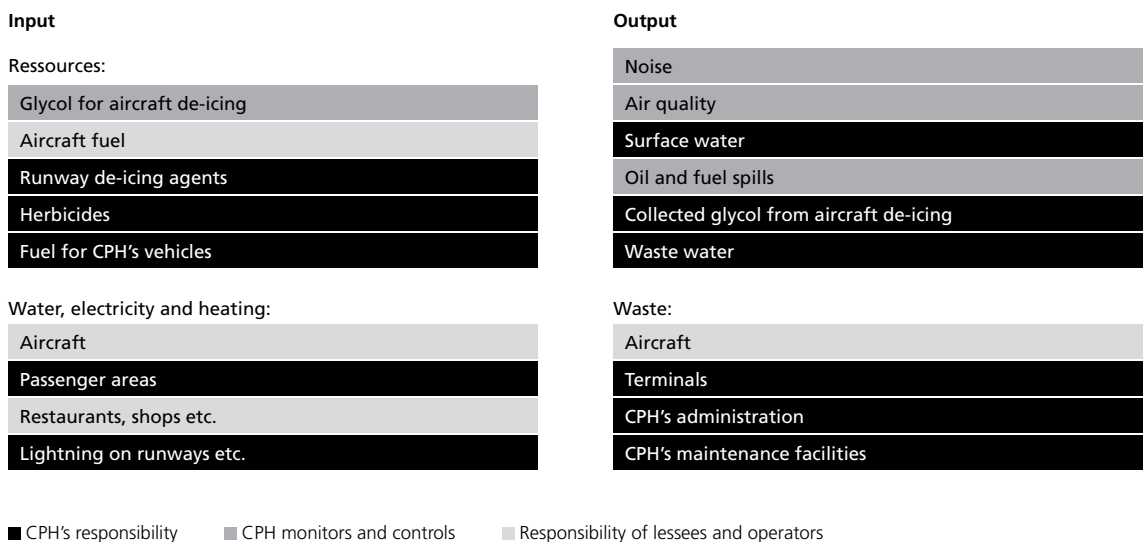
Environmental impact is regulated by the authorities through terms and conditions fixed in environmental approvals. The approvals require CPH to monitor part of the impact, but the final responsibility rests with the individual companies at the airport. CPH's monitoring results are reported to the environmental and civil aviation authorities, and these authorities then handle the matter with the individual companies. The figure below illustrates in greater detail the interaction between CPH and the other companies operating at the airport.

CPH is in continual dialogue with the airlines and other companies in order to ensure compliance with environmental approvals. The dialogue is also important in the environmental work going forward, as CPH must ensure the necessary approvals for its future operation and expansion of the airport.

Within CPH, the individual organisational units are responsible for complying with environmental approvals, current legislation and CPH's own environmental policy. CPH's environmental division provides consultancy, liaisons with environmental authorities, and coordinates internal control measures at the airports.

CPH's environmental policy provides the general framework for its environmental work. The policy establishes that, as an environmentally responsible company, CPH must be operated and improved with a view to continually bettering environmental performance. This improvement must be achieved through attention to environmental aspects in all decisions, preventive action and cleaner technologies, increased en-

Relationship between CPH and the other companies at the airport



vironmental awareness among employees and business partners, and an open dialogue about the Company's environmental impact.

Environmental impact

At the core of the airport's activities is the interface between passengers and aircraft. Each year, several million people arrive at Copenhagen Airport, walk through the terminals, board their flights and travel out into the world. This meeting releases a chain of activities which can affect the environment.

When an aircraft arrives at the airport, the aircraft noise has an effect on the local area. The arriving aircraft also has an impact on air quality. In the winter, CPH's snow clearing staff ensure that the runway is free of ice and snow before the aircraft arrives. A de-icing agent is used which may affect the quality of the surface water discharged into the Øresund strait. While the aircraft is on its way to the gate, its noise has an impact on the area around the airport. Once the aircraft is parked at its stand, passengers disembark and baggage is unloaded, after which the aircraft is cleaned.

In the terminals, a number of activities take place from the time passengers arrive at the airport until their flight departs. Passengers must check in and go through a security checkpoint, after which they can shop and buy food and beverages before departure. Passenger activities in the terminals involve consumption of both energy and water. These activities also produce waste water and waste that needs to be removed and transported to municipal facilities.

Before the aircraft is ready for a new flight, a number of activities take place in and around it. The aircraft may have to undergo a service check, including an engine test. A number of maintenance and engine testing facilities are used for these activities. Even though the engines are tested at specially designed locations, the activity may have a noise impact on the local area.

The aircraft may also have to be fuelled before departure. Even though great care is taken, fuel spills are unavoidable. CPH has a stand-by set-up to ensure that spills do not affect the water quality: spills are collected in the nearest oil separator after having been washed into the sewer system.

In the winter and under certain meteorological conditions, it may be necessary to de-ice the aircraft before departure. A special liquid is used for de-icing which may affect surface water quality. There are de-icing agent collection systems on the special de-icing platforms, but some liquid will remain on the aircraft and then be blown off during departure.

Once the aircraft is in the air again, the noise may once again have an impact on the local area. Night flights out of Copenhagen Airport are subject to an approval scheme to ensure that the permitted noise limit is not exceeded: use of the crossing runway is prohibited in order to reduce the noise impact.

Performance within each type of environmental impact is described on the following pages. At the end of this report is a table containing five-year environmental data.

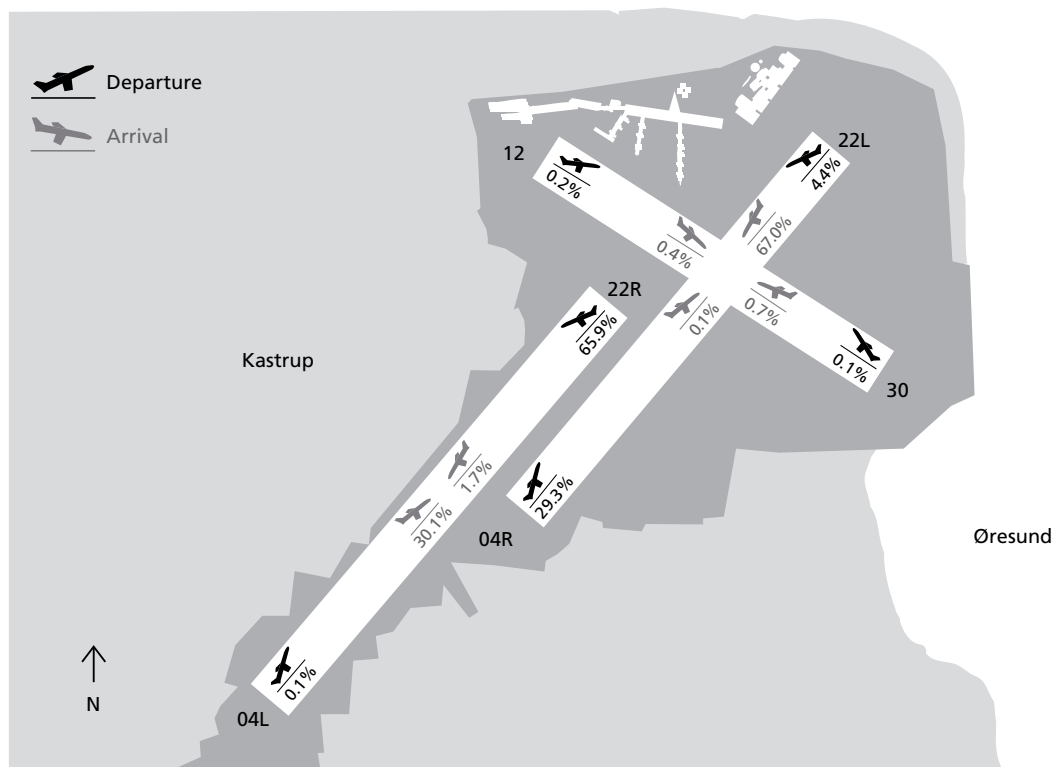
New noise requirements effective January 2005

Noise from aircraft activities is one of the most significant forms of environmental impact from an airport. Noise is monitored constantly, and new measures are introduced to limit the impact of noise in the residential areas around the airport.

The runway system at Copenhagen Airport consists of two parallel main runways (04L-22R and 04R-22L) and a crossing runway (12-30). Which runway to be used is determined by the wind conditions as both departures and arrivals are performed upwind for safety rea-

sons. The use of the runway system has a significant impact on the noise exposure in the residential areas around the airport and has therefore been fixed so that aircraft passing over residential areas is kept to a minimum. Most of all departures are on Runway 22R, bringing the aircraft over the southern part of Amager, and most arrivals are on Runway 22L, with aircraft approaching from the Øresund. This has been typical of the airport's traffic patterns for many years now. The crossing runway (12-30) is only used when special wind or weather conditions make it necessary.

Use of runways



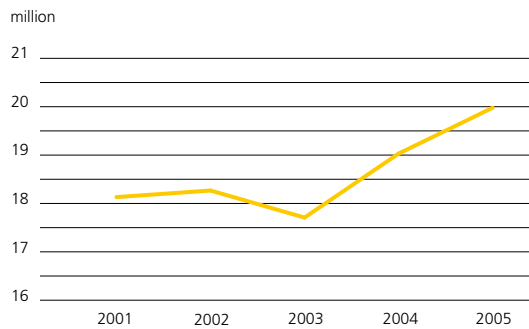
In the environmental approval of Copenhagen Airport, the environmental authorities stipulated that the noise exposure from air traffic would have to be reduced by about 5 dB from 1996 to 2005. To determine whether this requirement has been met, a so-called TDENL value (Total Day-Evening-Night Level) is calculated every year to describe the total noise exposure of air traffic at the airport.

In 2005, the airport's noise exposure decreased from 2004, as the TDENL value dropped by 0.1 dB to 146.0 dB, which is substantially below the limit set in the Environmental Protection Agency's environmental approval. The number of aircraft operations decreased from 272,518 in 2004 to 268,655 in 2005. At the same time, the number of passengers in 2005 was the highest ever in the history of Copenhagen Airport, rising from 19,034,585 in 2004 to 19,981,872 in 2005. The increase in passenger numbers was possible despite a decreasing number of aircraft operations because airlines have increased their load factor and the number of larger aircraft.

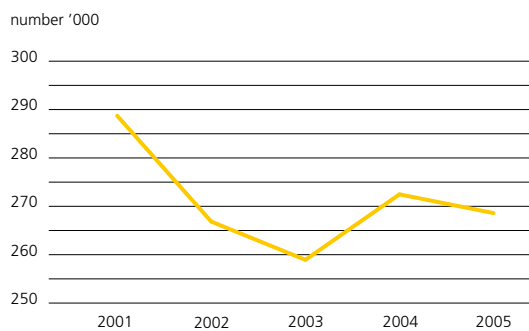
Departures and arrivals during nighttime (11 pm to 6 am) are not permitted to exceed a maximum A-weighted noise level of 80 dB in six measuring points located in the residential areas adjacent to the airport. Since 1 January 2005, the noise level has been reduced from 85 dB to 80 dB. The airport noise monitoring system logs all events exceeding 80 dB. In 2005, 56 noise events exceeding 80 dB were recorded. The noise events thus logged are evaluated by the Danish Civil Aviation Administration, which determined that none of the noise events logged in 2005 is regarded as violations of the Danish aviation legislation.

Aircraft engines are tested in connection with general aircraft repair and maintenance procedures. To mini-

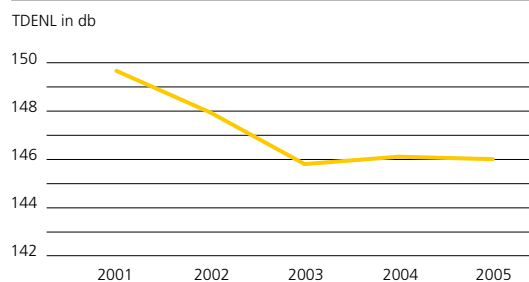
Passengers



Aircraft operations



Noise impact



mitigate the noise nuisance from such testing, regulations permit engine run-ups when necessary for planned departures to be on time, but it must be done with the greatest possible consideration for the environment. Engine run-ups may only take place in five designated areas, and cannot take place between

11 pm and 5 am. In 2005, engine testing occurred 1,371 times, covering 694 run-ups and 677 idle-runs. The number of engine tests has decreased over the past five years. In 2005, three regulation deviations were reported to the environmental authorities, equivalent to 0.2% of all engine tests.

Night period maximum noise levels from departures and arrivals

number of noise events	2001	2002	2003	2004	2005
81 dB(A)					16
82 dB(A)					16
83 dB(A)					11
84 dB(A)					6
85 dB(A)					4
86 dB(A)	7	5	2	3	1
87 dB(A)	2	0	2	0	0
88 dB(A)	1	1	0	1	2
89 dB(A)	2	0	2	0	0
90 dB(A)	1	0	1	0	0
>90 dB(A)	0	2	0	0	0



1



2



3



4

1: De-icing

Aircraft are de-iced on specially designed platforms with collection systems for excess de-icing liquid, which is transported to purification and biogas plants on Zealand. A smaller amount of liquid with a particularly low content of glycol is disposed of by spraying it over a specially approved area of the airport.

2: Noise barrier

In 2005, CPH built a noise barrier along the old domestic terminal. The noise barrier was constructed along the north side of the existing terminal buildings and

would later be used as a connecting walkway between Terminal 1 and the rest of the terminal complex.

3: Fire drills

Fire drills are carried out on a training ground with a mock-up of a Boeing 767. Using the mock-up, firemen can simulate fires via combined gas and fuel nozzles designed to minimise fuel consumption.

4: Vilhelm Lauritzen Terminal

The old airport terminal from 1939, designed by Vilhelm Lauritzen, was in the way when Copenhagen

Airport was planning expansion to the east in the 1990s, and the terminal was therefore relocated to a new area in the western part of the airport. Following the relocation and a careful restoration of the building to its former glory, this old airport terminal today looks largely as it did in 1939. Rather than continuing an earth berm as a noise barrier to shield the surrounding residential areas, CPH decided to build a number of hangars which have been incorporated in an overall design of the area around the Vilhelm Lauritzen Terminal. The hangars were designed by the Vilhelm Lauritzen group of architects.

Air quality still below the threshold value

CPH has monitored the air quality around the airport since 2000 from three monitoring stations east and west of the terminal area and near the airport south gate, respectively. The purpose of the two northern measuring stations is to enable CPH to assess the emissions added to the air when it passes over the terminal area, as previous studies have shown that the highest pollution levels are in that area. The third monitoring station is located where the impact from the airport is lowest.

Each monitoring station measures levels of nitrogen oxide (NO), nitrogen dioxide (NO₂), sulphur dioxide (SO₂), ozone (O₃), particulate matter (PM_{2.5} in the north area and PM₁₀ in the south area), toluene and benzene. In this Environmental Report, CPH focuses on the parameters which have the greatest local impact and are comparable with other measurements of air quality.

The measurement results were analysed in greater detail in 2001 to determine the emissions the airport adds just outside the perimeter fence. The analysis showed that there is no direct correlation between the operation of individual flights and the air quality around the airport. As shown in the figure containing

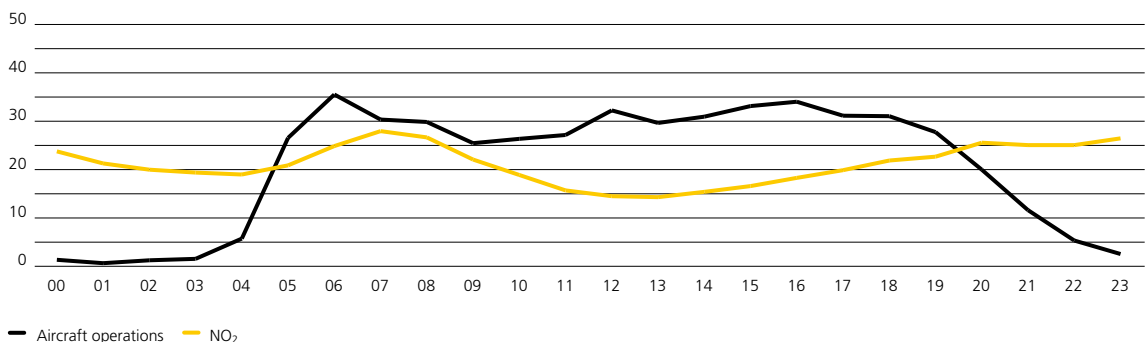
data from 2005, the average NO₂ level does not vary with the number of aircraft operations over a 24-hour period. The 24-hour variation in NO₂ levels correlates more with the variation in car traffic in Copenhagen and the surrounding road system.

However, the analysis also showed that the airport can be considered a significant source of emissions in the airport's immediate vicinity with respect to NO₂. When the wind has an easterly direction, the airport contributes about half the NO₂ concentration immediately west of the terminal area. However, it should also be noted that NO₂ levels west of the terminal area are higher in westerly winds than in easterly winds, which indicates that there are more substantial sources of NO₂ in the area to the west of the airport than in the airport area itself. There are no indications that this has changed since 2001.

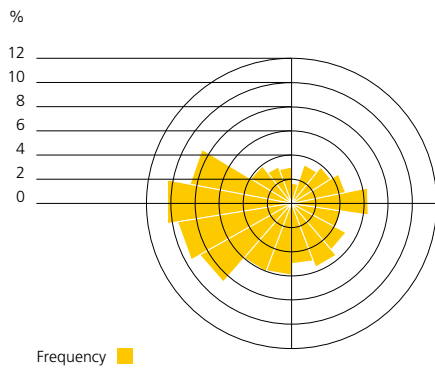
NO₂ levels measured in 2005 showed that NO₂ in the north-western area of the airport is about half the threshold value. There have been no major variations in the annual mean level of NO₂ over the past five years. NO levels show a constant downward trend since 2001. This correlates well with levels measured in other urban areas in Denmark, which have also

NO₂ relative to aircraft operations

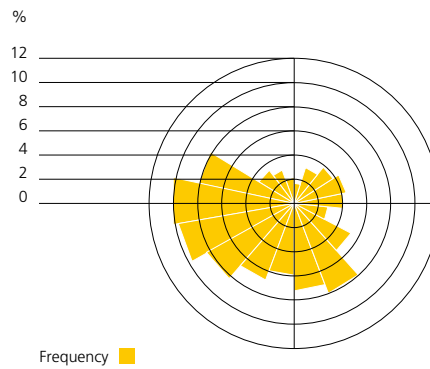
µg/m³ (aircraft operations per hour)



Average wind directions 2001-2004



Average wind directions 2005



seen reductions in NO since the early 1990s. The main reason for the drop is the general phasing out of cars without catalytic converters.

The concentration of PM₁₀ measured in 2005 was higher than the levels measured in preceding years. The increase recorded in 2005 can also be seen in other measurements in Denmark. The levels measured are believed to be close to the background level in Denmark. Some of the particular matter recorded has been transported to Denmark from far away, especially from Eastern Europe. A comparison of wind di-

rections in 2005 with the average for the previous four years showed an above-average occurrence of winds from south-eastern directions.

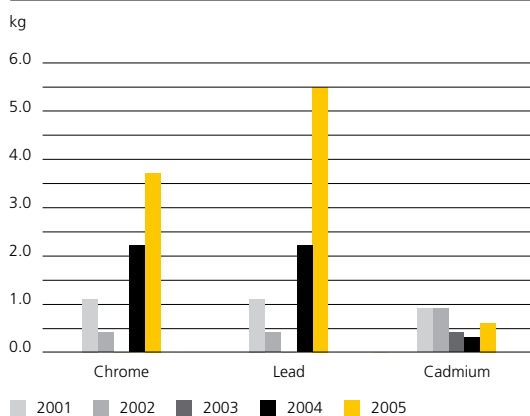
The generally good air quality around the airport is partly due to its location in an open, flat area which allows a quick mixing/dispersion of pollution; on the other hand, aircraft – by far the largest source of pollution – produce emissions at an altitude where the impact on ground-level air quality is reduced substantially by dispersion.

Many activities affect surface water

When it rains, an efficient drainage system takes the rainwater to 12 different outlets into the Øresund. It adds up to large volumes of water each year from the airport's 11.8 square kilometres of land. For instance, one millimetre of rainfall results in about 6,000 cubic metres of water being discharged into the Øresund. Water is drained into large rainwater pools as needed to avoid runway flooding. The annual volume of water discharged depends primarily on the amount of precipitation; it was 2, 841,411 cubic metres in 2005.

Water quality is monitored by analysing 24-hour samples taken periodically from the outlets: a substantial increase in the content of heavy metals was seen in 2005. It was impossible to identify immediately the reason for the increase, as a number of different activities affect surface water quality. CPH will be increasing its focus on the content of heavy metals in 2006.

Surface water – discharge of heavy metals



In addition, increases were recorded in the volume of oxygen-consuming substances (BI_5). The increase in BI_5 was measured during the winter months, so the increase was due to the use of de-icing agents. The consumption of de-icers increased significantly in 2005 for meteorological reasons. De-icer consumption is described in more detail below.

A substantial decline was seen in the content of fuel in surface water: from 451 kilos in 2004 to 164 kilos in 2005. The volume will vary depending on fuel spills in the airport area. For the past five-year period, the fuel content varied between 90 and 451 kilos per year.

No major oil or fuel spills in 2005

Brændstoftageret Københavns Lufthavn I/S, the fuel provider at Copenhagen Airport, receives jet fuel via an underground pipeline from its own pumping station at Prøvestenen. From the storage tanks at Brændstoftageret, jet fuel is distributed to aircraft stands primarily via pipelines to pit wells from which aircraft can be fuelled using a hose. In 2005, Copenhagen Airport saw about 126,000 fuelling operations involving a total of 970 million litres of fuel.

Even though great care is taken, spills are unavoidable. CPH cleans all oil and fuel spills from the refuelling of aircraft and vehicles. Due to fire safety, fuel spills are washed away to the drainage system, and the fuel is collected in the nearest fuel separator. Oil spills are typically cleaned using an absorbing material combined with subsequent washing with soapy water applied and collected again.

During this cleaning process, all spills are logged in order to establish the total volume and number of spills. A total of 264 spills were logged in 2005, and the spills involved an aggregate volume of 3,001 litres, compared with 217 spills and an aggregate volume of 39,279 litres in 2004. The sharp decline in the volume of spills was due to two very large spills in 2004. Measured in number of spills, there was an increase year on year in spills of less than 50 litres. Conversely, the number of spills of 50 litres or more decreased from 20 to 6.

Out of the total number of spills, 94 were fuel spills involving a total of 1,352 litres, whilst there were 170 oil spills (hydraulic and engine oil) involving 1,649 litres. The total volume and number of spills should be seen relative to the total consumption of about 970 million litres of fuel, which corresponds to one litre spilled for every 720,000 litres of fuel used.

Snow and ice increase consumption of resources

When a blanket of snow and ice falls across Denmark, the airport functions on high alert. Shifting temperatures around zero degrees celcius with precipitation or fog is the most critical weather situation at Copenhagen Airport as these conditions enhance the risk of ice on runways and aircraft. The weather situation is monitored by a sophisticated ice-warning system, which allows the airport to keep on top of developments and ensure that anti-icers are applied before freezing rain forms a glaze on the ground.

Snow affects air traffic 19 days a year on average, but an efficient crew totalling 200 people stands at the ready when the snow falls. Runways and taxiways are cleared of snow by convoys of 14 vehicles at a time: a runway more than 3 kilometres long and 60 metres wide can be cleared in 10 minutes.

Most of the vehicles used at the airport use diesel fuel. Diesel is mainly used for vehicles used in area maintenance, including de-icing and cleaning of runways and taxiways. The level of diesel fuel consumption thus depends very much on the extent to which the snow clearing equipment is used. Diesel fuel is also used for a number of stand-by generators that supply emergency power for runway lighting and other facilities crucial to smooth air traffic operations if the public power supply is interrupted.

Fuel plants located in the northern and western sections of the airport supply diesel and petrol for the airport's vehicles, which are equipped with sensors that register each vehicle's consumption. Consumption of petrol increased from 58 cubic metres in 2004 to 59 cubic metres in 2005, whilst consumption of diesel increased from 718 cubic metres in 2004 to 765 cubic metres in 2005.

Liquid and solid formiate is used for runway and taxiway de-icing. In addition, sand mixed with a maximum of 5% urea is used to prevent slip and fall accidents in the stand area where handling staff work. In 2005, 1,706 tonnes of formiate and 6 tonnes of sand/urea mix were used. Consumption in 2004 was 1,093 tonnes of formiate and 55 tonnes of sand/urea. The significant increase in formiate consumption is solely due to weather conditions. The drop in sand/urea consumption is a result of CPH trying to reduce its con-

sumption because of problems caused by sand washing into drainage ditches and wells. A total of 136 tonnes of calcium magnesium acetate (CMA) was spread on the landside area in 2005. From the winter season 05/06 CMA is substituted by formiate.

Ice and snow on aircraft can affect aircraft manoeuvrability, so it is vital for flight safety that it is removed. The handling companies use an eighty-degree-hot mix of glycol and water for de-icing, spraying it onto the aircraft on three specially designed platforms where any excess chemicals (and precipitation) are collected in tanks. The liquid is orange in colour so that the de-icing crew can visually inspect to see whether the glycol has spread correctly.

Approximately 200 litres of glycol are used to de-ice one aircraft. The annual consumption of glycol on the platforms has been between 313 and 763 cubic metres over the past five years. The volume used in 2005 was 721 cubic metres of 100% glycol, and the volume collected was 370 cubic metres. Preventive de-icing typically takes place on the aircraft stands when the aircraft are parked for the night, with about 6 litres of de-icer applied to prevent ice formation. A total of 4.4 cubic metres of glycol was used for preventive de-icing in 2005.

The liquid collected from the platforms is transported to purification and biogas plants on Zealand, and liquid with a particularly low content of glycol is sprayed over a specially approved area of the airport. Soil samples from the area where the glycol is sprayed show that the glycol degraded completely within a couple of months after the last spraying. The volume disposed this way in 2005 accounted for about 5% of the volume collected.

Herbicides

CPH tries to limit the use of herbicides as much as possible, but herbicides are used for safety reasons in areas along the perimeter fence and along runways and taxiways, where mechanical removal is impossible or insufficient. In 2005, herbicide consumption totalled 127 litres for the airport's 11.8 square kilometres of land. This is about the same amount as used in 2004.

Unchanged energy consumption in general

Energy consumption at Copenhagen Airport is highest in the terminal areas. The energy is used for lighting and installations in buildings, on aprons, at aircraft stands, on runways and on taxiways, as well as for ventilation, space heating and comfort cooling in the terminal buildings.

CPH distributes electricity, water and heat to users and lessees at the airport and owns, operates and maintains all the supply networks for this purpose. Careful documentation of energy consumption and continual assessment of consumption trends contribute to an optimal exploitation of the energy resources by both CPH and the lessees at the airport to whom CPH supplies energy. In 2005, CPH focused on energy consumption in the many building projects that are carried out at the airport. Electricity and water costs during the construction period are transferred to the projects, which helps make these costs visible and thus aids in reducing consumption.

Premises and hot water are mainly heated by district heating and, to a lesser extent, natural gas. Oil heating is only used in a single hangar, which is being closed down. Electric heating is primarily used in small printer huts and remote transformer substations where other heat sources are not feasible.

CPH is in charge of the joint purchase of electricity and heating for all users of the airport's buildings, equipment and areas. In addition, the airport generates a limited volume of electricity from a small natural gas heating and power plant and from the diesel generators used as back-ups for the terminal areas

and the runway and taxiway installations in the event of a power failure.

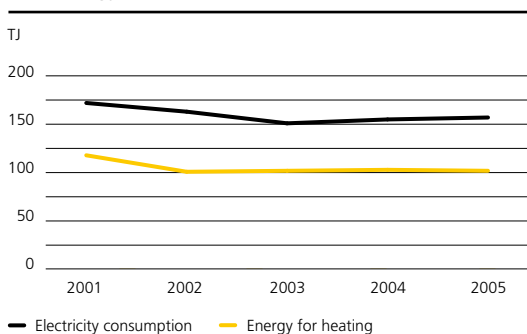
Electricity consumption in 2005 was on a level with consumption in 2004. Energy consumption for heating showed a slightly decreasing trend in the aggregate, whilst consumption per 1,000 square metres showed a slight increase. Degree-day adjusted consumption per 1,000 square metres showed a corresponding increase.

Recycling saves water

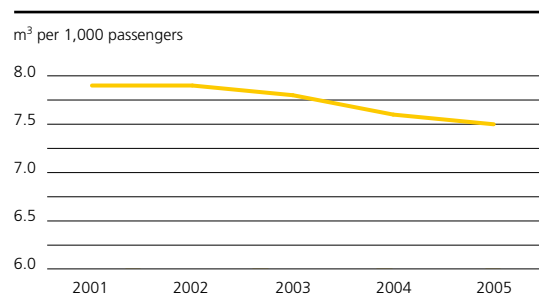
Water consumption at the airport is related to many different activities. The primary water consumption is for the three passenger terminals, which about 50,000 people use every day. The airlines, catering companies and other lessees at the airport are responsible for their own water consumption.

The water used at Copenhagen Airport comes from the municipalities of Taarnby and Dragør. Moreover, second-quality water from a local remedial drilling is used for engineering room cooling and car washing, as well as in innovative toilet facilities in certain selected areas. Innovation and rethinking reduced airport water consumption by some 20,000 cubic metres in 2005. Total drinking water consumption in 2005 was up nearly 4% year on year. The growth was below the 5% growth in passenger numbers, which means the declining trend in consumption per 1,000 passengers continued.

Total energy consumption



Water consumption





1



2



3



4

1: Terminal facilities

A number of activities take place in the terminals, from passengers arriving at the airport and until their flights depart. Passengers must check in and go through security, after which they can shop and buy food and beverages before departure. Activities in the terminals involve consumption of both energy and water, and they produce waste water and waste that needs to be removed and transported to municipal facilities. Almost 20 million passengers went through the three terminals at Copenhagen Airport in 2005.

2-4: The airport area

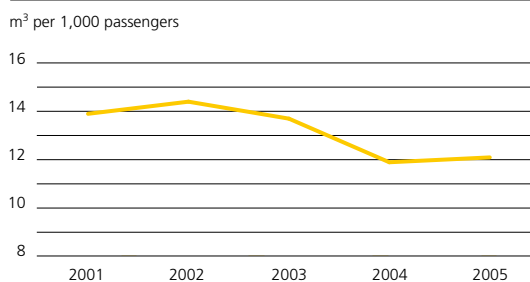
Copenhagen Airport covers an area of almost 12 square kilometres; of this one fourth are paved areas. Runway maintenance is an ongoing activity and whenever possible it takes place in the night period as the air traffic intensity in this period is at the lowest. When it rains, an efficient drainage system discharges rainwater from the airport to 12 different outlets into the Øresund. The airport activities have an impact on water quality and CPH thus carries out an extensive monitoring programme. One of the agents in this

programme is fuel, as even though great care is taken when aircraft and vehicles are fuelled, fuel spills are unavoidable. For fire-safety reasons, all fuel spills are washed away to the drainage system, and the fuel is collected in one of the 144 oil separators located in the airport area. A total of about 970 million litres of fuel was consumed in 2005, of this 1 litre was spilled for every 720,000 litres of fuel used.

Renovation of waste water system

The airport's waste water is discharged to one aggregate outlet in each of the municipalities of Tårnby and Dragør. Continuous flow measurement showed an aggregate waste water volume of 242,009 cubic metres in 2005. Most of this waste water, 236,508 cubic metres, was discharged to the municipality of Tårnby from the activities in the airport's northern, eastern and western sections, whilst 5,501 cubic metres was discharged to the municipality of Dragør from activities in the southern section. The volume of waste water per 1,000 passengers has dropped by almost 13% since 2001 and has fluctuated between 11.9 and 14.4 cubic metres in recent years. In 2005, the volume of waste water per 1,000 passengers was 12.1 cubic metres.

Waste water discharged



The condition of waste water pipes and traps may affect the volume of waste water because waste water may leak out of the system or rain water may leak into the system. To keep this from happening, the airport has a ten-year sewer system renovation action plan that will run until 2013. In 2005, this renovation involved the southern section, where a number of pipes were replaced or proofed.

The waste water quality is affected by the many activities carried out by CPH and the other companies at the airport. A large amount of the waste water comes from the terminal area, and its composition corresponds to ordinary household waste water. Its quality is also affected by maintenance activities, the production of food for in-flight meals, restaurants and can-

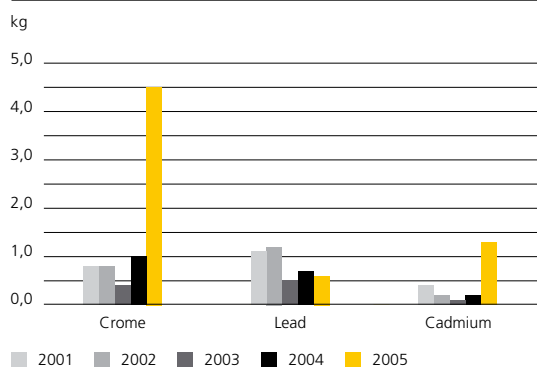
teens. A smaller amount of the waste water comes from aircraft toilets. The contents of aircraft toilet tanks are pumped into toilet trucks and taken to a disintegrator building where the waste is processed and pumped into the main waste water system. Aircraft waste water contains anti-freeze agents and disinfectant.

Every month, 24-hour samples are taken from the two outlets to check the waste water quality. Testing for heavy metals in 2005 showed a decline in the content of zinc and nickel and an increase in the content of chrome, copper and cadmium compared with 2004. Heavy metals primarily come from maintenance activities, and levels may fluctuate from year to year depending on workshop activity levels.

The content of oil/grease and COD in the waste water increased to the level recorded pre-2004, which was an atypical year due to hydrogen-sulphide problems in the waste water system, with grease accumulating in the waste water trap. The formation of hydrogen sulphide is now under control with the use of calcium nitrate, which, however, also causes the higher nitrogen levels in the waste water.

The level of detergent in the waste water increased by 31%. Most of the detergent comes from a flight kitchen in the eastern section of the airport, so it is believed that it is the source of the increase as well. Also the 15% decrease from the 2004 level of phosphate in the waste water is attributed to changes in the discharge of phosphate by the flight kitchen.

Waste water – discharge of heavy metals



Changing waste flows

Airlines are responsible for disposing of waste from aircraft, whilst CPH is responsible for removing waste from the three passenger terminals and from CPH's maintenance facilities and administration buildings. CPH has established a container area where waste is sorted into fractions.

The EU's stricter security requirements from late 2004, when scanning of all persons passing the airside/landside boundary was introduced, have changed the waste flows in the terminal area. In a number of cases, it has made the path to the nearest waste container longer and more difficult. To compensate for these problems, new waste rooms have been established, and users have gradually got used to new routines.

For waste flows, one particular result was that the level of waste sorting was lower during the first three or four months of the year. This resulted in a significant drop in the amount of cardboard collected for recycling, whilst the amount of waste to be incinerated increased. Although waste sorting increased to almost the normal level in the subsequent months, a shift was seen for 2005 as a whole in disposal methods as compared with 2004, with a smaller proportion of the waste being recycled and a larger proportion incinerated.

The total amount of waste was 8.5% higher than in 2004, which was slightly more than the increase in passenger numbers. Waste per 1,000 passengers rose from 139 kilos to 144 kilos.

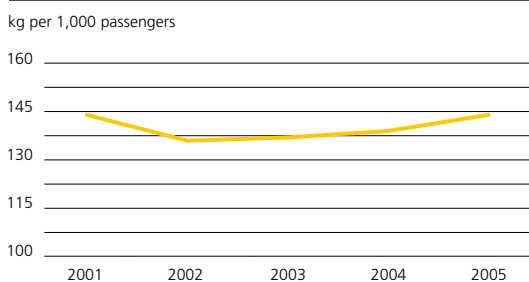
The introduction of stricter security requirements resulted in a decrease in the total amount of waste collected for recycling from 15% in 2004 to 13% in 2005. Recyclable waste is primarily cardboard, paper, iron and metal. Most of the recyclable waste is generated continuously from airport operations, whilst a smaller and highly variable proportion is generated in various cleaning-up processes.

The amount of waste for incineration rose by 15% year on year, accounting for 71% of the total amount of waste in 2005. This was primarily a result of the change in security requirements combined with the increase in passenger numbers. Waste for incineration primarily consists of mixed combustible waste from offices, shops and passenger areas in general.

The volume of waste for special treatment was down by 1% year on year. Waste for special treatment primarily consists of water with a small content of oil/soap from the washing of stands etc. after oil spills and the like. One of the factors affecting the volume of this waste is the amount of precipitation and the time of year the collection tanks are emptied. As a result, there are major fluctuations in the volume of waste for special treatment.

The volume of waste for landfill was down by 2% year on year. This type of waste primarily comes from infrastructure maintenance and is not affected by changes in passenger numbers. The largest fraction for disposal to landfills is waste swept from streets and similar areas and waste vacuumed from stands and similar areas.

Waste



Disposal method as a percentage of total volume of waste



Number of industrial accidents showed favourable trend

Working environment activities at CPH are organised in a safety organisation consisting of a main safety committee and three safety committees reporting to the COO level.

In 2005, CPH began to develop an occupational health and safety management system under OHSAS 18001. CPH has conducted working environment screenings of the first departments, primarily in the operational areas. Experience from this activity showed that working environment activities at CPH are generally successful, but also that there are areas in which improvements are needed. Where the screenings reveal problems, it is the responsibility of the departments to ensure that an action plan is prepared so that the problems can be solved. The implementation of occupational health and safety management will therefore support the process of anchoring responsibility with the line management.

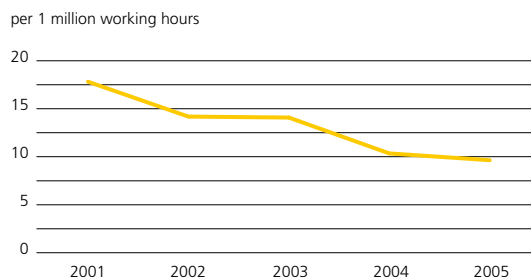
To implement uniform systems for occupational health and safety management, everything recorded in this respect, including workplace assessments, is entered into an IT system accessible to all employees over the Internet.

A record is kept of all chemicals used by CPH, and workplace instructions have been prepared for many of them on the basis of a chemical workplace assessment. Moreover, a policy has been prepared for purchasing chemicals.

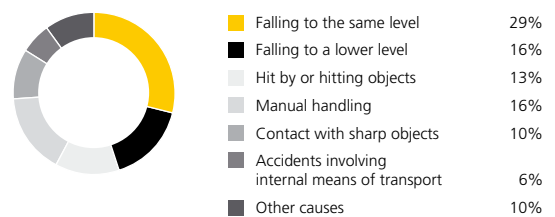
In 2005, 31 industrial accidents were recorded, equivalent to an industrial accident frequency rate of 9.7. The rate was 10.4 in 2004, so the favourable trend continued in spite of many new security employees in 2005.

There were no major changes in the types of industrial accidents that occurred compared with last year. The breakdown of industrial accidents compared with the focus areas of the Danish Working Environment Authority shows that the primary cause of the accidents was "falling to the same level", which accounted for 29% of all industrial accidents. "Falling to a lower level" caused 16% of accidents, whilst 13% of accidents were caused by employees being "hit by or hitting objects". "Manual handling" accounted for 16% of the accidents; "contact with sharp objects" for 10%; "accidents involving internal means of transport" for 6%; and 10% had "other causes".

Industrial accidents



Breakdown of causes on industrial accidents



Environmental impact of Roskilde Airport

Air traffic

Roskilde Airport is today used as a regional airport for the Copenhagen metropolitan area and Zealand. The airport is mainly used for general aviation and training flights, and the aircraft used are typically small: within the 1,000-2,000 kilos weight class.

The number of aircraft operations continued to decrease over a five-year period. In 2005, there were 69,204 aircraft operations at Roskilde Airport. The number of operations with aircraft exceeding 2 tonnes increased, partly because a number of military aircraft operations have been moved from Værløse Airbase to Roskilde Airport. In addition, the number of business flights was higher in 2005.

The runway system at Roskilde Airport consists of runways 03-21 and 11-29. The distribution of traffic on the runways in 2005 did not differ significantly from the normal use of the system over a ten-year period.

Aircraft engine testing adds to the noise exposure in the areas around the airport, and a number of measures have been introduced to minimise the noise nuisance as much as possible. Engine run-ups have been referred to special areas and are basically only allowed in the period between 7.00 am and 6.00 pm. In 2005, engine testing occurred 115 times.

Energy and water consumption

Energy consumption for heating in 2005 was on a level with consumption in 2004. A corresponding level was seen when variations in outdoor temperatures are taken into account. Total electricity consumption was largely unchanged from 2004.

In 2005, a major leak occurred in the water supply system. As a result, water consumption at Roskilde Airport increased by 65% from 3,724 cubic metres in 2004 to 6,144 cubic metres in 2005.

Waste

Waste from Roskilde Airport primarily consists of ordinary household-like waste generated from the passenger terminal, administration building and maintenance facilities. The estimated volume was below 50 tonnes in 2005.

Environmental impact assessment

In 2005, CPH submitted the technical reports for an environmental impact assessment (EIA) of Roskilde Airport to the Greater Copenhagen Council (HUR) and an environmental approval application was filed with the County of Roskilde. The application has to do with both the operation of the existing airport and establishment and operation of an expansion of the facilities and the number of air traffic operations.

HUR and Roskilde County are currently preparing drafts of an amendment to the regional plan with the EIA report and the environmental approval, all of which are expected to be made available to the public in 2006.

Smøke område
Smoking area

Højtalerudkald
Calling calls



Ikke ryge
No smoking

OBS! Ingen høj
Att. ! No board

	Gate	Bemærkninger
	Gate	Remarks
Strasb	A7	To gate
Stockholm/Arn	B7	
Frankfurt	C5	
Oslo	A26	
Trondheim		Wait for gate
London	A28	
London/Heathrow		Wait for gate
Amsterdam	B4	
Beijing		Wait for gate
London	C39	
London	C40	

Afgang	Forventet	Fly	Til
Time	Expected	Flight	To
1230		SK 779	Budapest
1245		SK9604	Vilnius
1245		DM 115	London
1245		SK6624	Helsinki
1245		SK6646	Tampere
1300		KL1128	Amsterdam
1305		SK1420	Stockholm
1310		HV5788	Amsterdam
1310		SK1456	Oslo
1315		SK7400	Oslo

Accounting policies

The CPH Environmental Report describes environmental impact trends and changes due to the operation, maintenance and expansion of the airports at Copenhagen and Roskilde.

An Environmental Impact Assessment (EIA) of the extension of Copenhagen Airport from 1996 and Copenhagen Airport's environmental approvals from 1997, which were upheld by the Danish Environmental Appeal Board in May 1999, form the basis for the selection of environmental factors deemed to be of significance to CPH's activities. The Environmental Report describes developments in these environmental factors, since they have an environmental impact in ways that CPH is responsible for, monitors and controls.

The data in the report is based on regular compilation from the individual areas at the airports, after which they are collected in a central database for further processing. Data is provided in one of the following ways:

- Externally documented loggings
- Internal loggings
- Calculated data
- Estimated data

The environmental report was prepared in accordance with the following accounting policies:

Traffic and noise

Traffic growth is calculated on the basis of data in CPH's traffic statistics system and includes all aircraft operations by aircraft type, take-off weight, use of runway and time. Total noise impact at the airport from departures and arrivals is calculated using the TDENL method, and calculations are based on each aircraft operation, including aircraft type and time of day.

The number of noise events resulting from night flights to and from Copenhagen Airport is monitored and logged by CPH's noise monitoring system. The number of engine testing incidents, including the

number of engine idle-run incidents and deviations from rules on engine testing, are stated in this environmental report based on reports received from the airlines.

Air quality

The air quality at Copenhagen Airport is monitored and logged by CPH's air quality monitoring system. The system also collects meteorological data.

Surface water

The volume of surface water discharged is calculated on the basis of the pump effect of CPH's pumps for outlet U5 and the volume of precipitation reported by the Danish Meteorological Institute (DMI) for other outlets. Water quality is determined on the basis of periodical water sample analysis conducted by a third-party laboratory. Data from January until March 2005 are estimated due to technical disorder on the pumps for outlet U5 in the period.

Oil and fuel spills

The number of oil and fuel spills is calculated as the number of reports filed by Security, Fire and Rescue or other in-house and third-party sources. The calculation of the volume of spills is subject to uncertainty, as it is rarely possible to measure the exact volume of a spill.

Resources

The volume of glycol used for aircraft de-icing is calculated by the companies that handle de-icing. The annual volume of glycol recovered is determined on the basis of the registered volume of each truckload removed, adjusted for tank contents at the beginning and end of the year. The consumption of runway and taxiway de-icers, fuel and herbicides is calculated on the basis of the volumes purchased, adjusted for inventory change. Diesel consumption includes fuel for emergency back-up power generators.

Energy and water consumption

Each type of consumption is calculated on the basis of volumes purchased/registered less quantities sold to other companies at the airport. BBR Register information is used to estimate the area heated.

Waste water

The volume of waste water discharged is measured by online meters connected to CPH's central tracking system (CTS). Water quality is determined from analysis of periodical water samples carried out by a third-party laboratory.

Waste

Most data on waste is gathered from weighing slips or monthly statements from recipients of the waste. In some cases, it is impossible to calculate the quantity of the waste, since the weight or volume was not logged. In those cases, an estimate of weight is made.

Industrial accidents

The number of industrial accidents is the annual reported number of accidents causing one or more days of sick leave. The industrial accident frequency rate is calculated as the number of industrial accidents per one million working hours.

Auditors' statement

to the Shareholders of Copenhagen Airports A/S

We have assessed the Environmental Report of Copenhagen Airports A/S for 2005 with a view to issuing a statement on the Report.

Criteria for the preparation of the Environmental Report

The Environmental Report comprises environmental impacts of the Company's airports in Copenhagen and Roskilde.

The criteria for the preparation of the Environmental Report appear from the accounting policies described on page 21. The accounting policies state the basis for the choice of environmental impacts for reporting, the reason for the activities chosen and the recognition and measurement methods used for presenting environmental data in the Environmental Report.

Responsibilities

The Environmental Report is the responsibility of Company Management, including the establishment of registration and internal control systems to ensure a reliable reporting basis, the fixing of acceptable reporting criteria and the choice of data to be collected.

Our responsibility is to express an opinion on the Environmental Report based on our assessment.

Basis of Opinion

We have planned and performed our work in accordance with the International Standard on Assurance Engagements (ISAE) 3000 with a view to obtaining limited assurance that:

- the Environmental Report correlates with the Company's activities for the financial period;
- the data stated in the Environmental Report for 2005 for the activities comprised have been documented and accurately and reliably stated in accordance with the methods described for recognition and measurement in the accounting policies.

The assurance obtained is limited as our work has been limited compared with an audit assignment. Our work has primarily comprised inquiries, accounting technical analyses of accounting figures and other information. Moreover, we have tested data and underlying documentation and checked whether the accounting policies have been observed.

Opinion

Nothing has come to our attention that causes us to believe that the data disclosed in the Environmental Report for 2005 have not been stated in accordance with the criteria described.

Copenhagen, 20 February 2006

PricewaterhouseCoopers
Statsautoriseret Revisionsinteressentskab



Jens Otto Damgaard
State Authorised Public Accountant



Birgitte Mogensen
State Authorised Public Accountant

Glossary

Aircraft operation

Term used in airport statistics to designate a departure or an arrival.

BI₅

Oxygen consumption for the biological process measured over five days.

COD

Chemical oxygen demand, a method of analysis to determine the content of organic matter in water.

CPH

Copenhagen Airports A/S.

dB

Decibel: a logarithmic unit of sound measurement. The A-weighted sound pressure level, dB(A), is often used: it is a measurement of the ability of the human ear to perceive sound energy.

Degree days

The degree-day figure for the year is the sum of all degree days of the year. The degree-day figure for a day is calculated as 17 degrees centigrade less the mean temperature of the day if less than or equivalent to 17 degrees centigrade. Otherwise the degree-day figure is 0.

De-icing

Removal of ice and snow from paved areas at the airport or removal of ice from aircraft wings.

Detergents

Added to washing and cleaning agents to lower the surface tension of water.

Engine testing

Testing of aircraft engines during inspection and repair. Testing is either an engine run-up (start and running of the engine above idle power) or an idle-run (start and running of the engine at idle power).

Formiate

Chemical used for de-icing runways and taxiways.

GJ

Gigajoule, 10⁹ joules.

Glycol

Agent used for de-icing aircraft. Propylene glycol is used at Copenhagen Airport.

Handling

The handling of passengers, baggage, cargo, etc.

NO

Nitrogen oxide.

NO₂

Nitrogen dioxide.

Particles

Soot in emission gases, e.g. from diesel engines.

PM₁₀

Particulates with a maximum diameter of 10 µm.

Stands

Aircraft parking spaces for stays at the airport, with or without passenger loading bridges.

Taxiways

Paved stretches between runways and aircraft stands.

TDENL method

Total-Day-Evening-Night-Level, a method used for the continuous testing of noise exposure around airports and airfields. The method, which expresses the noise exposure in a single number, the TDENL value, is recommended by the Danish Environmental Protection Agency and is based on DENL, which is used for noise mapping of airports. DENL is the average A-weighted noise pressure level (Day Evening Night Level) during an average 24-hour period, with the addition of 5 dB for noise events between 7 pm and 10 pm and 10 dB for noise events between 10 pm and 7 am.

TJ

Terajoule, 10¹² joules.

Total N

Total nitrogen content.

Total P

Total phosphate content.

Urea

Nitrogen-based de-icer.



Environmental data

Environmental data	Unit	2001	2002	2003	2004	2005
COPENHAGEN AIRPORT						
Passengers	total	18,136,274	18,272,173	17,714,007	19,034,585	19,981,872
Aircraft operations	total	288,739	266,894	259,002	272,518	268,655
Employees (CPH)	total	1,388	1,347	1,352	1,480	1,649
Noise exposure	TDENL in dB	149,6	147,9	145,8	146,1	146,0
Night period maximum noise levels from departures and arrivals						
81 dB(A)	total					16
82 dB(A)	total					16
83 dB(A)	total					11
84 dB(A)	total					6
85 dB(A)	total					4
86 dB(A)	total	7	5	2	3	1
87 dB(A)	total	2	0	2	0	0
88 dB(A)	total	1	1	0	1	2
89 dB(A)	total	2	0	2	0	0
90 dB(A)	total	1	0	1	0	0
>90 dB(A)	total	0	2	0	0	0
Use of runways						
04L departures/arrivals	% breakdown	0.1 / 35.2	0.0 / 41.3	0.0 / 33.4	0.0 / 30.3	0.1 / 30.1
04R departures/arrivals	% breakdown	35.1 / 0.1	41.1 / 0.2	32.8 / 0.1	30.0 / 0.1	29.3 / 0.1
22L departures/arrivals	% breakdown	5.0 / 58.4	3.9 / 52.1	5.3 / 62.2	4.8 / 65.8	4.4 / 67.0
22R departures/arrivals	% breakdown	59.0 / 2.1	52.6 / 1.6	61.6 / 1.9	65.0 / 1.6	65.9 / 1.7
12 departures/arrivals	% breakdown	0.5 / 1.0	2.1 / 0.4	0.1 / 0.2	0.0 / 0.2	0.2 / 0.4
30 departures/arrivals	% breakdown	0.3 / 3.2	0.2 / 4.3	0.2 / 2.2	0.2 / 2.0	0.1 / 0.7

Environmental data	Unit	2001	2002	2003	2004	2005
Weight distribution – aircraft						
0-29 tonnes	total	93,883	89,827	94,831	101,359	95,367
30-49 tonnes	total	14,275	15,629	14,163	11,916	14,950
50-69 tonnes	total	137,287	114,235	93,514	92,777	96,509
70-119 tonnes	total	28,259	34,349	45,124	55,799	50,706
120-299 tonnes	total	13,599	11,734	10,140	9,213	9,310
> 300 tonnes	total	1,436	1,120	1,230	1,454	1,813
Engine testing						
Engine testing	total	1,604	1,579	1,593	1,465	1,371
– of which idling	total	936	1,006	848	695	677
Deviations	total	8	6	6	10	3
Air quality						
NO ₂	µg/m ³	22	19.4	21.5	22.1	20.8
PM ₁₀	µg/m ³	19	20.9	23.2	19.6	24.1
NO	µg/m ³	9.7	7.8	7.2	6.3	4.9
Discharge of surface water	m ³	2,475,828	3,427,392	2,736,071	3,545,565	2,841,411
Surface water – discharged agents						
Total-N	kg	11,463	10,289	5,834	9,255	7,035
Total-P	kg	877	1,193	409	558	695
Bl ₅	kg	73,046	53,873	46,719	30,464	155,958
Total hydrocarbons	kg	160	90	222	451	164
Zinc	kg	89	137	129	108	255
Chrome	kg	1.1	0.4	0.0	2.2	3.7
Copper	kg	21	35	24	13	62
Nickel	kg	9	10	10	10	7
Lead	kg	1.9	2.2	1.6	2.3	5.5
Cadmium	kg	0.9	0.9	0.4	0.3	0.6

Environmental data	Unit	2001	2002	2003	2004	2005
Oil and fuel spills						
0-9 litres	total	152	172	184	131	143
10-49 litres	total	103	71	95	66	115
50-249 litres	total	15	12	10	17	6
> 250 litres	total	1	1	0	3	0
Fuel						
Petrol	m ³	71	68	63	58	59
Diesel	m ³	772	609	711	718	765
Runway de-icing						
Formiate	kg	1,195,000	830,358	923,565	1,093,241	1,706,255
Sand (5% urea)	kg	120,000	12,000	28,000	55,000	6,000
Aircraft de-icing						
Glycol used	m ³	763	313	490	530	721
Glycol collected	m ³	444	215	302	373	370
Herbicides	litres	40	110	120	133	127

Environmental data	Unit	2001	2002	2003	2004	2005
Electricity consumption	TJ	172	163	151	155	157
Energy for heating	TJ	118	101	102	103	102
Energy consumption per 1,000 m ²	TJ	0.58	0.49	0.50	0.46	0.49
Water consumption	m ³	143,112	143,537	138,662	145,171	150,559
Water consumption per 1,000 passengerer	m ³	7.9	7.9	7.8	7.6	7.5
Waste water discharged	m ³	251,558	263,681	242,228	225,506	242,009
Waste water discharged per 1,000 passengers	m ³	13.9	14.4	13.7	11.9	12.1
Waste water – discharged agents						
Total-N	kg	21,857	21,003	21,930	21,631	22,791
Total-P	kg	3,432	3,376	2,864	2,533	2,149
COD	kg	180,176	194,698	168,736	122,493	167,225
Detergents	kg	1,358	2,064	1,470	1,515	1,982
Oil and grease	kg	15,891	10,200	9,452	3,220	10,621
Zinc	kg	86	54	44	61	46
Chrome	kg	0.8	0.8	0.4	1	4.5
Copper	kg	16	12	10	12	31
Nickel	kg	1.4	1.5	1.1	3.2	1.7
Lead	kg	1.1	1.2	0.5	0.7	0.6
Cadmium	kg	0.4	0.2	0.1	0.2	1.3

Environmental data	Unit	2001	2002	2003	2004	2005
Waste volume	tonnes	2,608	2,491	2,432	2,643	2,868
Removal method:						
Recycling	%	16.3	13.8	14.7	15.2	13.1
Incineration	%	69.2	64.9	66.0	67.4	71.1
Special treatment	%	2.5	6.1	5.2	4.5	4.1
Landfill	%	12.0	15.2	14.1	12.9	11.7
Waste per 1,000 passengers	kg	144	136	137	139	144
Industrial accidents	per 1 million working hours	17.8	14.2	14.1	10.4	9.7

Environmental data	Unit	2001	2002	2003	2004	2005
ROSKILDE AIRPORT						
Passengers	total	35,618	49,278	43,220	33,511	32,228
Aircraft operations	total	98,039	98,416	90,658	73,231	69,204
Weight distribution – aircraft						
0-999 kg	total	5,896	6,934	9,659	11,084	9,648
1,000-1,999 kg	total	84,378	83,445	74,485	56,615	52,170
> 2,000 kg	total	7,765	8,037	6,515	5,532	7,386
Use of runways						
03 departure/arrival	% breakdown	7.4 / 7.8	7.5 / 7.8	9.2 / 9.7	7.7/8.1	6.7 / 7.5
11 departure/arrival	% breakdown	23.3 / 30.2	32.0 / 38.9	25.8 / 33.5	27.8 / 33.4	27.2 / 34.0
21 departure/arrival	% breakdown	42.9 / 34.4	40.1 / 32.1	40.9 / 32.4	39.7 / 33.5	39.2 / 31.5
29 departure/arrival	% breakdown	26.4 / 27.6	20.4 / 21.2	24.1 / 24.4	24.8 / 25.0	26.9 / 27.0
Engine testing	total	-	-	179	118	115
Of which idling	total	-	-	13	7	6
Deviations	total	-	-	2	1	0
Electricity consumption	GJ	2,763	2,687	2,977	3,121	3,134
Energy consumption for heating	GJ	3,228	2,706	2,953	3,327	3,275
Energy consumption per m ²	GJ	1,10	0,92	1,00	1,13	1,07
Water consumption	m ³	5,847	3,992	4,567	3,724	6,144
Industrial accidents	per 1 million working hours	0.0	18.3	0.0	14.3	14.3



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