

Environmental Statement 2011

Including the Environmental Program until 2014

*For the organizations Fraport AG, N*ICE and FCS
at Frankfurt Airport*



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Dear Readers,

Since the publication of our last Environmental Statement three years ago, public interest in environmental concerns has further intensified. We have acknowledged this trend, and in 2010 our sustainability strategy defined key fields of action for our future development. The environmental issues of climate protection and noise abatement, air quality, nature conservation, protection of resources, and intermodality continue to be at the top of our list of priorities.

This prioritization serves as a platform for a program which permits the executive management of the company to concentrate on those areas that are of the utmost importance for our stakeholders and for the development of Fraport.

Creation of the new central unit "Sustainability Management and Corporate Compliance" on 1 January 2010 combined with the simultaneous realignment of the Sustainability Board with inclusion of the operational business units has enabled us to establish our endeavors on sustainability within the organizational structure of Fraport. The new organizational unit will be the vehicle for driving forward the implementation and advanced development of our strategic environmental goals. The Environmental Management System already set up at the end of the 1990s supports the operational units in implementing the environmental goals during their routine business and establishes verifiable improvements in our environmental achievements.

The success of our sustained efforts directed toward environmental protection has now become tangibly obvious. The Fraport share is listed in the world's most important sustainability indexes and we are the first airport operator to obtain verification of our climate protection footprint and our climate protection program for Airport Carbon Accreditation from the Airports Council International Europe. In the Carbon Disclosure Project, we have been included in the German Leadership Index as one of only 30 companies. Fraport was ranked in 11th place in 2010.

Against the background of our airport expansion and the anticipated development of capacity, intensive communication with the stakeholders of the airport is absolutely essential. Fraport is currently working together with the Airport and Region Forum to carry out strategic measures involving the airlines and the Federal Bureau for Air Traffic Control with the aim of further optimizing active noise abatement and hence reducing the noise exposure. In autumn 2011 the start-up of the new north-west runway gave the impetus for launching the first package of measures entitled Active Noise Abatement. This runway has allowed us to expand our capacities in line with urgent requirements, although it will also lead to more air traffic.

This Environmental Statement 2011 presents the environmental activities of our company at Frankfurt Airport. The documented facts and figures have been checked by an independent, accredited environmental auditor in conformity with the European regulation on the Eco-Management and Audit Scheme (EMAS) and the global environmental standard ISO 14001. They demonstrate how the individual environmental aspects have developed in recent years and indicate which management initiatives are currently being pursued. Since we have been regularly carrying out these audits for the past 12 years, a high level of transparency and dependability has been established for the Fraport Environmental Management System at Fraport Airport.

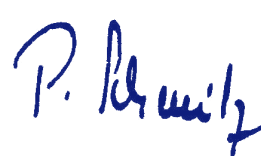
The Environmental Statement 2011 demonstrates our commitment to providing comprehensive information for the public. We also invite a discussion of our environmental concerns and the general challenges being presented in the field of tension between mobility and ecology. We hope that you will enjoy reading our Environmental Statement and look forward to a rewarding dialog with you.



Dr. S. Schulte



H. Mai

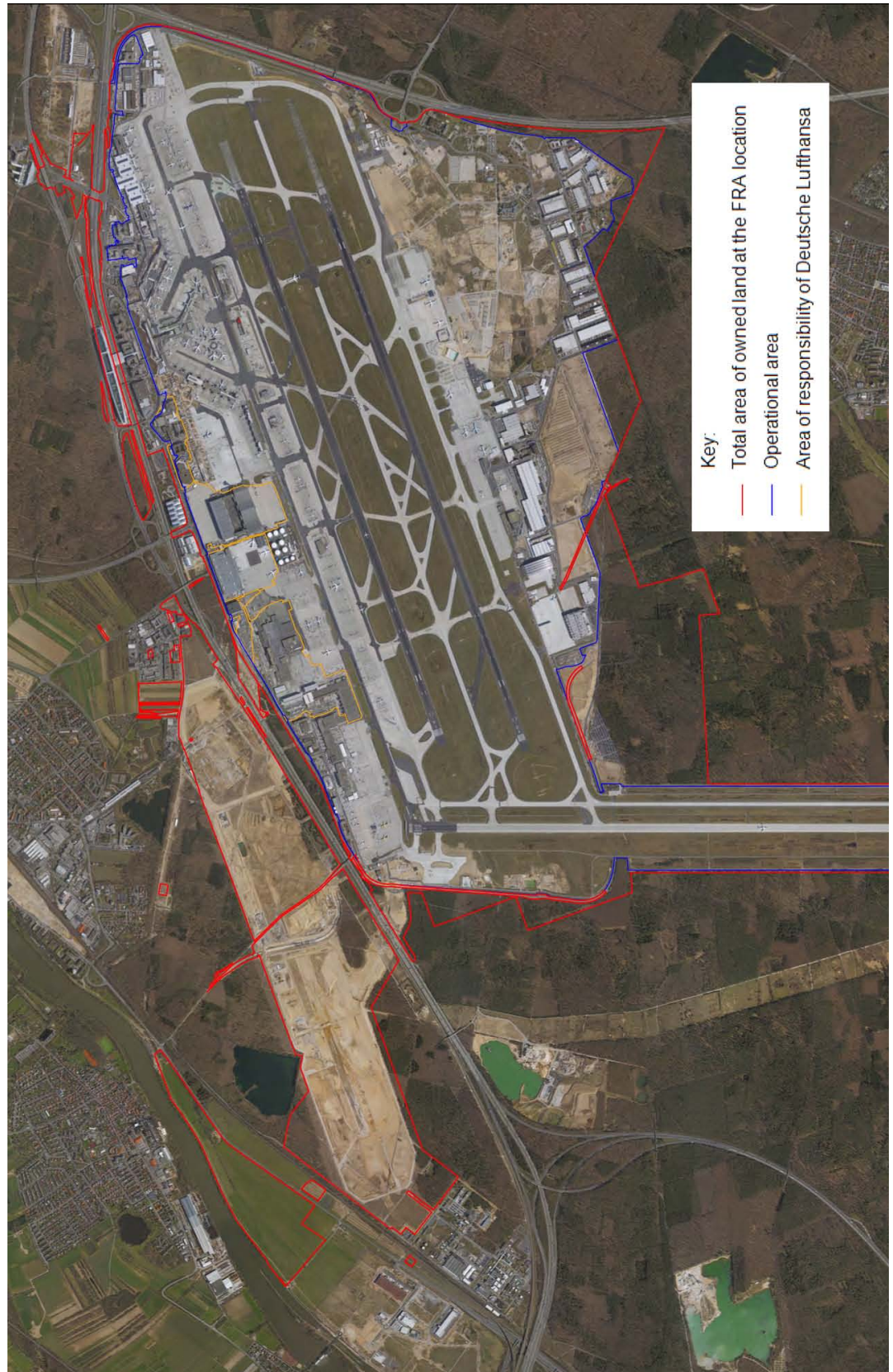


P. Schmitz



Dr. M. Zieschang

Owned land and operating area at Frankfurt Airport



General data Frankfurt Airport 2010

Criteria	2010
Total owned land [km ²]	19.14
Operational area [km ²]	16.19
Take-off and landing runways	2
Take-off runways	1
Terminals	2
Number of aircraft movements ¹	464,432
Coordinated aircraft movements (number of movements per hour) ²	83
Number of airlines (only passenger flights): summer schedule 2011	114
Number of destinations (only passenger flights): summer schedule 2011	298
Share of intercontinental passengers	41%
Number of high-speed trains each day (long-distance railway station)	174
Number of rapid-transit trains and regional trains each day (regional railway station)	223
Number of passengers	53.01 million
Cargo volume [metric tons]	2.31 million
Traffic units (without transit)	75.47 million
Number of employees at the airport ³	Approx. 71,500
Employees at Fraport AG, FCS, N*ICE	12,284
Number of companies at the airport	More than 580
Fraport Group revenues [million euros]	2,194.6
Fraport AG revenues [million euros]	1,736.4
Fraport Earnings before Interest, Tax and Depreciation and Amortization (EBITDA) [million euros]	710.6
Fraport AG Earnings before Interest, Tax and Depreciation and Amortization (EBITDA) [million euros]	490.0

¹ Commercial and non-commercial traffic (landing and take-off and transit), of which 45,868 during the night.

² The figure specified under "coordinated aircraft movements" is the peak value for the day and only applies during the afternoon.

³ Fraport AG with subsidiaries and more than 580 additional companies at the airport.

Fraport AG

Fraport AG is an international airport operator with head office at Frankfurt Airport (FRA). Fraport has operations at 13 airports worldwide on four continents and provides expertise through numerous subsidiary companies – including in Antalya, Lima, New Delhi, St. Petersburg and Xi'an. The company's portfolio includes airport operation and management, as well as consulting services for all areas specific to airports, such as ground handling services, terminal, retail and real-estate management.

The organization of Fraport AG at Frankfurt Airport comprises four segments which are divided into four Strategic Business Units, three Service Units and twelve Central Units.

The Environmental Management System of Fraport AG

The functions in the Environmental Management System (EMS) are based in the appropriate units of the company – in conformity with the strategic and operational functions and processes. The description of the key functions and processes in the Environmental Management System and their allocation within the organizational structure of Fraport AG is shown in the organizational chart presented below.

Fraport organizational chart – issues, tasks and functions relevant to the environment

Chairman of the Executive Board (VV)	Executive Director Labor Relations (VA)	Executive Director Controlling and Finance (VF)	Executive Director Operations (VO)
Segment responsibility			
Aviation	Retail & Real Estate	External Activities & Services	Ground Handling
Strategic Business Units			
Traffic and Terminal Management, Corporate Safety and Security (FBA)	Retail and Properties (HVM)		Airport Security Management (ASM)
Terminal operations Flight operations systems Traffic management Monitoring of aircraft noise Forest and biotope Environmental impacts (noise and air) Community issues Passive noise abatement program Emergency management Preventive fire protection Airport fire service	Operation of miscellaneous buildings Operation of drainage systems Operation of sewage treatment plants Operation of the nitrate removal plant Energy supply Water supply Waste management, remediation Energy and meter management		Ground Services (BVD) Loading and unloading Aircraft Passenger transport Baggage transport Cargo transport Push-back Water supply for aircraft Toilet waste disposal from aircraft

Continuation VV	Continuation VA	Continuation VF	Continuation VO
Service units		Information and Telecommunication (IUK)	Real Estate and Facility Management (IFM)
			<i>Operational property management</i> <i>Operation of service workshops</i> <i>Operation of filling stations</i> <i>Operations management PTS</i> <i>Operational winter service</i> <i>Management of landscaped areas</i> <i>Vehicle engineering</i> <i>Geoinformation</i> <i>Realization planning for construction</i>
			Corporate Infrastructure Management (ZIM)
			<i>Development of infrastructure and equipment</i> <i>Energy optimization for existing buildings and new-build</i> <i>Building simulation for energy</i> <i>Sustainable construction</i> <i>Strategic real-estate management</i>
Central units			
Legal Affairs (RAV)	Sustainability Management and Corporate Compliance (NHM)	Global Investments and Management (BET)	Passenger Experience (KMA)
Internal Auditing (REV)	<i>Officer for the Environmental Management System</i> <i>Officer for water protection</i> <i>Officer for waste</i>	Controlling (FCO)	
Corporate Development (UEW)	<i>Environmental policy and strategy</i> <i>Environmental indicators</i> <i>Environmental reporting</i>	Finance and Investor Relations (FIR)	
<i>Traffic data</i>		Accounting (REW)	
Corporate Communications (UKM)	Human Resources (PSL)	Central Purchasing, Construction Contracts (ZEB)	
	<i>Officer for dangerous goods and radiation protection</i>	<i>Sustainable procurement</i>	

Structure and functions of the Environmental Management System

The Officer for the Environmental Management System of Fraport AG advises the Executive Board and senior management on all issues relating to environmental management. This officer also handles the necessary organizational and coordination functions and authorizes the internal environmental audit and external auditing of the Environmental Management System (in conformity with EMAS and ISO 14001). The Officer for the Environmental Management System (NHM-UM) reports to the Head of the Environmental Management Department (NHM-UM), the Head of the Central Unit for Sustainability Management and Corporate Compliance (NHM), and to the Executive Director of Labor Relations.

The operating officers for waste and water protection are assigned to the Environmental Management Department (NHM-UM). The operating officer for dangerous goods and radiation protection is supervised by the occupational safety unit in the Central Unit Human Resources.

Noise and pollutant monitoring is based in the Strategic Business Unit Traffic and Terminal Management, Expansion, Corporate Safety and Security (FBA).

Fraport AG has an Airport Fire Department, an Emergency Medical Center and a Rescue Service to deal with emergencies. They are managed by the Security Operations Center which operates round the clock as the central command center for emergencies. If a serious emergency occurs, the Emergency Response and Information Center (ERIC) is alerted. This is then the central control unit for crisis management at Frankfurt Airport. Some functions relating to crisis management are mainly carried out by the Airport Fire Department. It has a broadly based range of functions: aircraft fire protection, building fire protection, preventive fire protection (fire protection for buildings and systems) and other fire protection services (Fire-fighting Training Center, maintenance of extinguishing systems, aircraft rescues). The Airport Fire Department also deals with any operations relating to the area of transport of dangerous goods, accidents involving hazardous materials and issues relating to water protection.

The heads of the units have operational responsibility for environmental concerns. Functions are organized by delegation to the relevant management levels. The operating units receive supporting advice on environmental issues from the Officer for the Environmental Management System and the operating officers.

The Central Unit for Human Resources (PSL) is responsible for providing basic training and advanced training on environmental issues to employees, environmental auditors and senior management. This unit is also responsible for delivering the training courses defined under statutory regulations for the transport of hazardous goods and radiation protection.

Influence on third parties

Fraport AG is able to exert indirect influence over the environmental behavior of the companies and agencies located at the airport on the basis of the airport user regulations and the airport charges (landing fees). If any discrepancies or irregularities are identified by Fraport AG, we discuss potential solutions with the management of the individual process owners causing the problem and record them in writing. The solution is then implemented with appropriate support.

Tools of the Environmental Management System (EMS)

The most important tools of the Fraport Environmental Management System:

- **Environmental Policy:** Framework defined by the Executive Board for environmental targets and measures.
- **Environmental Program:** Encompasses targets, measures, resources, responsibilities, and schedules for achieving the measures.
- **Internal procedural, process, operating and work instructions:** Include binding regulations that permit transparent workflows.

- **Internal environmental company audits:** Audits which review compliance with statutory, official and internal company specifications.
- **Evaluation of environmental aspects:** Key factors here are statutory regulations, target values of accredited institutions, and benchmarks, scientific and engineering findings, and the attitudes of different interest groups.
- **Environmental indicator system:** The evaluation of environmental aspects is supported by an environmental indicator system that represents all the relevant environmental aspects over an extended time-frame.
- **Management review:** The Officer for the Environmental Management System submits an annual report. This forms the basis for evaluation of the Environmental Management System by the Executive Board and definition of the next steps.

The Environmental Policy of the Fraport Group

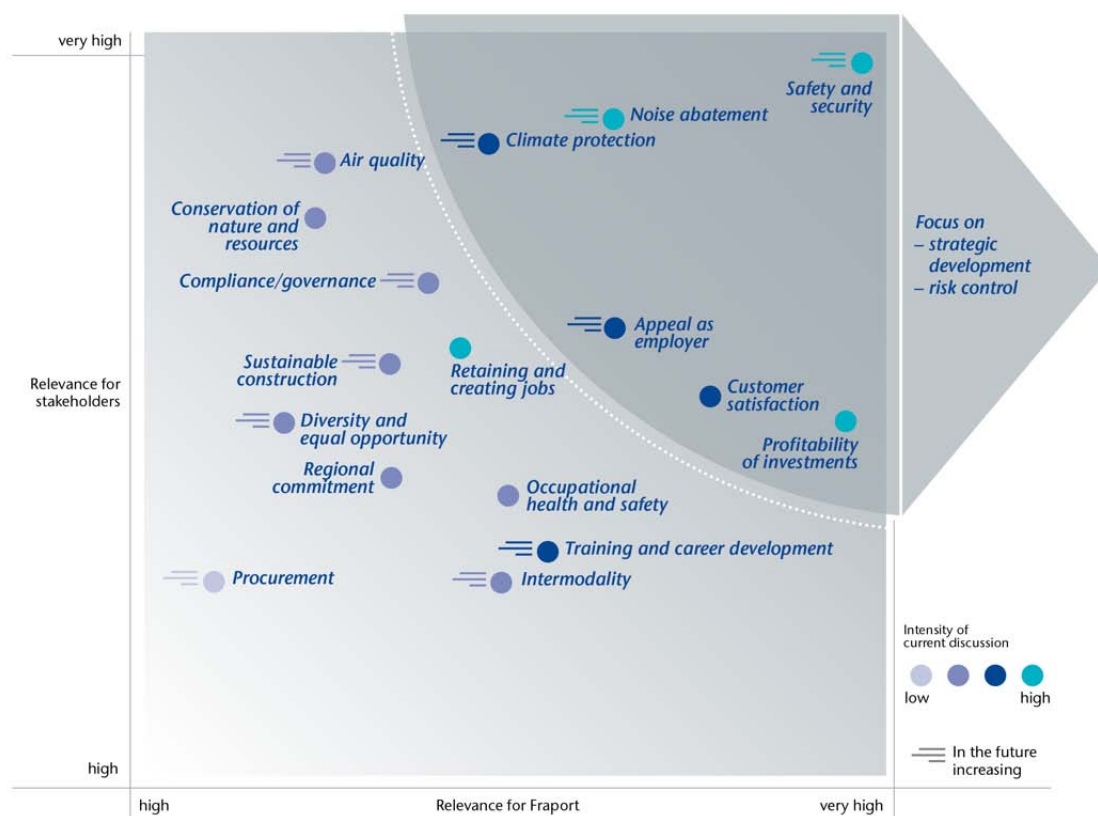
The Executive Committee of Fraport AG adopted an Environmental Policy for the entire Group in spring 2008. This policy covers a number of fundamental issues including the principles of the UN Global Compact. This allows all the sites where the Group has operations to benefit from the long track record of experience gained by Frankfurt Airport in environmental protection, for example in training courses and expert support, including on the ground.

- In developing and operating all our business locations, Fraport AG is committed to manage all airport activities in an environmentally responsible manner. We will strive to protect and create a safe living environment at our business locations by providing our employees with healthy and safe working conditions.
- Maintaining, developing and systematically improving our system of environmental management will support compliance with the applicable laws and regulations and lead to a continuous improvement of our environmental aspects.
- We will undertake initiatives to promote greater environmental responsibility by training our employees and providing awareness programs to the employees on our business locations.
- Our business will support a precautionary approach to environmental challenges respecting the principle that our Environmental Programs will be cost-effective, economically viable and sustainable.
- We will encourage the development and dissemination of environmentally friendly technologies by applying environmental criteria when selecting goods and services.
- We will provide an annual environmental report of our environmental activities making the information available to both employees and community.

Fields of action for environmental protection

2010 was the first year in which we formulated key fields of action for sustainable development of our company on the basis of the results obtained from our stakeholder dialogs and a materiality analysis carried out by our company. We published the following materiality matrix in our Annual Report and Sustainability Report for 2011 (www.fraport.de).

Materiality matrix



Environmental protection and efficient use of resources are given top priority in our strategic direction. The following fields of action are defined in the materiality matrix

- Climate and noise protection
- Air quality
- Nature conservation and protection of resources
- Intermodality
- Sustainable construction
- Procurement.

We develop targets and programs of measures to address these fields of action and continuously improve our environmental services. The near future will see us carrying out fundamental development work in the fields of action Sustainable Construction and Procurement to build on the successful initiatives that have already been launched.

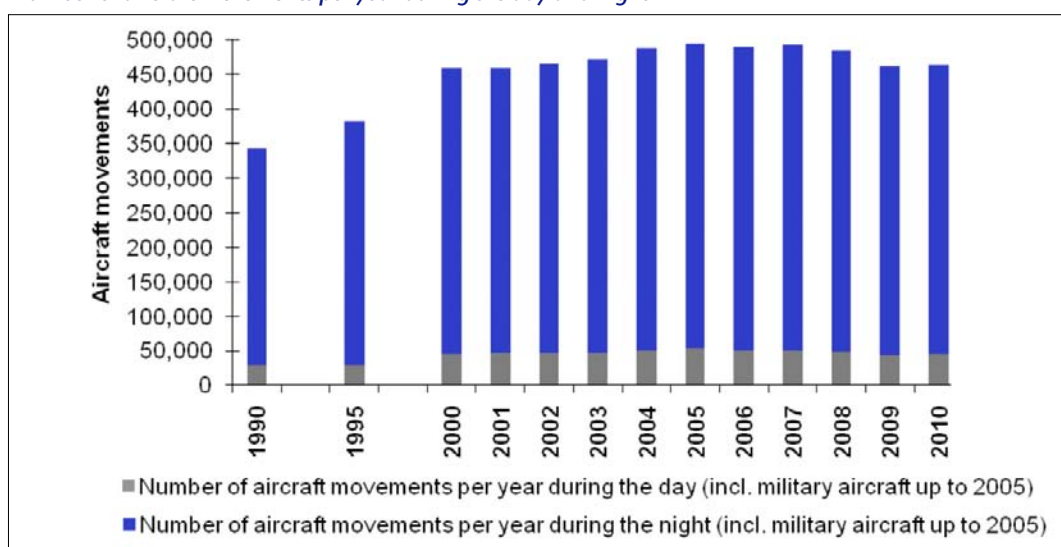
The fields of action presented in the materiality matrix relate to a series of environmental aspects that exert an influence on the environment. The table below provides a detailed picture of the effects, sources and responsibilities associated with the key environmental issues relating to Fraport. It also shows the indicators used for measurement and the emerging trends. The description of our management initiatives present the activities designed to improve our environmental impacts.

Field of action	Noise protection
Environmental aspect	Aircraft noise
Type of environmental aspect	Indirect, cannot be directly influenced by Fraport.
Environmental impact(s)	Impact of noise on the population in the vicinity of the airport.
Source(s)	Aircraft, helicopters.
Responsible process owner(s)	Airline companies: Use and operation of aircraft. Federal Bureau for Air Traffic Control (DFS): Air traffic management, definition of landing and take-off procedures, infrastructure for air traffic. Federal Air Safety Authority (BAF): Licensing of flight routes. Fraport AG: Planning, construction and operation of take-off and landing runways, aprons and parking positions, measurement and reporting of aircraft noise.
Indicator(s)	Number of aircraft movements. Equivalent continuous sound level Leq(3), 6:00 – 22:00, for the six months with the heaviest traffic. Equivalent continuous sound level Leq(3), 22:00 – 6:00, for the six months with the heaviest traffic. Frequency with which aircraft exceed the maximum level of 72 dB(A) each night for the six months with the heaviest traffic.

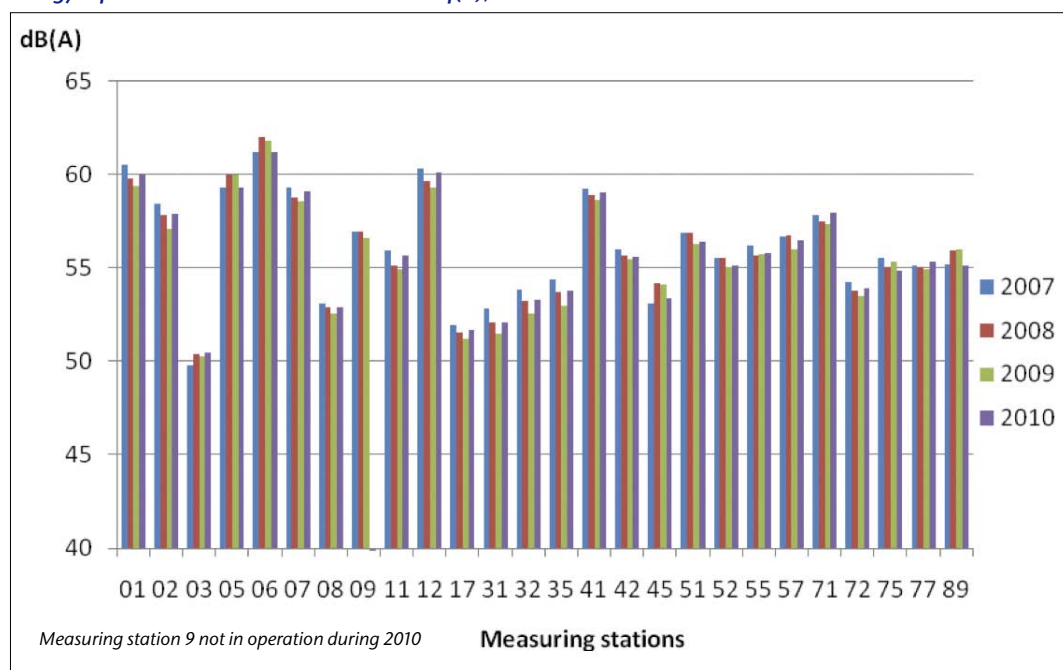
Trend(s)

The development of noise in the neighborhood of Frankfurt Airport is closely associated with a number of factors including the development of aircraft movements on different flight routes. Since the number of annual aircraft movements has actually stagnated over recent years due to capacity bottlenecks and the effects of the global economy, the development of noise at aircraft noise measuring stations has hardly varied at Fraport AG. An increase in the number of aircraft movements and hence also an increase in aircraft noise is anticipated as the capacity of the airport expands – the new north-west landing runway is scheduled to start operating on 21 October 2011. This is particularly the case for areas that will be overflown for the first time.

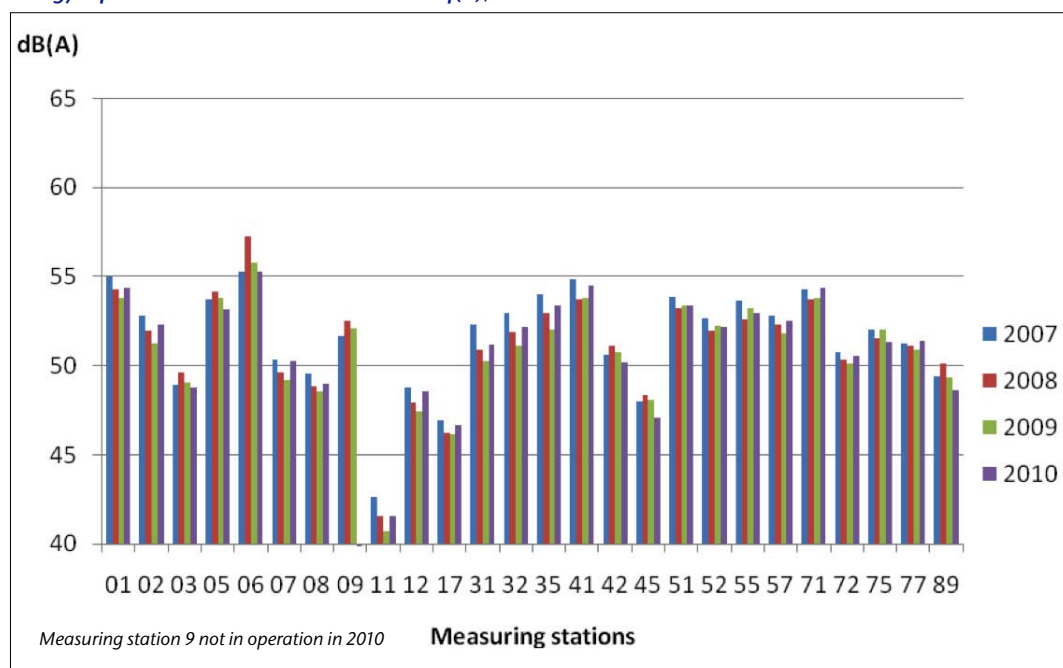
Number of aircraft movements per year during the day and night



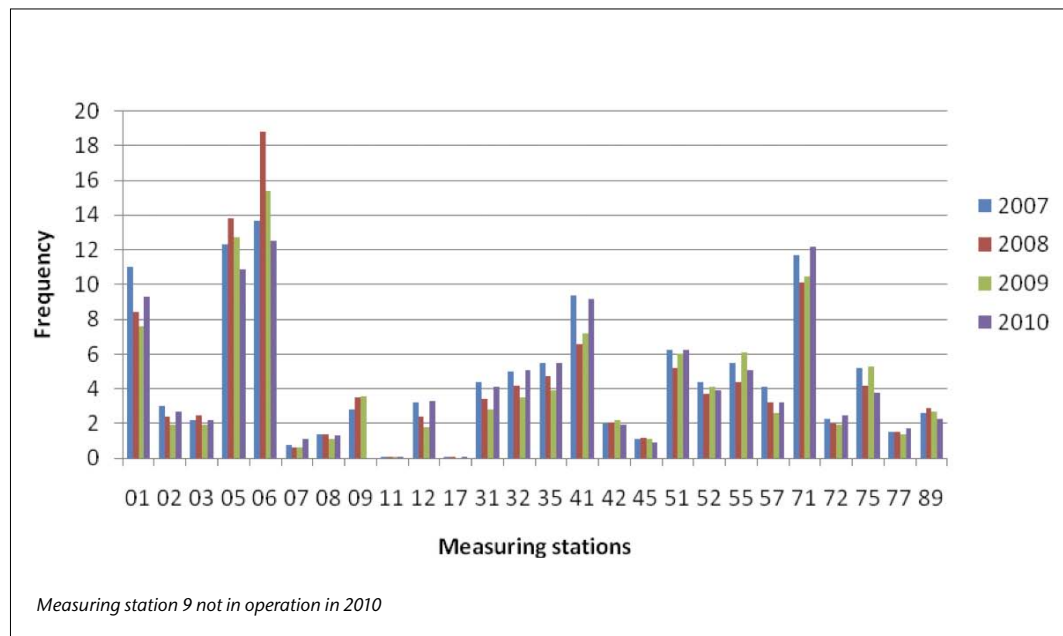
Energy equivalent continuous sound level $Leq(3)$, 6:00 – 22:00



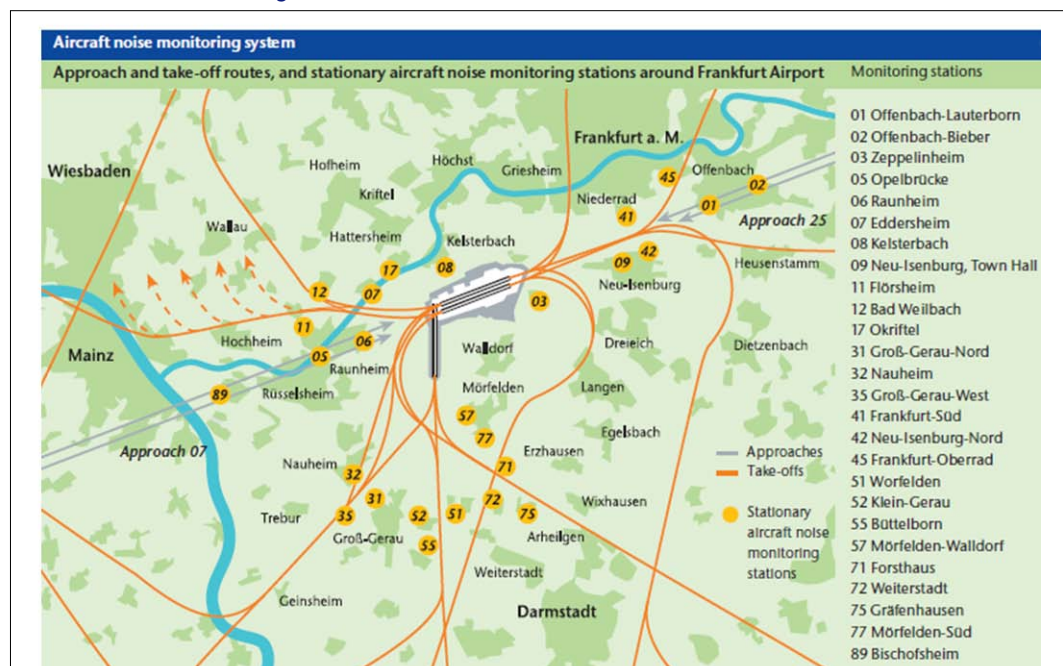
Energy equivalent continuous sound level $Leq(3)$, 22:00 – 6:00



Frequency with which aircraft exceed the maximum level of 72 dB(A) each night for the six months with the heaviest traffic



Position of the 26 measuring stations for aircraft noise



The current monthly results of all measuring stations for aircraft noise are documented at www.fraport.de in the menu item "Infoservice Fluglärm".

Management initiative

New measuring stations complement noise monitoring

Fraport AG operates 26 stationary measuring stations, three mobile measurement containers and a mobile measurement bus in the neighborhood of the airport. In 2011, two new stationary measuring stations will be added in Hochheim and Frankfurt-Lerchesberg. The measuring stations provide continuous monitoring of aircraft noise development and documentation of unusual noise events.

Fraport informs citizens about current noise values

Fraport provides continuous transparency for aircraft noise development. This includes the latest information and statistical data on the Internet ("Infoservice Fluglärm", only in German available). We also provide information to local citizens making inquiries, the Aircraft Noise Commission and the aircraft noise officers from the Hessian Ministry of Economics, Transport and Regional Development (HMWVL).

We have a complaints management department and a toll-free information hotline to accept complaints about aircraft noise. Any complaints giving information about avoidable noise events are forwarded to the aircraft noise protection officer to be dealt with. If an administrative offense has occurred, the officer institutes the appropriate procedure against the offending pilots and informs their airline companies.

Active noise abatement is intended to protect the region from aircraft noise

Measures for active noise abatement are directed toward avoiding or reducing the noise directly at the source, or at least achieving a better distribution. The expert committee "Active Noise Abatement" of the Airport and Region Forum (FFR) has formulated appropriate proposals. An initial package of measures was submitted in July 2010. It combines various measures designed to maintain the safety and capacity of aircraft movements and achieve maximum relief in the region and in particular for those people severely affected by aircraft noise.

The package comprises seven measures outlined in brief below:

- Vertical optimization of take-off procedures > trial operation since January 2011
- Re-equipping the Lufthansa B-737 fleet > completion by the end of 2011
- Increasing the proportion of operating times with flights routed in a westerly direction through improved application of the current regulations for the tailwind component, subject to the outstanding licenses from the ICAO > from 2011
- Introduction of a new approach procedure (Segmented RNAV (GPS) Approach) > trial period since January 2011
- Preferred runway use (DROps – Dedicated Runway Operations) > trial operation since January 2011
- Optimization of the Continuous Descent Approach procedure already introduced > trial operation since end of 2010
- Increasing the approach glide angle on the new north-west runway to 3.2 degrees > after the new north-west runway starts operating

Alongside the continuous cooperation in the expert group "Active Noise Abatement" Fraport has taken on a mentoring role for two measures:

DROps – Dedicated Runway Operations

Take-offs at night, at least between 23.00 and 5.00 in the morning should be pooled on specific take-off runways or departure routes such that the minimum impact is caused for neighboring residents and noise breaks are created.

Increasing the glide angle to 3.2 degrees

The increase of 0.2 degrees compared with the previous glide angle increases the distance to residential areas and reduces the noise pollution as a result.

New engine run-up system reduces noise emissions

In order to reduce the aircraft noise in ground operations, Fraport started work in 2010 on erecting a system on the western fringe of the apron of the A380 hangar that is designed to reduce noise pollution when engine test runs are done.

Noise-based airport fees create incentives for using quieter aircraft

Fraport already introduced noise-related landing and take-off fees independently in 1993. They provide a financial incentive for airline companies to replace noisy aircraft with quieter aircraft. Since 2010, the noise-based fees have been differentiated into twelve noise categories. This differentiation is particularly evident at night because an additional night surcharge is payable, depending on whether the aircraft movement takes place in the marginal nighttime hours (22:00 – 22:59 and 5:00 – 5:59) or during the night core time (23:00 – 4:59). Additional high charges are intended to form an economic incentive for transferring aircraft movements from nighttime to day.

For more information go to: <http://www.fraport.de/cms/default/rubrik/30/30241.flughafenentgelte.htm>

Passive noise abatement program is restructured

Most of the measures in the passive noise abatement program during the application period from March 2002 to April 2006 have been completed. 13,380 residential units and institutions requiring special protection (nurseries, schools, retirement homes, etc.) were provided with noise abatement installations, such as soundproofed windows, sliding shutter units, and fans in bedrooms. The volume of investment has currently amounted to some 50 million euros. A new Noise Abatement Program is currently being set up for Frankfurt Airport based on the revised Act for Protection against Aircraft Noise.

Fraport supports a study on the impact of noise by the Forum Airport and Region (FFR)

Fraport AG is supporting a comprehensive study on the impact of noise initiated by the Forum Airport and Region (FFR) in the Rhine-Main region and at comparative sites. The study is intended to provide a maximally representative and scientifically based description of the effects of air, rail and road traffic on the health and quality of life of the residential population affected by the noise pollution. The study is being carried out by research and academic institutions specializing in medicine, psychology, social sciences, acoustics, and physics. It has been planned to run for an extended period of time.

Field of action	Climate protection
Environmental aspect	Climate gases
Type of environmental aspect	Direct and indirect.
Environmental impact(s)	Contribution to global warming.
Source(s)	GHG Scope 1 (direct): Use of standard fuels and fuels for combustion plants by Fraport AG. GHG Scope 2 (indirect): Purchase and consumption of electricity, district heating, district cooling by Fraport AG. GHG Scope 3 (indirect): Use of standard fuels, fuels for combustion plants, electricity, district heating and district cooling by third parties at the airport.
Responsible process owner(s)	Fraport AG: Operation of buildings, plants and vehicles. Third parties at the airport: Operation of buildings, plants, vehicles, aircraft.
Indicator(s)	Frankfurt Airport, limit of the LTO cycle: CO ₂ emissions (absolute) [CO ₂ t]. Fraport AG: CO ₂ emissions (absolute, relative to the traffic unit) [CO ₂ t; t CO ₂ /traffic unit].

Trend(s)

Climate gas emissions arise directly or indirectly from the use of standard fuels to power vehicles and ground support equipment and fuels for combustion plants to heat buildings, to generate the electricity, district heating, and district cooling required by the airport, or to operate special equipment (e.g. emergency power units, fire-fight training equipment). A substantial proportion of this requirement is generated by journeys to and from the airport taken by passengers, employees, and visitors. The most important polluting gas (> 99.9%) is carbon dioxide.

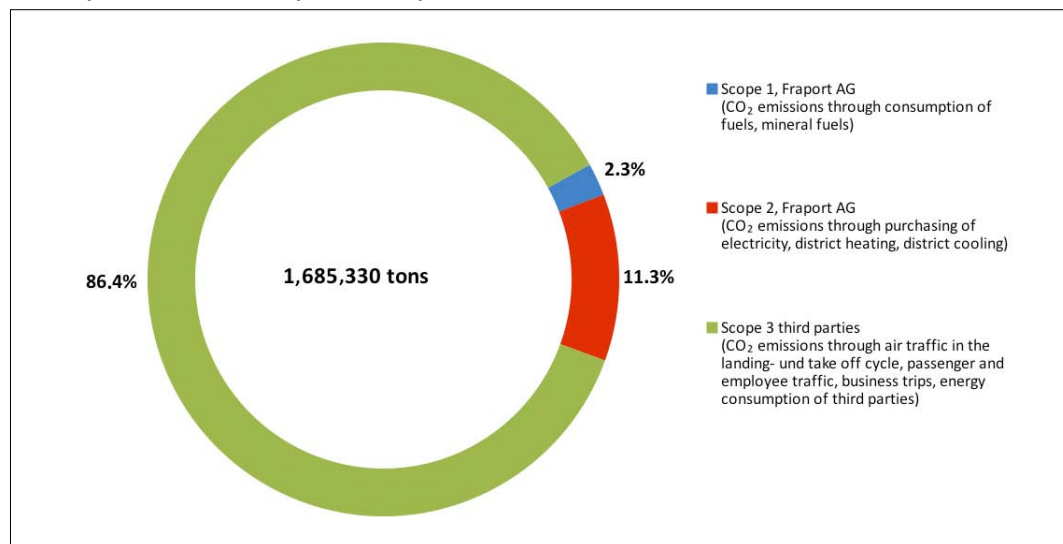
CO₂ emissions by the airport

Total CO₂ emissions by Frankfurt Airport were around 1,685 million tons of CO₂ in 2010, calculated within the limits of the LTO cycle (=Landing and Take Off Cycle) up to an altitude of 3,000 feet (914 m) above ground level. More than half of these emissions originated from the operation of the aircraft (including use of Auxiliary Power Units – APU), another quarter from inward and outbound journeys by passengers and employees to and from the airport. Some 20% of emissions are generated by electricity, district heating and district cooling and only 3% were caused by vehicles and work machines at the airport itself. The climate-gas emissions at Frankfurt Airport are significantly influenced by the demand for air-traffic services and there has been only a negligible reduction since 2005.

CO₂ emissions by Fraport AG

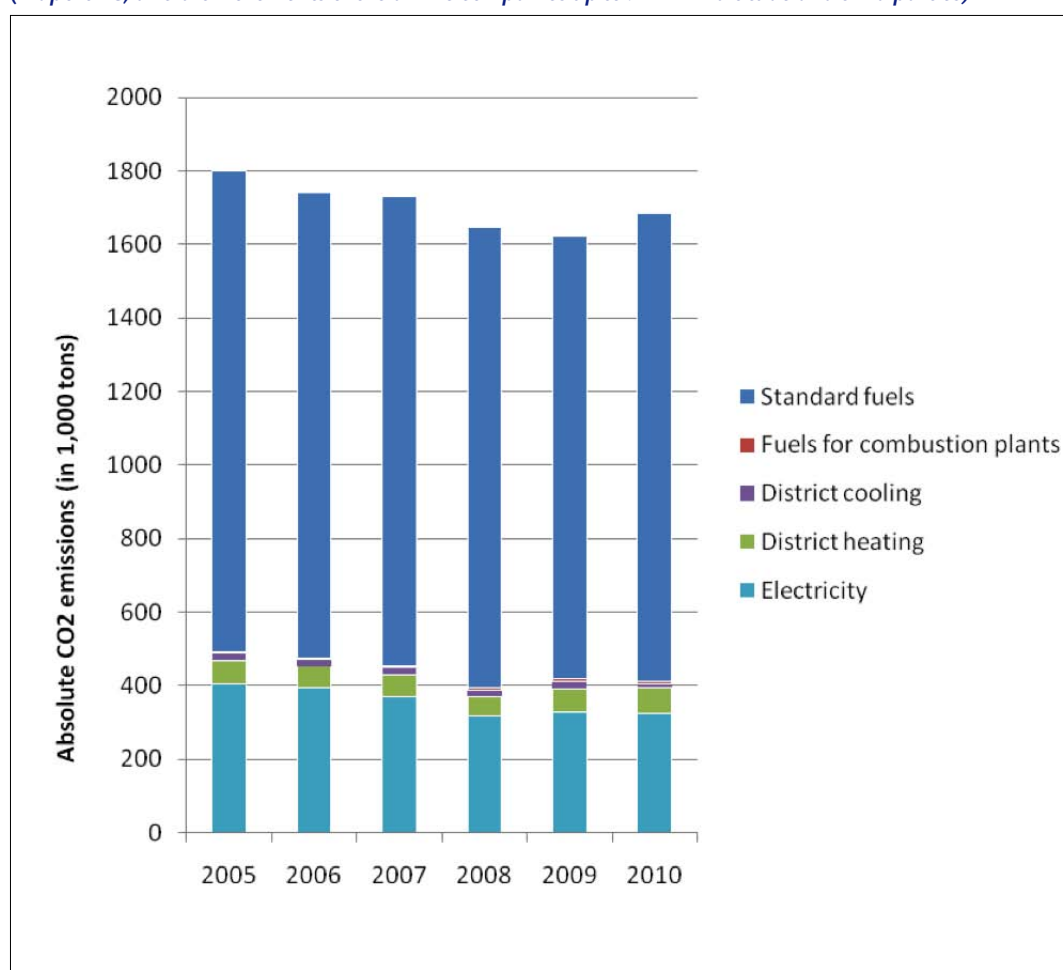
The proportion of Fraport AG in the total emissions by the airport was 13.6% in 2010. 2.3 percentage points of total emissions were caused by direct emissions, primarily by the operation of the vehicles and mobile ground support equipment. The remaining 11.3 percentage points were attributable to the energy supplied (electricity, district heating and district cooling). Systematic quantifying of CO₂ emissions commenced at the beginning of 2005 and since then CO₂ emissions at Fraport AG have come down by some 13% in absolute terms despite growth in infrastructure and increased air traffic. Apart from measures to improve energy efficiency, the main factor influencing emissions here is the continuous reduction in the ecological impact of purchased electricity caused by a number of factors including the rapidly expanding proportion of renewable energy.

CO₂ footprint for Frankfurt Airport and Fraport AG, 2010

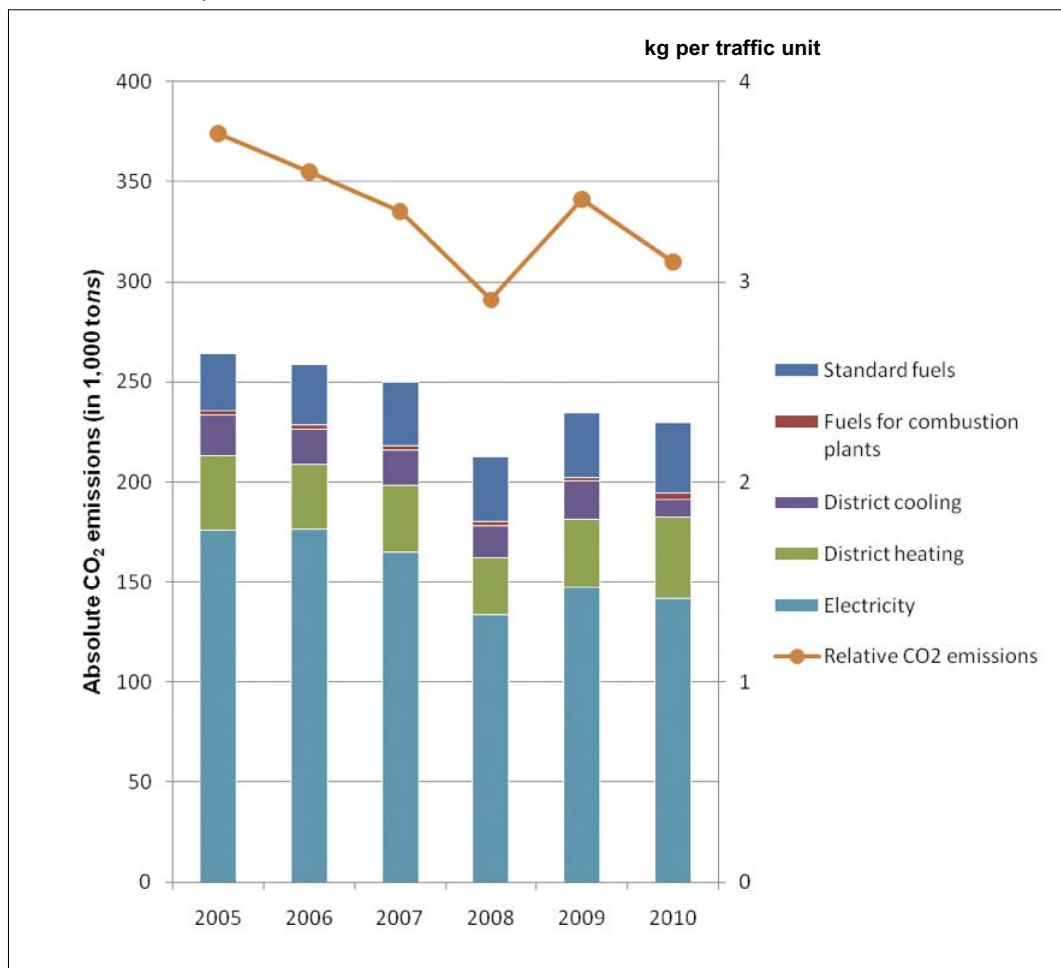


CO₂ emissions at Frankfurt Airport

(Fraport AG, aircraft movements of the airline companies up to 914 m in altitude and third parties)



CO₂ emissions of Fraport AG



Management initiative

Fraport implements company-wide climate protection project

The management activities of Fraport AG primarily relate to the emissions within their direct responsibility. However, they also have a role to play in those emissions where managers are only indirectly involved in their generation and they can only exert an indirect influence. In 2008, Fraport grouped all the activities relating to climate protection in a single project which was essentially concentrated in three fields: energy savings measures in the existing portfolio of buildings and infrastructure, efficient use of energy in new buildings, and limiting energy consumption in the company's own fleet of vehicles. Potential energy savings in the order of approximately 100 million kWh were identified in the existing portfolio of buildings. This is equivalent to a potential CO₂ reduction of some 30,000 tons. The upgrading of ventilation systems in Terminal 1 alone will lead to an estimated reduction of 17,500 tons of CO₂. Measures that have already been implemented or are in the pipeline will contribute to annual savings of an estimated 6,200 tons of CO₂.

The key issue in new buildings is to ensure maximally efficient use of energy for subsequent operation with the inclusion of alternative energy sources. In 2009, Fraport tightened up its own regulations. They are now below the current values of the latest Energy Savings Directive (EnEV 2009). A dynamic building simulation is being carried out for selected properties in order to check the potential for energy optimization.

Fleet is fitted with electric motors

The vehicle fleet contributes some 15% of the CO₂ emissions generated by Fraport AG and this trend is on the increase. Tests are currently being carried out in order to establish where internal-combustion engines can be replaced by electric motors. Currently, some 10% of more than 3,000 motorized vehicles operated

by Fraport AG at Frankfurt Airport are powered by electricity. The conversion is being accelerated with a specific focus on specialist vehicles used in aircraft handling. In particular, these vehicles include baggage tractors, conveyor-belt trucks, and pallet loaders.

The first electric pallet loader was procured in 2010. 20% of these vehicles are to be powered electrically by the year 2015 (approx. 20 vehicles). By 2015, 20% of the baggage tractors are to be replaced by serial hybrid tow trucks (approx. 40 vehicles). All conveyor-belt trucks are scheduled to be fully converted to electric drive by 2015.

The first hybrid forklift powered by a combination of diesel and electric drive was scheduled to come into service at FCS. The forklift is used in freight handling and emits up to 20 percent less CO₂ than a comparable forklift powered entirely by diesel.

Handling processes are made more efficient by new software

The handling processes at Frankfurt Airport are being improved by development and deployment of new software tools. A more efficient IT-based Planning and Disposition System is replacing TESS (transport operations controlling system) and will regulate traffic operating on the apron in future. The system contributes to avoiding empty runs by ground-handling service vehicles. This helps to reduce unnecessary fuel consumption and emission of pollutants.

109 positions are supplied with power by 400 hertz ground power supply

More than 109 positions out of a total of 169 aircraft parking positions (including 65 building positions) have been powered by the 400-hertz ground power supply. Expanding the ground power supply will enable the running times of the Auxiliary Power Units (APU) for aircraft and the use of diesel-powered Ground Power Units (GPU) to be reduced. The new aircraft parking positions added through expansion of the airport are also equipped with 400 hertz ground power supply.

Airport CDM introduced for standard operation with SESAR

The Airport Collaborative Decision Making (Airport CDM) procedure is able to reduce the taxiing and waiting times of aircraft before take-off. Airport CDM is an initiative under SESAR JU (Single European Sky Air Traffic Management Research Joint Undertaking). The procedure went into operation at Frankfurt Airport in a trial project in November 2010. It was transferred to routine operation in February 2011. Quality assurance will monitor routine operation until the third quarter of 2011.

Innovative technology helps to save energy

A defined zone in a building at Fraport Cargo Services GmbH (FCS) was equipped with LED lamps in a pilot project. The practical test was very satisfactory. Over the course of 2010, more than 100 MWh of energy were saved compared with the use of fluorescent tubes. This is equivalent to energy savings of around 80% and avoids an annual amount of 42 tons of CO₂. FCS intends to gradually convert its freight halls to this type of lighting during the coming years.

Fraport participates in Airport Carbon Accreditation

Fraport participates in Airport Carbon Accreditation (ACA), a program of ACI Europe with the objective of persuading the maximum number of European airports to adopt CO₂-neutral operation. Frankfurt Airport was the first airport to be assessed on the basis of the rules of the ACA and was included in the program in 2009. By the end of 2010, 29 other airports were accredited. The highest level of 3+ (climate neutrality) can be reached in four stages. To date, Fraport has been accredited to stage 2. The aim is to achieve stage 3. Accreditation includes recording major CO₂ emissions by third parties at the airport and dialog with the appropriate stakeholders. The accreditation procedure requires the participating airport to be verified by an independent auditor.

Fraport participates in Carbon Disclosure Project

Fraport has taken part in the Carbon Disclosure Project (CDP) since 2006. Every year, this non-profit organization requests the world's biggest companies to make voluntary disclosures with data and information on their CO₂ emissions, on reduction targets and strategies, and on risks and opportunities presented by climate change for the company. In 2010, the quality of climate reporting ranked Fraport AG among the 30 companies that were included in the German Carbon Disclosure Leadership Index (CDLI) and Fraport was even as high as 11th place.

Field of action	Climate protection
Environmental aspect	Energy consumption
Type of environmental aspect	Direct and indirect.
Environmental impact(s)	Consumption of fossil and other energy carriers, emission of airborne pollutants and climate gases.
Source(s)	Electricity, district cooling, district heating, standard fuels, fuels for combustion plants.
Responsible process owner(s)	Fraport AG: Operation of buildings, equipment and vehicles. Third parties at the airport: Operation of buildings, equipment and vehicles.
Indicator(s)	Frankfurt Airport: Consumption of electricity, heat (district heating, local heating), district cooling, fuels (absolute, relative per traffic unit) [GWh, kWh/TU]. Fraport AG: Consumption of electricity, heat (district heating, local heating), district cooling, fuels (absolute, relative per traffic unit) [GWh, kWh/TU].

Trend(s)

Energy consumption at Frankfurt Airport

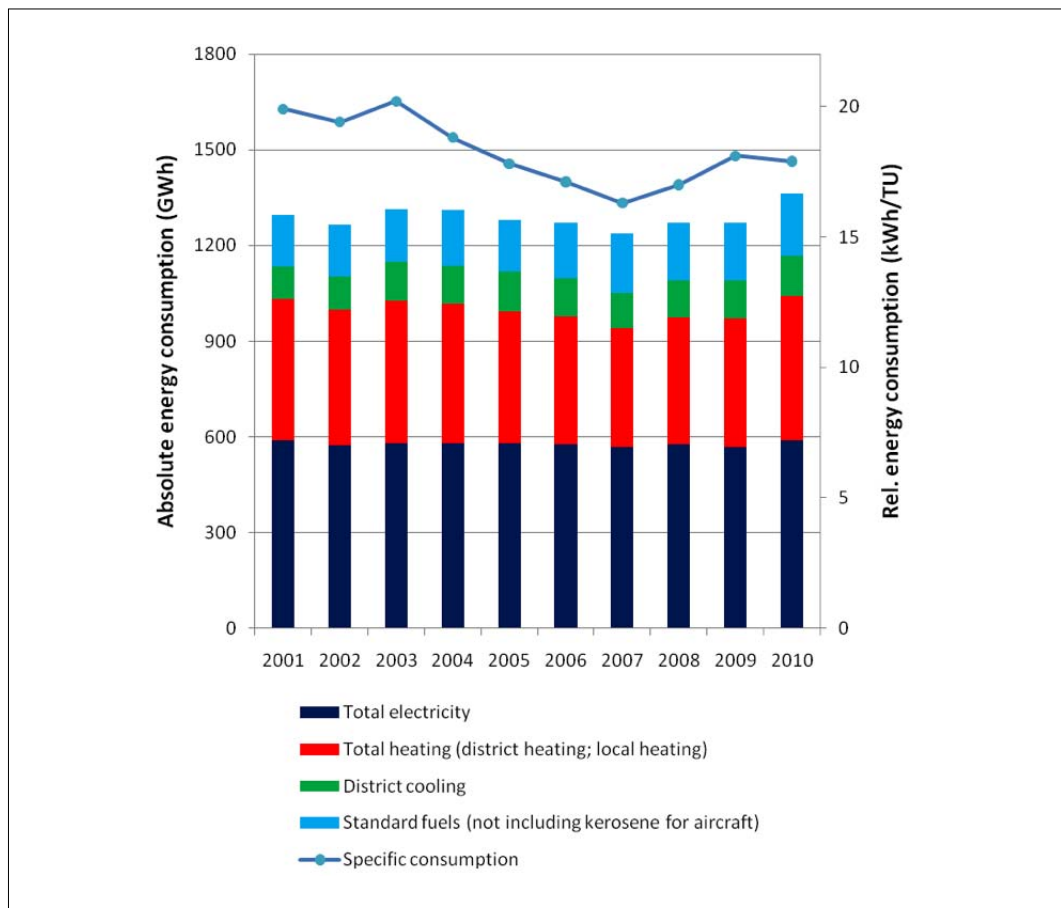
Over the past 10 years, the total annual energy consumption at Frankfurt Airport has been between some 1,200 GWh and 1,300 GWh. Kerosene for the aircraft has not been included in this calculation. The primary energy sources are electricity and district heating. The development of total energy consumption reflects the continuous expansion of infrastructure and the enhanced use of our services resulting from the growth in traffic volume. The measures directed toward energy efficiency counteract this trend. While electricity consumption remained relatively constant over the entire period in spite of the expansion, the requirement for cooling increased more or less continuously with some annual fluctuations. The same applies to fuel consumption. Conversely, the requirement for heating underwent some major fluctuations that are in line with the accelerated expansion of the site from 2005 and with the severity of individual winters. This is particularly obvious in the increase from 2009 to 2010 – unusually cold winter months at the beginning and end of the year drove up consumption by around 12%. The increase in fuel consumption is at least partly due to these winter months because significantly more deicing operations were carried out and the winter service was deployed virtually without a break during this period.

The total energy consumption per traffic unit is a benchmark for the efficiency of airport operation. However, the indicator is also a reflection of utilization of the infrastructure. This factor improved more or less continuously with the increase in traffic volume, although consumption stagnated from the years 2001 to 2007. The decline in traffic volumes in the years 2008 and 2009 led to a deterioration in the indicator. Although weather conditions resulted in higher energy consumption, the factor improved once more in 2010 due to the greater volume of traffic (from 18.1 to 17.9 kWh per traffic unit).

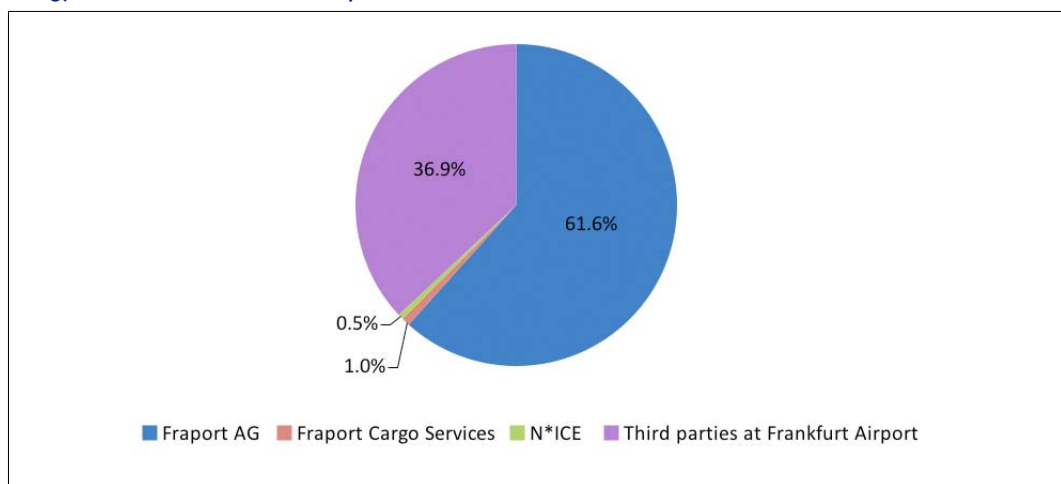
Energy consumption at Fraport AG

Fraport AG itself is the biggest consumer of energy at Frankfurt Airport. Energy consumption here remained relatively constant at around 750 million kWh per year between 2005 and 2009. The absolute and specific consumption by Fraport AG essentially reveals the same trend as total energy consumption at the airport.

*Energy consumption broken down by energy carriers at Frankfurt Airport (Fraport AG, FCS, N*ICE, third parties) and specific energy consumption (kWh per traffic unit)*

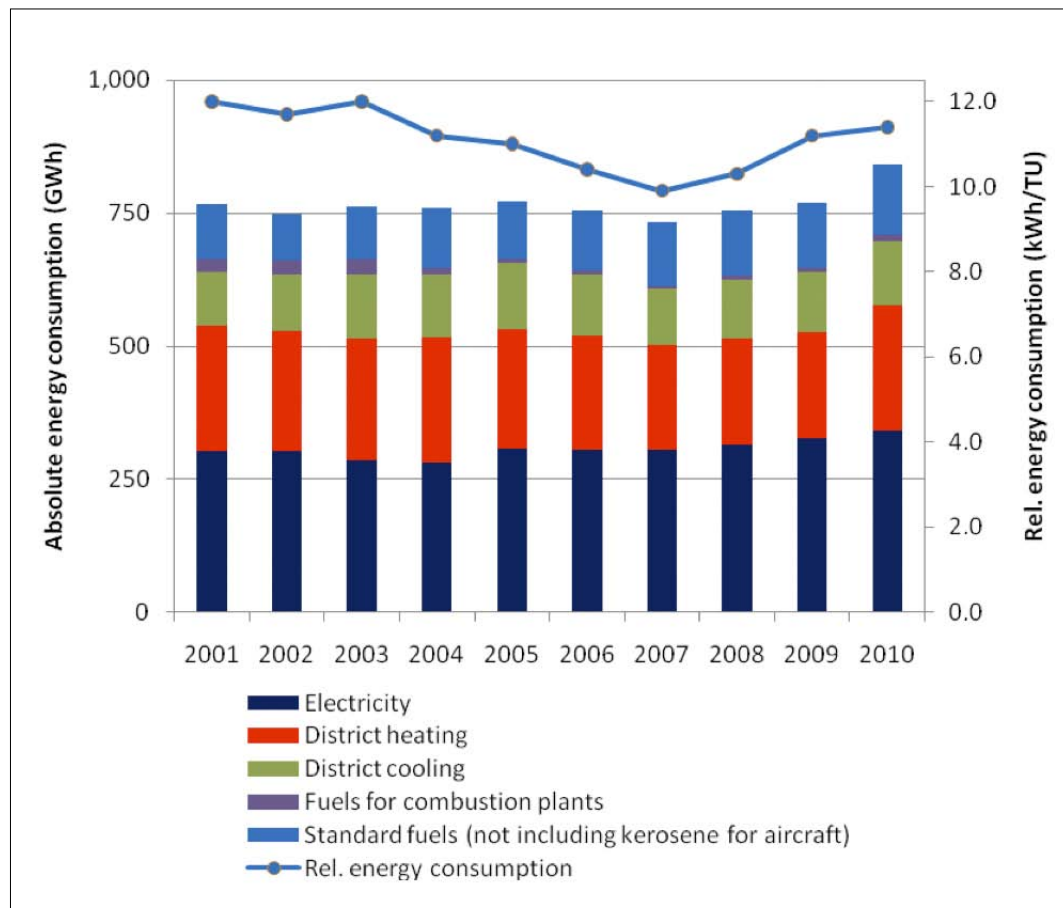


Energy consumers at Frankfurt Airport in 2010*



*Fuels, electricity, heating, cooling

Energy consumption at Fraport AG broken down by energy carriers and specific energy consumption (kWh per traffic unit)



2001 district cooling and the large cooling plant, this plant was decommissioned in 2002.

Management initiative

The issues

- Energy savings in buildings and equipment in the portfolio of buildings and new-build
 - Equipping the vehicle fleet with electric motors
- are described in the section on climate gas emissions.

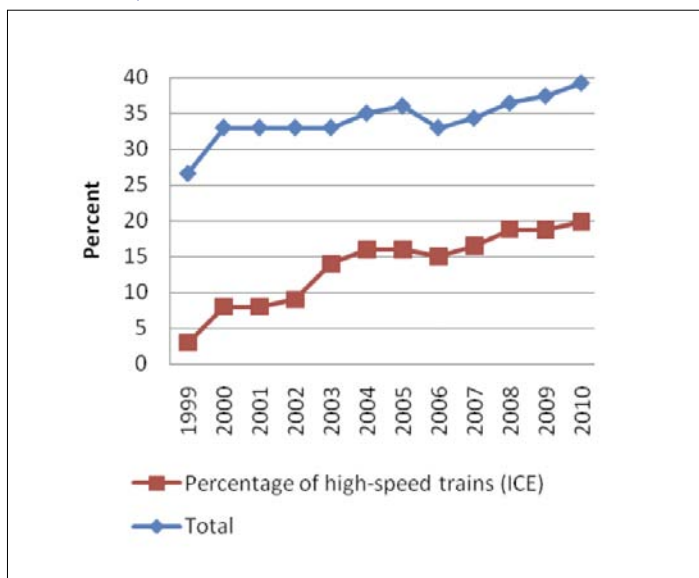
Field of action	Intermodality
Environmental aspect	Traffic
Type of environmental aspect	Indirect.
Environmental impact(s)	Emission of climate gases and air pollutants.
Source(s)	Traffic flows to and from the airport.
Responsible process owner(s)	Passengers: Choice of transport to and from the airport. Employees: Choice of transport to and from the airport. Public carriers: Offer of rail and bus connections. Airline companies: Offer of integrated products rail/flight. Fraport AG: Impact on the appeal of the link between the airport and the public transport network.
Indicator(s)	Frankfurt Airport: Proportion of passengers who use public transport (% originating passengers). Fraport AG: Proportion of employees who use public transport (% employees).

Trend(s)

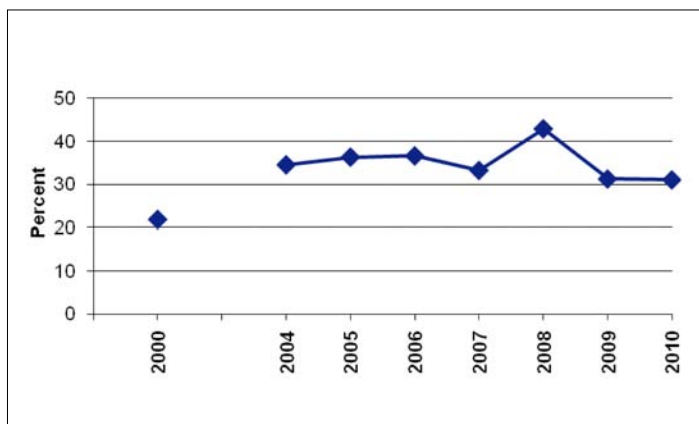
Intermodal traffic links give passengers and employees the opportunity to go to or leave the airport using public transport. The use of the intermodal range of transport options at Frankfurt Airport contributes to CO₂ reduction and has undergone positive development over the years. In 1999, only 23.6 percent of the passengers starting their flight in Frankfurt travelled to or from the airport by public transport (rapid-transit railway, regional railway, regional express, high-speed trains (ICE), intercity trains (IC), long-distance trains, bus). This value increased to 39.2 percent by 2010 and it is therefore already above the defined target value of 38.9% for the year 2020. (Environmental Program 2008 of Fraport AG).

The proportion of employees who use public transport to reach their workplace rose from nearly 22% in 2000 to 35% in 2004. Between 2004 and 2010, the value fluctuated in a range between 31% and 37%. It only achieved 43% in 2008. The use of public transport depends significantly on the development of fuel prices. It is also influenced by varying and flexible shift rosters. No buses or trains run to or from the airport at the end or beginning of night shifts. Employees are therefore dependent on their cars for transport.

*Proportion of passengers who use public transport
(Commuter trains, regional trains, regional express, high-speed trains
(ICE), intercity trains (IC), buses)*



*Proportion of employees of Fraport AG who use public transport
to travel to and from work*



Management initiative

Intermodal cooperation between Fraport AG/Deutsche Lufthansa AG/Deutsche Bahn AG is continued
Fraport works together with German Rail (Deutsche Bahn) and Lufthansa to enhance the appeal of inter-modal packages at Frankfurt Airport. Measures designed to promote this appeal include the development of integrated travel offers and support for expanding rail links (routes, frequencies) and ongoing development of the AIRail product.

Fraport provides Job Ticket for employees

Fraport employees are motivated to use public transport with the Job Ticket provided free of charge. This package was used by 31% of the workforce in 2010. However, many timetables preclude more extensive use of the Job Ticket because they fail to meet the requirements of shift work. Additional negative factors are the lack of connections between the airport and some residential areas where employees live, or connections only at unattractive times.

Field of action	Air quality
Environmental aspect	Air pollutants
Type of environmental aspect	Direct and indirect.
Environmental impact(s)	Disturbance to people and environment, dependent on pollutant and concentration.
Source(s)	Industry, small businesses, heating for buildings, road, rail and shipping traffic, and air traffic up to 300 meters above ground, biogenic and unrecorded sources, private consumption and trades.
Responsible process owner(s)	Third parties outside the airport: Road traffic, trade and industry, direct heating, etc. Third parties at the airport: Operation of buildings, equipment, vehicles. Fraport AG: Operation of buildings, equipment and vehicles.
Indicator(s)	Frankfurt Airport: Emissions of the airborne pollutants NO _x , benzene, PM 10 [$\mu\text{g}/\text{m}^3$]. Air traffic at Frankfurt Airport (up to an altitude of 300 m): Emissions of the air pollutants NO _x , benzene, PM 10 (absolute, relative per traffic unit) [t, g/traffic unit] (see "accounting principles for the environmental situation at Frankfurt airport, air emissions).

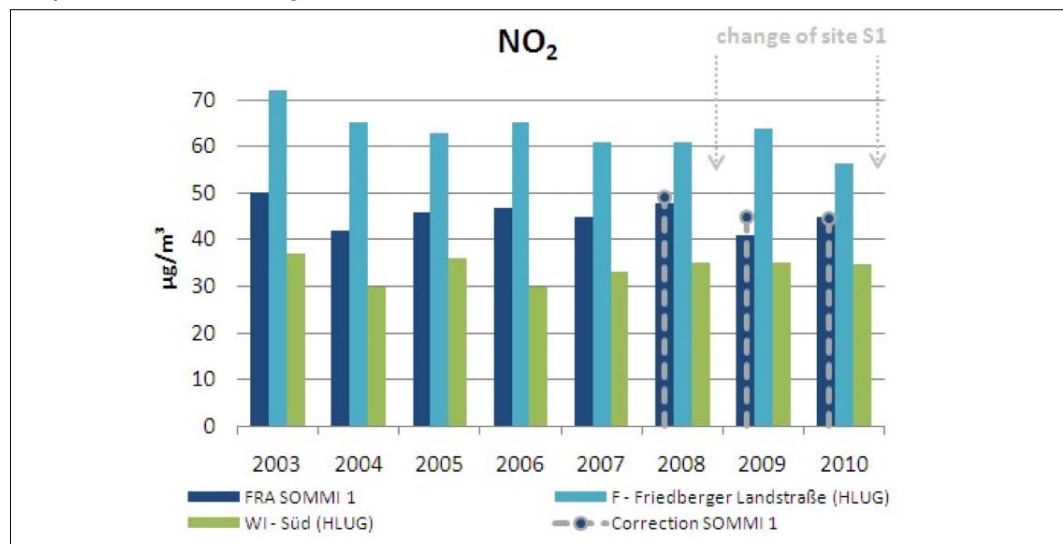
Trend(s)

Emissions from the airport

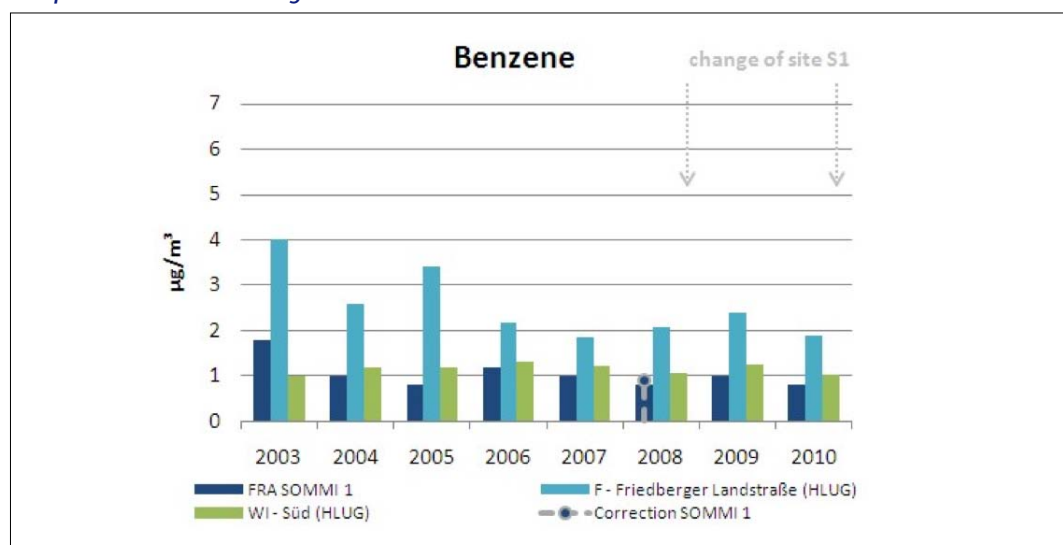
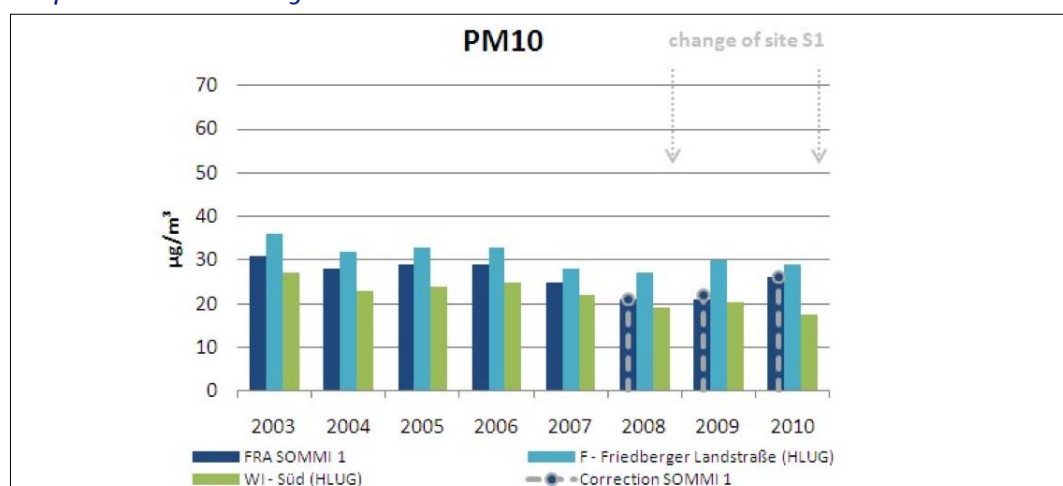
The emissions from the airport are primarily caused by air traffic. The second most important cause relates to emissions on the ground generated by traffic on the apron and by automobiles travelling to and from the airport, and road traffic around the airport. Aircraft emissions have been calculated continuously from 2000. The NO_x emissions are about 2,400 tons each year and have been stagnating since 2005. They amount to a proportion of 90 percent of total airport emissions up to an altitude of 300 m.

Pollutants at Frankfurt Airport

The emissions of relevant pollutants measured at Frankfurt Airport have not been higher than in the surrounding urban district since the start of continuous monitoring in 2002. Until 2008, it even proved possible to comply with the strict precautionary limit values of the 22nd Federal Pollutant Control Ordinance (BlmSchV), which are not applicable to the airport site itself. As a result of the continuous reduction in limits to the values defined in the 39th Federal Pollutant Control Ordinance, which came into force in 2010, this is no longer applicable for NO₂. However, this does not objectively imply any deterioration in air quality.

Comparison of annual averages for NO₂

Comparison of annual averages for benzene

Comparison of annual averages for PM₁₀

Management initiative

Air pollutants are measured continuously

Air pollutants have been continuously recorded on the airport site by two measuring stations since 2002. Two additional stations were set up in the area of the construction site to monitor pollutants generated during the building work entailed by airport expansion. A station was also set up in Kelsterbach. Previously, the Kelsterbach station was only used for measuring nitrogen oxides, but it has now been equipped to measure the concentration of fine dust in order to monitor the emission of pollutants from construction. Fraport AG publishes detailed information on air quality in its annual report on air hygiene (www.fraport.de).

Measures for reducing emissions implemented at the construction site for the north-west runway

An array of measures is used to reduce the emissions on the construction site for the new north-west runway, for example speed limits and sprinkling dusty surfaces with water. This meant that the strict limits for fine dust have been complied with even close to this huge construction site.

Fraport continues emission-dependent airport charges

Although the three-year trial for an NO_x-based emission component in the airport charges ended at the close of 2010, Fraport has decided to retain this element of the landing fee for the future.

Other management initiatives

The issues

- Optimization of handling processes
- Deployment of alternative drives
- Use of 400 hertz ground power units
- Airport Collaborative Decision Making (Airport CDM)

are described in the section on climate protection because they also impact on the reduction of CO₂ emissions.

Field of action	Nature conservation and protection of resources
Environmental aspect	Effects on biodiversity
Type of environmental aspect	Direct.
Environmental impact(s)	Loss of habitats and influence on species diversity.
Source(s)	Airport.
Responsible process owner(s)	Fraport AG.
Indicator(s)	Frankfurt Airport: Surfaced areas [km ²].

Trend(s)

The total owned land of Frankfurt Airport amounted to 19.14 km² at the close of 2010. 8.91 km² of this area was surfaced. Since 2007, the operational area was expanded from 11.12 km² to 16.19 km² at the close of 2010. From mid-July 2011, the owned land including the new north-west runway amounts to 22.36 km². The new areas in the west related to the location of former woodlands that have been cut down and the environmental loss has been mitigated elsewhere.

Around 60% of the operational area is of minor biological value because it has been developed or has been sealed under road surfaces. One third of the area is classified as medium-value and the rest is classified as high-quality biotope landscape. These areas have become a refuge for many animals and plants which are classified as endangered elsewhere.

Management initiative

Mitigation projects are being implemented rapidly

Strenuous efforts are made to minimize negative impacts on nature and the natural landscape when construction work is carried out at the airport. When construction impacts negatively on some areas, as in the case of the new north-west runway, mitigation measures are necessary. The zoning approval adopted on 18 December 2007 specified that mitigation had to be provided for the loss of 282 hectares of forest. This was to involve reforestation of 288 hectares over 13 different areas in the Rhine-Main region. Only plants from the region are being used for the reforestation so as to maintain the integrity of the genetic identity.

Animal and plant species were relocated to appropriate habitats for the species

Apart from the reforestation, Fraport was particularly concerned to resettle rare animal and plant species. This included resettlement of 17 colonies of forest ants subject to conservation protection, 300 oak roots colonized by stag beetle larvae, almost 800 lizards and some 12,000 frogs and toads. 280 nesting boxes and 350 hollow trees were provided as artificial nesting aids in the surrounding woodlands for bats and different bird species. 7,000 m³ of dead wood gave various species of beetle new habitats. Around 2 hectares of dry grassland and sand heather were replanted and some specimens of the protected plant species "maiden pink" and "dwarf everlast" were preserved.

Cessation of commercial use permits conversion of forest close to nature

The conversion close to nature and cessation of commercial forestry management on around 2,000 hectares of forest around the airport are a further important cornerstone of the mitigation concept. Unnatural plantations, such as conifer trees, are replaced by woodlands planted with trees similar to those in indigenous habitats. Commercial forestry and management will cease in the future.

Restoration of natural habitats in the former munitions depot has been completed

A major former munitions depot at the airport covering some 100 ha was restored to its natural habitat and access was provided to the local population. A section along the River Nidda including the adjacent water meadows amounting to some 44 ha was restored in accordance with natural conditions.

Fraport establishes environmental monitoring to test the quality of mitigation measures

Forest clearance and building activities as well as ecological mitigation measures have been supplemented by intensive and long-term environmental monitoring round the airport since 2010. Ecological experts check compliance with environmental protection regulations and ensure that the mitigation measures are operating properly. The results of monitoring are regularly forwarded to the nature protection authority and are accessible to the public through the Environment & Community Center in Kelsterbach.

Fraport AG made an investment of € 160 million in the ecological measures. For further information, go to: www.fraport.de "Ökologische Maßnahmen zum Flughafen-Ausbau" (2011) ("Ecological measures for airport expansion" (2011), only in German available).

Bees are used for biomonitoring

Fraport AG supports a research project involving the use of bees for environmental monitoring at the airport, at two reference sites in the Hintertaunus mountain area, and along the A5 freeway. Samples of honey, pollen and mosses are analyzed for relevant environmentally toxic metals and polycyclic aromatic hydrocarbons. The samples analyzed to date indicate that verified concentrations at the airport complex are similar to residues at comparable sites. All values are well within the safe limits defined for human consumption. The development of bee populations and the honey yields are very good and similar at all three locations.

Airport biotope management operates a system of extensive management for landscaped areas

All unsurfaced areas at the airport are greened. Approximately 500 ha of green space in the existing runway system are very extensively managed. Mulch mowing is carried out on an annual basis to a height of 25 cm of grass. Water and fertilizers are not applied to the grassed areas. The area of greened roof areas at the airport amounts to approx. 5 hectares.

Environmental projects are sponsored with money from the Fraport Environmental Fund

Fraport supports a large number of projects to improve biodiversity in the Rhine-Main region. The financial resources come from the environmental fund with an annual volume of 2 million euros. Some of the projects include flood meadows and orchard meadows, flood plain forests and old-wood islands. A total of 28 million euros has been provided in sponsorship over the period until the end of 2010.

Fraport informs visitors about measures taken to restore natural habitats

Fraport erects signs in areas where natural habitats have been restored to provide the general public with information about these measures, for example in mitigation areas with reforestation near the new landing runway, at the amphibian ponds and on the former munitions depot. All the associated ecological measures are also outlined in a brochure and presented on the Fraport website (only in German available).

Field of action	Nature conservation and protection of resources
Environmental aspect	Water consumption
Type of environmental aspect	Direct and indirect.
Environmental impact(s)	Consumption of water resources.
Source(s)	Groundwater extraction Hessenwasser, Groundwater extraction Fraport, purified rainwater Fraport, purified water from the River Main Hessenwasser.
Responsible process owner(s)	Fraport AG: network operators, consumers. Third parties at the airport: consumers.
Indicator(s)	Frankfurt Airport: volume of drinking and service water (absolute, volume per traffic unit) [m ³ , l/traffic unit]. Fraport AG: volume of drinking and service water (absolute, volume per traffic unit) [m ³ , l/traffic unit].

Trend(s)

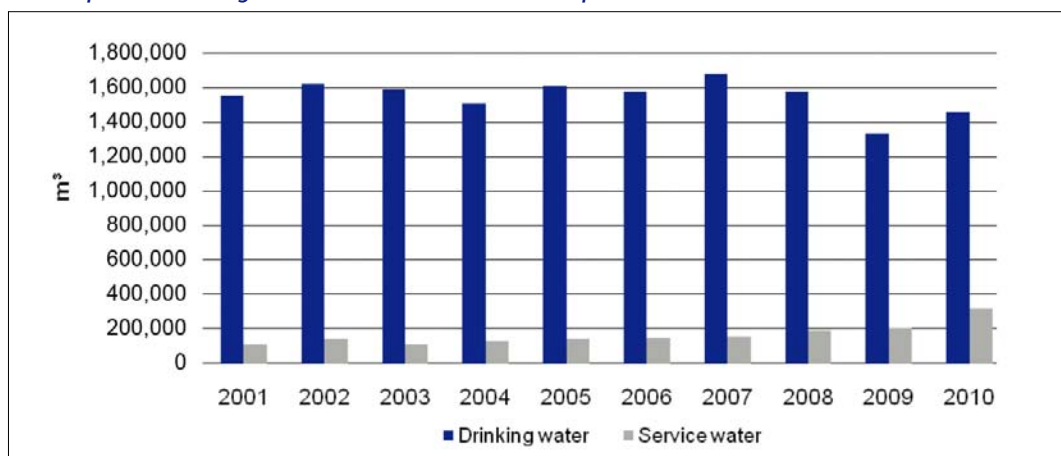
Water consumption at the airport

During the course of 2009 and 2010, 1,336,000 and 1,460,000 m³ of drinking water respectively were consumed at Frankfurt Airport. These are the lowest volumes for ten years. This reduction was mainly achieved through the increasing use of service water (rainwater and purified water from the River Main). In 2010, the highest volume of service water to date was consumed with 319,000 m³. The percentage of service water consumed by comparison with total water consumption amounted to 17.9 percent. The consumption of drinking water per traffic unit amounted to 19.4 liters in 2010. Ten years ago, this volume was still 25.1 liters.

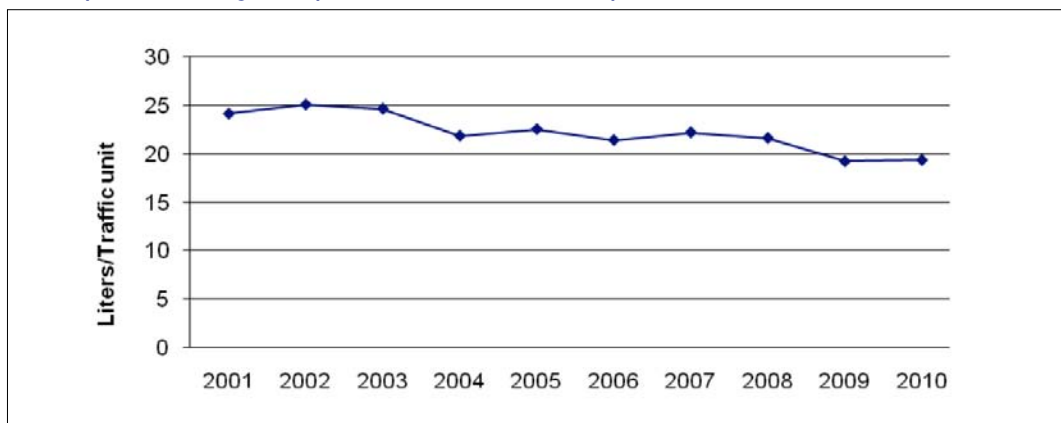
Water consumption by Fraport AG

During the course of 2009 and 2010, 833,000 and 905,000 m³ of drinking water respectively were consumed at Fraport AG. The use of service water has gradually increased up to the current volume of 279,000 m³. This means that the percentage of service water compared with total water consumption in 2010 amounted to 23.6%. This volume was only 11% in 2001. The consumption of drinking water per traffic unit amounted to 13.7 liters in 2010.

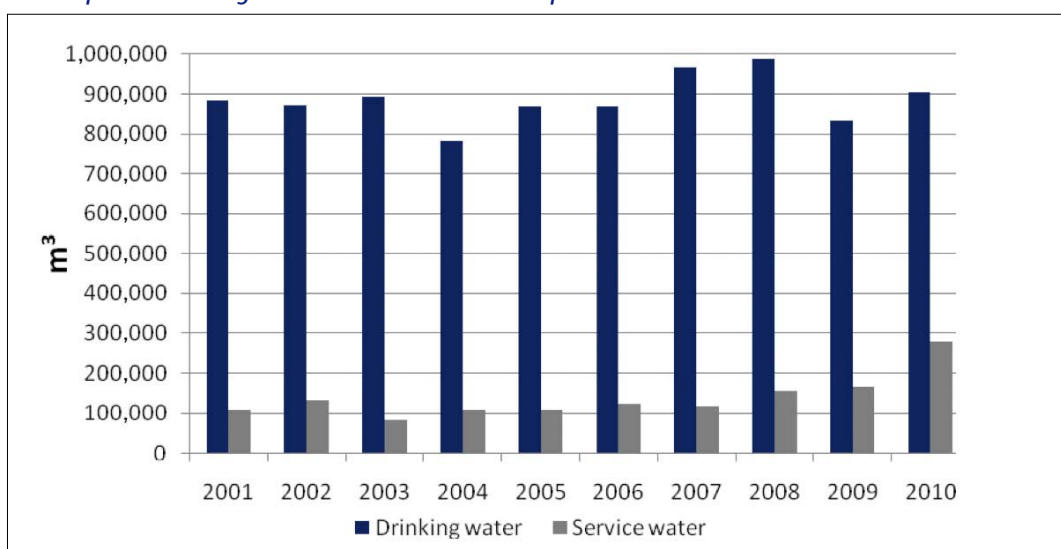
Consumption of drinking and service water at Frankfurt Airport



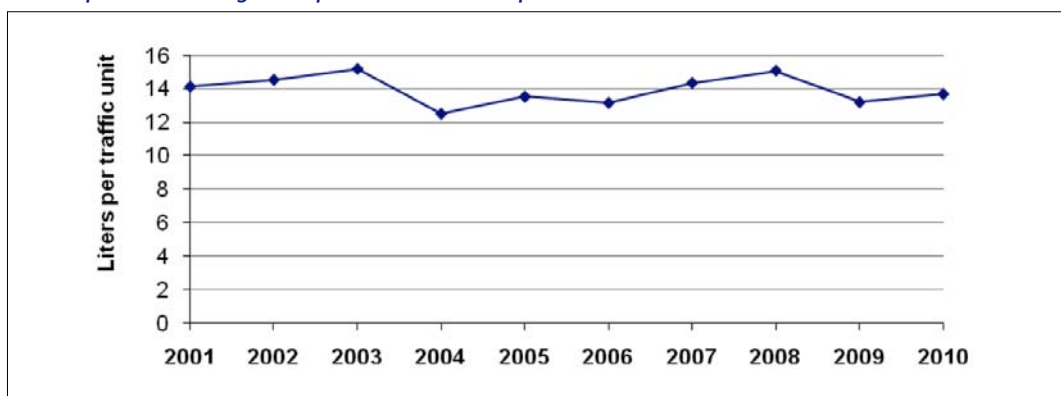
Consumption of drinking water per traffic unit at Frankfurt Airport



Consumption of drinking water and service water at Fraport AG



Consumption of drinking water per traffic unit at Fraport AG



Management initiative

Expansion of the use of service water permits savings in drinking water

Fraport operates two rainwater treatment plants located on the site of CargoCity South and in Terminal 2. When rainfall is low, purified water from the River Main is used. The service water is sourced through a separate supply network for operating sprinkler systems, toilet flushes and for watering landscaped areas. There is a complete service-water supply system in CargoCity South. In the north of the airport, Terminals 1 and 2 are supplied with service water. The supply of service water in Terminal 1 and the neighboring office buildings is currently still undergoing expansion.

Water-saving technology established as standard

The biggest savings have already been made by installing water-saving aerators in washbasin taps and flush-stop devices for toilet flushes. These measures are now mainstream. Significant volumes of drinking water have also been saved in the past by converting from disinfection with chlorine to electrochemical disinfection of the tanks used in vehicles supplying water to aircraft. Other consumption residues have been introduced from the introduction of systems operating with circuits in vehicle washer systems.

Field of action	Nature conservation and protection of resources
Environmental aspect	Wastewater
Type of environmental aspect	Direct and indirect.
Environmental impact(s)	Entry of materials into natural water systems (surface water and ground-water).
Source(s)	Precipitation water (direct entry): Surfaced areas, purification plants. Sewage water (indirect entry): buildings, wastewater containing deicing agents (aircraft and surface deicing).
Responsible process owner(s)	Fraport AG: Operation and use of the drainage networks and other wastewater systems. Third parties at the airport: Use of wastewater drainage networks and other wastewater systems.
Indicator(s)	Frankfurt Airport: volume of sewage water (absolute, relative to the traffic unit) [l, l/traffic unit). Frankfurt Airport, sewage water transfer points: Lipophilic substances in sewage water.

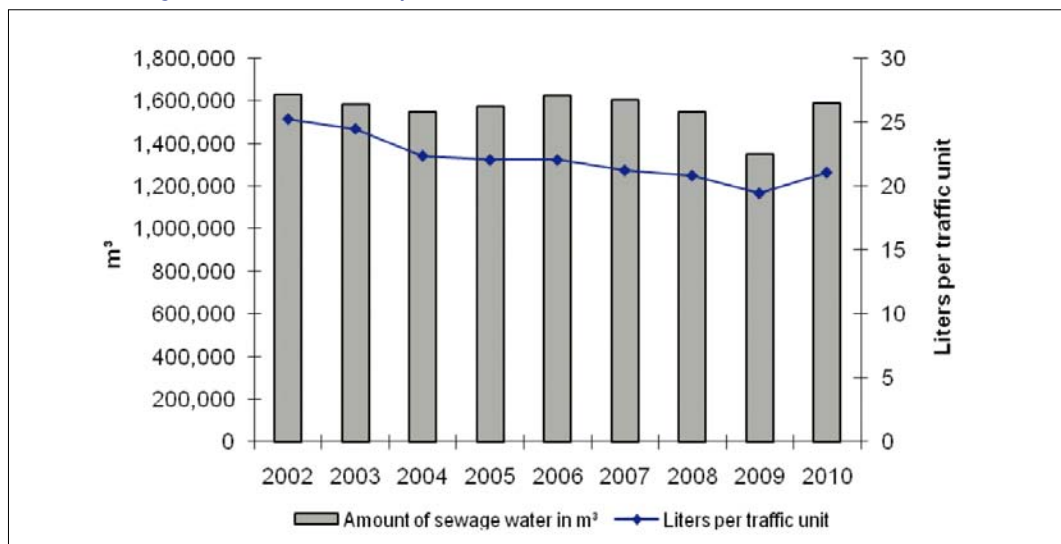
Trend(s)

The total annual volume of sewage water generated at Frankfurt Airport has fluctuated over the past 9 years between 1,351,000 m³ and 1,628,000 m³. At the same time, the traffic volume increased during this period from 64 million traffic units to 75 million. In 2009, the volume of traffic at the airport fell back to 69 million traffic units and the volume of sewage water was 1,351,000 m³. The trend is downward as a function of traffic unit.

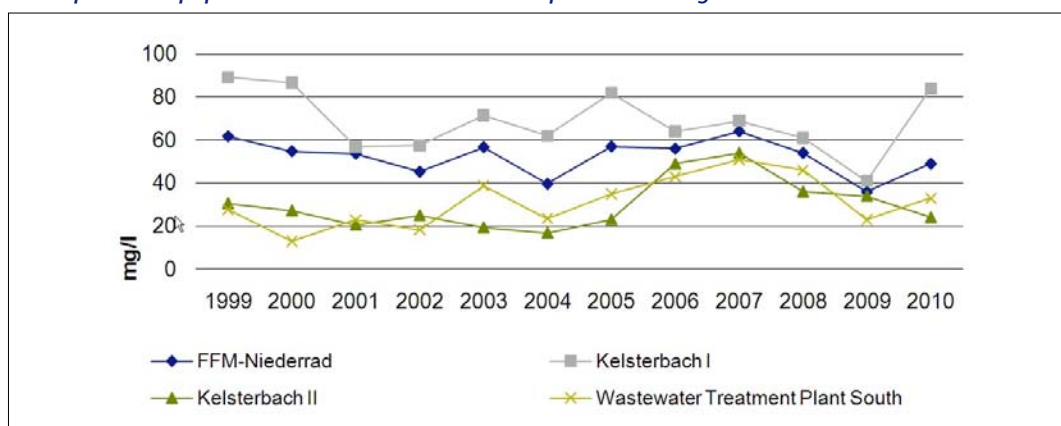
In 2010, the volume of sewage water increased once more to 1,590,193 m³, the polluting load was equivalent to some 58,000 population equivalents compared with around 34,700 in the previous year. Deicing agents increase the polluting load. Increased levels of wastewater containing deicing agents entered the sewage water drainage system during the last two severe winters.

The statutory values defined by the local authorities must be complied with when sewage water from Fraport's drainage network flows into the public drainage system. One example of this is the content of lipophilic substances. These substances are plant and animal oils and grease. They mainly originate from kitchens and catering businesses. As in previous years, the annual average for lipophilic substances in 2010 was below the statutory value of 100 milligrams a liter for the City of Frankfurt at the confluence points with the public drainage system.

Volume of sewage water at Frankfurt Airport



Development of lipophilic substances at the confluence points for sewage water



The development of the volume of drained surface water is much more dependent on the annual volume of precipitation water and cannot therefore be presented as a meaningful indicator.

Management initiative

Separation of sewage water and precipitation water relieves the pressure on sewage treatment plants

Fraport operates two separate drainage systems for sewage water and precipitation water. This offers the advantage that the capacity of the sewage systems is utilized at a more consistent rate and is not put under pressure by large volumes of rainwater. The risk of overloading sewage water drainage pipes is also avoided during storms with heavy levels of rainfall.

The sewage water system has pipework measuring some 100 km in length. The system accepts all the discharges from sanitary facilities, canteens, restaurants, tunnel washers, aircraft restrooms, and aircraft washers. The precipitation water drainage system has a length of approximately 200 km and drains the rainwater from aprons, aircraft positions, deicing areas, roads, parking lots and roofs.

Pretreatment of wastewater limits the polluting load

Grease and oil separators, and demulsification plants are positioned where wastewater is generated, e.g. in canteens and restaurants, and workshops and tunnel washers before the water is discharged into the drainage system. These installations limit the entry of polluting substances into the drainage channels and treatment plants.

The sewage water drains into the public drainage system at two points and is pumped to the municipal sewage treatment plants in Sindlingen and Niederrad. Fraport operates its own sewage treatment plant in the southern section of the airport with a capacity of 11,000 population equivalents. This plant treats around 540,000 m³ of sewage water each year. The plant is currently being expanded with additional capacity of 100,000 population equivalents. In future, the sewage water from the entire southern section, including Terminal 3, the buildings located there, and the wastewater containing deicing agent from the aircraft movement areas will be treated there.

After flowing through the sludge removal tanks, rainwater is conducted through oil separators in order to remove potential contaminants from risk areas (fuelling, maintenance, etc.). The permissible run-off volumes are guaranteed by rainwater retention basins.

Quality and volume of wastewater are systematically monitored

Systematic checks are used to monitor the quality and volumes of wastewater, in order to ensure compliance with the specified limits and exclude any risk of polluting waterways. Fraport regularly carries out measurements of chemical and physical parameters in the wastewater at the confluence points and the wastewater installations in order to guarantee that no pollution occurs. These data are recorded online. The precipitation water is continuously monitored at the confluence points in the River Main and the central seepage installation.

Field of action	Nature conservation and protection of resources
Environmental aspect	Contamination of soil and groundwater
Type of environmental aspect	Direct and indirect.
Environmental impact(s)	Disturbance to people, plants and animals.
Source(s)	Handling and storage of water-polluting substances.
Responsible process owner(s)	Fraport AG: real-estate owner. Third parties at the airport: former and current users of the airport.
Indicator(s)	Frankfurt Airport: Nitrate content of the groundwater at a reference sampling point (sampling point 45 to 2007, extraction well FB5 from 2008) [mg/l].

Trend(s)

Some parts of the soil and the groundwater at Frankfurt Airport have been polluted by various uses of the site over a period of more than 80 years. Following identification of contaminated areas, a professional clean-up operator carried out this work, and this process is still ongoing.

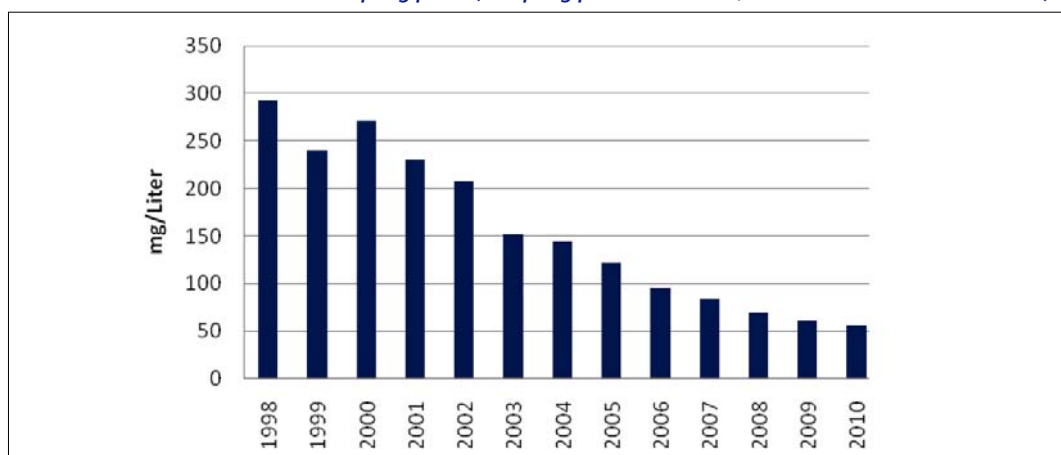
During the 1970s, pollution occurred at the Lufthansa base as a result of the volatile chlorohydrocarbons used in aircraft maintenance. The clean-up operation by Lufthansa Technik AG is currently ongoing.

The site of the former US Air Base is one of the areas where the soil and groundwater have been compromised by contamination with pollutants, and this area therefore also needs to be reinstated. This site was handed back to Fraport AG at the end of 2005.

In 2010, soil material polluted with nitroaromatic compounds was discovered during construction work around Gate 25, east runway. The nitroaromatics originated from old weapons dating back to the First World War. The polluted material was excavated.

The use of deicing agents with a high nitrate content continued into the 1990s and resulted in nitrate pollution of the groundwater. The clean-up operation has been ongoing since 1999. The nitrate content at the reference sampling point for the extraction well FB 5 was 56 mg/liter in 2010 and this meant it had come down by 7.9% compared with the previous year.

Nitrate content at the reference sampling point (sampling point 45 to 2007, extraction well FB5 from 2008)



Management initiative

Fraport deploys innovative technologies for wing deicing

Since 1990, Fraport has only been using nitrate-free deicing agents (potassium acetate, potassium formate) to avoid polluting the groundwater with nitrates. Optimum management of scatter data based on ground sensors and GPS supported sprinkle management allows the deicing agent to be precisely measured. This means that the use of winter deicing agents can be reduced and duplication of deicing is avoided.

Contaminated areas are identified and cleaned up

Groundwater containing nitrates has been treated in a custom-built water treatment plant since 1999. The plant processes about 300 cubic meters of polluted water an hour. The average nitrate pollution when the water enters the water-treatment plant is currently still 70 mg/l (limit value in the Drinking Water Ordinance: 50 mg/l). Fraport estimates that a further five to eight years is required to reduce the nitrate content to the required level.

As the airport has expanded, Terminal 3, aprons and other buildings have been created on the site of the former military Rhine-Main Air Base in the southern section of the airport. Contamination of the soil is known to have occurred in this area. The pollution is monitored at a network of groundwater monitoring stations in close cooperation with the responsible regulatory authorities. Any measures necessary are introduced on the basis of the results.

The drainage systems and run-off surfaces are continually tested for leakage

Fraport carries out a process of continuous monitoring to establish the structural integrity of the drainage systems and surfaced areas where water-polluting substances are used in order to protect the soil and groundwater against pollutants. Areas subject to an increased risk (e.g. aircraft fuelling zones) are evaluated by expert auditors. The status of the discharging drainage system is continuously monitored and any defects identified are remedied.

The quality and level of the groundwater is determined at 550 monitoring stations

The chemical composition of the groundwater is monitored by 280 groundwater monitoring stations located at Frankfurt Airport and a further 270 groundwater monitoring stations located in the immediate vicinity. The groundwater quality and groundwater level is determined at monitoring stations defined by the regulatory authorities. The data is processed in a groundwater database.

Waterways alarm plan facilitates rapid reaction in an emergency

If water occurs in the groundwater, a waterways alarm plan ensures that this pollution is immediately reported and remedied. This alarm plan is a constituent element of the EMERGENCY orders (BA NOT). Immediate measures are instituted and implemented by the Airport Fire Department of Fraport AG.

Field of action	Nature conservation and protection of resources
Environmental aspect	Dangerous goods and hazardous materials
Influence of Fraport AG	Direct and indirect.
Environmental impact(s)	If any accidents occur, possible negative impact on environmental assets and human health.
Source(s)	Dangerous goods supplied in the air-freight area and the use of hazardous substances in the company's operations.
Responsible process owner(s)	Fraport AG: Application of hazardous materials, handling of dangerous goods. FCS: Handling dangerous goods. N*ICE: Aircraft deicing.
Indicator(s)	Frankfurt Airport: Handling hazardous goods at FCS [t], discrepancies and damage to packaging during the handling of dangerous goods [number]. Fraport AG: Use of hazardous materials [t], products containing hazardous materials [number].

Trend(s)

Dangerous goods

The turnover of dangerous goods in the airfreight handled by Fraport Cargo Services GmbH (FCS) went up more than threefold at Frankfurt Airport between 2008 and 2010 from 2,744 tons to 8,959 tons. In 2010, there were only 5 incidents involving damage to packaging during the handling of dangerous goods.

Hazardous materials

The quantity of hazardous materials that were supplied to Fraport AG as dangerous goods and consumed (not including diesel fuel and gasoline) fluctuates from one year to the next, since surface deicing agents make up a particularly high proportion of these materials. Large amounts of snow and cold winters in the years 2009 and 2010 meant that substantially more deicing agent was used in these winters (4,416 and 4,465 tons respectively) than during the previous years (2008: 1,465 tons, 2005: 757 tons).

Since 1999, the number of products containing hazardous materials has been reduced by 53.3 percent from 700 to 327. This relates to hazardous materials that are flammable (such as cleaning agents) and most importantly have properties that make them harmful to water (hydraulic and gearbox oils). In addition, eight hazardous materials have been included that have been eliminated from the airport print center as a result of the introduction of new technologies. The 332 hazardous materials still being used at the end of 2009 were reduced by a further five to 327 by the close of 2010. These were primarily water-polluting materials (oils).

Most hazardous materials are used at Real Estate and Facility Management (IFM) in vehicle workshops, the paint shop, and the airport print center. The product range is from antifreeze chemicals, engine oils, coolants, transmission and hydraulic oils, paints, varnishes, soap cartridges to heating oil. Hazard analyses are regularly carried out here.

Management initiative

FCS minimizes the risks of dangerous goods by safe storage and documentation

A dangerous goods warehouse facility is operated by FCS in CargoCity South for all classes of hazardous goods, incl. radioactive materials, in conformity with the Federal Impacts Control Act (Bundesimmissionschutz-Gesetz, BImSchG). Employees at this facility check the physical properties and the documentation of each dangerous goods consignment. They are also responsible for forwarding the data on dangerous goods to the receiving airports. There are central storage facilities for radioactive materials.

Precautions for emergencies are planned and trained at all levels

Emergency procedures for the transport of dangerous goods are documented in Fraport's EMERGENCY Orders (BA NOT). Emergency plans are drawn up on the basis of this manual and emergency exercises are carried out on a regular basis. Regular training, promotion of enhanced awareness among employees to potential risks, and continuous exchange of information between cargo handling companies complete the precautionary measures. The Dangerous Goods Committee holds a meeting every two months. The members of the committee include employees of Fraport AG, representatives of the airlines, the appropriate authorities, freight forwarders, and cargo handling companies dealing with the transport of dangerous goods. Information is exchanged at these meetings, and the planning and implementation of suitable measures is coordinated.

Fraport trains employees who are involved in the transport and storage of dangerous goods and employees who use hazardous materials in their workplace. Precise compliance with national legislation and international regulations is the top priority. Basic practical training and regular career training for more than 5,000 employees form the platform for professional implementation of statutory legislation and regulations.

As soon as even minor external damage is detected in containers for dangerous goods, the Fraport security service and the Airport Fire Department are alerted. They possess the necessary training and special equipment to respond appropriately. The number of dangerous goods incidents involving Fraport continues to stagnate at a low level.

Fraport operating officers monitor the handling of dangerous goods

The dangerous goods and radiation protection officers at Fraport AG are responsible for monitoring compliance with rules and regulations governing the transportation, acceptance, delivery, temporary storage, packing, unpacking, loading, and unloading of dangerous goods.

Number of hazardous substances in operation is continually being reduced

Since 1990, Fraport has implemented a product evaluation procedure that reviews all chemical products before they are purchased. This process involves the responsible employees from the relevant areas and the users. An assessment is carried out to assess whether chemical products can be replaced by a more environmentally friendly product, or the relevant operational process can be discontinued or modified. This product evaluation is also carried out by Fraport AG for other companies at Frankfurt Airport. The focus here is on cleaning companies. Incorporating outside companies within this process is intended to ensure that no "inadmissible" hazardous substances are used at Frankfurt Airport.

N*ICE uses environmentally friendly technology for deicing aircraft

The use of aircraft deicing agent is reduced by a 20% increase in the water content for each aircraft deicing operation. This is achieved by using NAD technology (N*ICE Advanced Deicing System). The system has three separate tanks for water, Type I and Type IV and by using two independent proportional-mix systems which permit deicing agents to be used precisely tailored to the specific weather conditions. By the winter of 2011/2012, 47 out of the 51 vehicles being deployed will have been equipped with this technology.

Field of action	Nature conservation and protection of resources
Environmental aspect	Waste
Type of environmental aspect	Direct and indirect.
Environmental impact(s)	Hazard to the environment and to the employees through incorrect handling of waste.
Source(s)	Airside and landside equipment, Terminals, aircraft cabins, workshops, buildings, wastewater facilities, construction sites.
Responsible process owner(s)	Fraport AG: waste generators and waste owners. Third parties at the airport: waste generators and delivery of waste to Fraport. Disposal companies: sorting, recycling, removal.
Indicator(s)	Fraport AG: – Total quantity of waste (not including excavated soil and building rubble) [t]. – Quantity of hazardous waste [t] (see accounting principles for the environmental situation). – Quantity of non-hazardous waste [t] (see accounting principles for the environmental situation). – Total recycling of waste [recycling ratio in %].

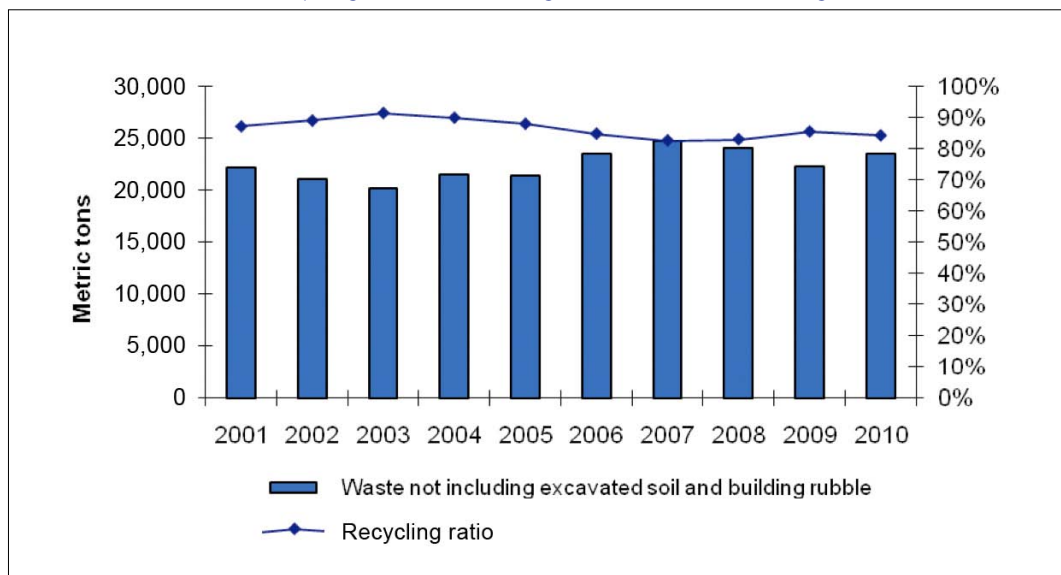
Trend(s)

The amount of waste is generally well correlated with the development of traffic. 50% of the total volume of commercial waste similar to householder waste originates from the area of the apron. This mainly relates to waste from cleaning the cabins of aircraft (paper and residual waste). Catering waste is taken back separately by the catering companies. There are also other companies at the airport which dispose of their waste themselves.

The hazardous waste generated at the airport, e.g. from the workshops (mixtures of oil and water, used oil, binding agents containing oil, brake fluid, cold cleaners, etc.) or wastewater cleaning plants (oil separator fractions and sand trap residues) are collected separately and, if possible, recycled. If recycling is not possible, these wastes are properly eliminated in a combustion plant or disposed of in a treatment plant using chemical and physical means to break down these hazardous substances.

The amount of waste and the recycling ratio has been fluctuating within a narrow range for many years. In 2010, Fraport AG disposed of 23,540 tons of waste (not including soil and building rubble). The percentage of hazardous waste was just 7.6%. The recycling ratio at around 84% has remained at a high level.

Total amount of waste and recycling ratio (not including excavated soil and building rubble)



Management initiative

Consistent separation of waste permits high recycling ratio

The guiding principle of Fraport waste management is to recycle unavoidable waste as much as possible. Fraport separates waste including paper, glass, packaging waste (DSD green-dot waste) and residual waste to assist in recycling. This collected waste is either fed into advanced sorting systems where any contaminants are separated out and the recyclable materials are then conveyed to the recycling plant or the recently modernized waste incineration power plant operated by the City of Frankfurt. The steam generated by the combustion is used for the production of electricity and district heating.

Hazardous waste is recycled or disposed of

The hazardous waste created at Fraport is also collected separately and channeled away for recycling as far as possible. If there are no options for recycling, this waste is disposed of professionally in a suitable incineration plant or disposed of by chemical and physical means in a treatment plant.





Fraport waste management guarantees professional disposal

The Waste Management Department ensures professional disposal for approximately 50 different types of waste generated at Fraport. In this connection, Fraport maintains close contacts with authorities, disposal companies, other companies and universities. New know-how is incorporated into routine procedures as a result of benchmark activities with other waste generators. An operating officer for waste provides advice on recycling management and monitors the disposal of waste.

Status of the Environmental Program 2008 to 2011

The key objectives and measures of Fraport AG, N*ICE and FCS for environmental protection are part of the Environmental Program, which is structured over a period of three years. Apart from the general assessment of environmental issues, the findings from internal environmental audits also formed the basis for identifying goals and planning. Fraport AG set a number of measures and goals for the upcoming years in the Environmental Statement 2008 and the abridged Environmental Statements for 2009 and 2010. The status of implementing and achieving goals is documented in the following table.

Key for status:

-  Measure fulfilled > 90% to 100% or established as a continuous process.
-  Measure continues to apply in the Environmental Program 2011.
-  Measure partly fulfilled.
-  Measure could not be implemented.

Field of action	Goal	Measures	Deadline	Status	Explanations (Status May 2011)
Air pollutants and CO ₂	Improve air quality and reduce greenhouse gases at Frankfurt Airport and in the region per traffic unit	Replacement of the current stock of mobile ground support equipment by purchasing state-of-the-art models that comply with directive 2004/26/EC and currently 2010/26/EU	Ongoing		The measure was included in the Environmental Program in 2002. In 2002, 790 mobile work machines were in the fleet. Since then, 740 vehicles have been replaced or new machines have been purchased. Based on the fleet in 2002, 94 percent of the vehicles had been replaced by the end of 2010. The average age of the fleet is currently 10 years. The measure has now been completed. Fleet management involves the fleet undergoing a process of continual renewal. The use of alternative drive technologies has been defined as the new focus, see new Environmental Program 2011 to 2014.
		New procurement of 31 vehicles in conformity with the EURO 5 exhaust-gas standard (N*ICE)	By winter 2014/2015		Since the winter season of 2009/2010, 10 vehicles have been procured. A further 8 vehicles were ordered for 2011. At the end of 2011, 18 vehicles will therefore be deployed in conformity with the Euro 5 exhaust-standard.
		Optimization of ground handling processes to save fuel by developing and implementing new software tools (Plandis project), in this case baggage transport	Starting 1st quarter 2009		Due to the new operational requirements, the launch of the new software was delayed until the 3rd quarter of 2011.
		Testing deployment of fuel-cell vehicles at Fraport within the framework of the European Union's project "Zero Regio"	By the 4th quarter 2009		The project was aimed at obtaining practice-based data for the operation of fuel-cell vehicles. The project was completed in November 2009. It was shown that optimum conditions prevail for the supply with hydrogen owing to the close proximity to "Industriepark Höchst".
	Improve air quality and reduce greenhouse gases at Frankfurt Airport and in the region per traffic unit	Use of alternative drive technologies (electric vehicles)	By 2015		Planning to 2015: – Pallet loaders 20 percent – Baggage tractors (serial hybrid) 20 percent – Conveyor belts 100 percent
		Expansion of stationary 400-hertz ground power supply for aircraft to reduce emissions from their Auxiliary Power Units	By 2020		Up to now, 109 positions out of a total of 169 positions have been equipped with stationary ground power supply. All new positions added through expansion are equipped with 400-hertz ground power supply.
		Development of a monitoring system for CO ₂ emissions generated from passengers and employees traveling to and from the airport	By 2nd quarter 2011		The development of the monitoring system is currently in progress.
	Reduce aircraft emissions in the LTO cycle by approx. two to four percent depending on pollutant	Reduction of aircraft taxiing and waiting times before take-off	Starting 2011		The measure is being implemented by means of the planning tool A-CDM (Airport-Collaborative Decision Making). The procedure was transferred to routine operation in February 2011.
	Reduce CO ₂ emissions at Fraport AG resulting from electricity production by 100%	Acquisition of electricity by Fraport AG from renewable energy sources	2008 to 2013		Fraport AG exclusively purchases electrical energy from renewable sources (RECS certificates). Certificates have been obtained to 2013.
	Include third parties (external companies at Frankfurt Airport) to reduce CO ₂ emissions	Marketing of CO ₂ -neutral electricity from renewable resources	2010 until 2013		Marketing was carried out, low positive response.

Field of action	Goal	Measures	Deadline	Status	Explanations (Status May 2011)
Air pollutants and CO₂	Use of renewable energies	Use of geothermal energy at Frankfurt Airport	2010/2011		A feasibility study has been completed with positive results. The next step is the planning of an investigation program in 2011.
	Analyze and developing for operational and political action on climate change	Research project "Chamäleon": Adaptation to climate change in public utility companies	Since 4th quarter 2009		Project in progress.
	Reduce fine dust pollution by lift trucks (FCS)	Converting the lift trucks to low-abrasion tires (FCS)	By 4th quarter 2010		82 out of 85 vehicles have been re-equipped.
Transportation	Displace truck traffic to rail (FCS)	Introduction of a regular rail link between FRA and Leipzig for transporting freight (FCS)	From 3rd quarter 2008		The product could not be placed on the market.
	Reduce the number of employees using private transportation to get to work at Frankfurt Airport	Testing of the CARRIVA Carpool concept for employees at Frankfurt Airport	From 4th quarter 2008		The project was supported by Fraport AG and Deutsche Lufthansa AG. The Federal Ministry for Traffic, Construction and Urban Development promoted the pilot period until September 2009. Carriva Website (status: 17 June 2011) – Registered users: 1,118 – 33,600 l gasoline and hence a reduction of 75 tons of CO ₂
	Increase the share of passengers using public transport to 38.9% by the end of 2020 (according to the forecast for expansion, G 8 survey)	<ul style="list-style-type: none"> – Supporting German Rail (Deutsche Bahn AG, DB) and Lufthansa (LH) in a drive to improve the services in the transport chain (flight check-in at railway stations, integrated ticketing, establishment of a 45-minute minimum connecting time (MCT) between trains and flights at FRA site) – Lobbying – Steering committee with German Rail (DB) and Lufthansa (LH) for integration of air traffic in network and infrastructure planning of German Rail (DB) – Bus study (Rhein-Main-Verkehrsverbund, RMV, and other public transport networks) to improve bus links – Study on intermodal Frankfurt Airport Traffic hub FRA 2030 	2020		Goal 2010 achieved: 39.2% of the passengers used public transport. This area for action is being developed by setting a new goal in the Environment Program 2011 to 2014.
Energy	Reduce energy consumption and CO ₂ emissions	Upgrading of six central ventilation and air-conditioning installations at Terminal 1	2007 to 2013		Project is currently being implemented. Scheduled saving approx. 16,900 MWh per year. One central ventilation and air-conditioning installation has already been installed and is in operation.
		Upgrading of three central ventilation and air-conditioning installations at Terminal 1	2010 to 2013		Project is at planning stage.
		Investigation of energy-saving potentials in office and service buildings of Fraport AG	Ongoing until 2020		20 out of 60 buildings have been investigated. Up to now, 28 measures are being implemented in 13 buildings.
		Replacement of defective lighting with energy-saving lamps	Ongoing		In 2010, some 1,000 new energy-saving lamps were installed. About 106 MWh were saved each year. Replacement is progressed continuously.

Field of action	Goal	Measures	Deadline	Status	Explanations (Status May 2011)
Energy	Reduce energy consumption and CO ₂ emissions	Replacement of CRT screens (cathode ray tube) with new TFT flat screens	By 4th quarter 2011		Out of approx. 7,600 units, more than 95% have been replaced.
		Overnight shutdown of PCs and screens	By 4th quarter 2011		Measure has been postponed
		Providing truck terminals with LED lighting (light-emitting diode) (FCS)	By 2nd quarter 2011		The truck terminal was provided with LED lighting. Electricity savings of more than 100 MWh have been made since roll-out.
	Plan and realize new buildings with greater energy efficiency	Fire station 4	1st quarter 2011		The construction phase has been completed. Passive building certification verifying the attainable energy standard reference values has been obtained.
		A-Plus pier at Terminal 1	2012		Planning has been completed – realization of the pier is currently in progress. The primary energy requirement is 15% below the requirements for the Energy Savings Directive (EnEV).
		Administrative headquarters for the Fraport Group	2nd quarter 2012		Planning has been completed. Construction measures have been started. Planning and construction are carried out in conformity with the criteria defined by the German Sustainable Building Council (DGNB)
Noise	Establish greater transparency for aircraft noise	Upgrading the aircraft noise monitoring system with measuring stations that collect data from new or changed flight routes	Projected for 2011		Two new measuring stations have been installed in Hochheim and in Frankfurt-Lerchesberg.
		Annual calculation of aircraft noise contours in conformity with the regulations defined in the new Aircraft Noise Act together with presentation of the relevant figures for people affected.	Projected ongoing from 2010		The aircraft noise calculation has been carried out for the years 2007 to 2009. The data collection system for 2010 is currently being prepared. The calculations will be continued on an annual basis.
		Improvement of the user-friendliness and supplementing information provided on the Internet at "Infoservice Aircraft Noise"	From 2010		A concept for the revision and supplementation of existing information offers was created and this concept is currently being implemented.
	Participate in the development of active noise abatement measures	Assessment of the proposed active noise abatement measures based on technical feasibility, and capacity and security issues. Evaluation of the realistically achievable potential options for individual measures to achieve noise reduction and verification that they can be combined with other measures.	Since 2008		The expert group "Active Noise Abatement" of the Airport and Region Forum (FFR) with participation of Fraport AG presented the first package of measures and their noise abatement potential at the end of June 2010. The realization of measures, partly in trial operation, was commenced in 2011.
	Mitigate the ground noise	Installation of a noise impact reduction facility for the execution of engine test runs on the apron of the A 380 hangar.	Roll-out in 4th quarter 2010		The main construction work on the facility has been completed and it started operating in 2011.

Field of action	Goal	Measures	Deadline	Status	Explanations (Status May 2011)
Water	Reduce drinking water consumption in Terminal 1	Creation of a service water concept and further expansion of service water use in Terminal 1.	2nd quarter 2011		<p>134 out of 337 restroom facilities in Terminal 1 are supplied with service water.</p> <p>The service water supply for the buildings 205, 206 and 207 has been realized as a temporary measure and final upgrading will be completed by March 2012.</p> <p>The buildings 208 and 200 A and B-West are to be connected to the service water network by April 2012.</p>
Operating and process materials	Reduce use of aircraft deicing agents by increasing the amount of water per deiced aircraft by 20% (N*ICE)	Equipping 49 vehicles with NAD technology (N*ICE Advanced Deicing System) (N*ICE)	By winter 2014/2015		<p>In winter 2011/2012, 47 vehicles or 92% of the vehicle fleet were equipped with NAD technology.</p>
Organization	Promote environmental management at all Fraport Group locations	Support of Fraport subsidiaries and associated companies to set up an environmental management and to introduce an Environmental Management System at every Fraport Group location requiring this due to environmental aspects and concerns	Continuously until 2020		<p>The following companies directed by and connected to the Fraport Group have implemented Environmental Management Systems</p> <ul style="list-style-type: none"> – Lima Airport Partners S.R.L. – Fraport IC Ictas Antalya Airport Terminal Investment and Management Inc. – N*ICE Aircraft Services & Support GmbH – Fraport Cargo Services GmbH – Fraport Ground Services Austria GmbH. <p>The following minority holdings have been certified for environmental protection</p> <ul style="list-style-type: none"> – Flughafen Hannover-Langenhagen GmbH – Delhi International Airport Private Limited
Environmental communication	Inclusion of the stakeholders in the climate protection activities of Frankfurt AG at the Frankfurt Airport site	Foundation of an environmental protection board "climate protection" at Frankfurt Airport	3rd quarter 2009		<p>The environmental protection board "climate protection" was founded in 2010. Other measures are being implemented in climate protection activities.</p>

Environmental Program 2011 to 2014

The 2011 Environmental Program describes the most important goals and measures that Fraport AG, N*ICE and FCS have defined for Frankfurt Airport in the period between 2011 and 2014 and beyond, in the fields of action noise abatement, climate protection (see also Fraport Sustainability Report 2010), intermodality, nature conservation and protection of resources are also set out for organization, and research and development.

Field of action	Goal	Measures	Deadline
Noise abatement	Fraport makes a proactive contribution to relieving the burden of aircraft noise.	Strategic use of runways and routes (Dedicated Runway Operations, DROps).	2011 ff.
		Increasing approach glide angle to 3.2° with the instrument landing system (ILS) on the new north-west runway.	2011 ff.
		Fraport supports the measures for active noise abatement with its commitment in the Airport and Region Forum.	Ongoing
	Provide the latest information presented comprehensibly and tailored to demand on issues relating to noise	Improvement in user-friendliness and supplementation of information provided on the Internet in the menu item "Infoservice Fluglärm".	2012
Climate protection	Reduce CO ₂ emissions for each traffic unit (TU, one passenger or 100 kg of freight) by 30%, from 3.7 kg/TU in 2005 to 2.6 kg/TU in 2020 (Scopes 1 and 2 GHG Protocol Standard of Fraport AG).	Energetic optimization of existing buildings <ul style="list-style-type: none"> • Upgrading of central ventilation and air-conditioning installations at Terminal 1 • Investigation of energy-saving potentials in office and service buildings of Fraport AG • Installing LED lighting in a section of a cargo hall (FCS) 	2020
		Energy-optimized planning of new buildings: <ul style="list-style-type: none"> • Pier C • Terminal 3 • Office building 201 (core refurbishment) 	2013
			2012
	Avoidance of additional CO ₂ emissions by expansion project for Scopes 1 and 2 GHG Protocol Standard of Fraport AG	Establishment of CO ₂ monitoring.	2011
		Use of alternative drive technologies <ul style="list-style-type: none"> • Pallet loaders 20 percent • Baggage tractors (serial hybrid) 20 percent • Conveyor belts 100 percent 	2014 ff.
		Renewable energy generation <ul style="list-style-type: none"> • Investigation into use of geothermal energy at Frankfurt Airport. 	2013
Intermodality	Further develop the appeal of the link between the airport and public transport for passengers	Expansion of climate protection activities and CO ₂ reporting which are connected with the airport but not under the responsibility of Fraport, such as aircraft movements and travel by passengers and personnel to and from the airport.	2012
		Further development of the AirRail product in conjunction with airlines and German Rail (DB).	2014
		Improvement in the service quality and infrastructure.	2014
Air quality	Reduce emission of airborne pollutants from the operation of the airport	Cooperation on the electric bus link between Gateway Gardens and Terminal 1 and Terminal 2.	2010
		Procurement of 31 new vehicles in conformity with the EURO 5 exhaust standard (of which 18 vehicles by the end of 2011) (N*ICE).	Winter 2014/2015
	Recording direct and indirect airborne pollutants at Frankfurt Airport	Optimization of ground handling processes (saving fuel) by developing and deploying new software tools, in this case for baggage transport (project Astro-Luchs and Plandis).	2011
		Drawing up a concept and prototype for modeling emissions of airborne pollutants for infrastructure and ground handling.	2012

<i>Field of action</i>	<i>Goal</i>	<i>Measures</i>	<i>Deadline</i>
Nature conservation and protection of resources	<i>Reduce the consumption of drinking water in Terminal 1 by 15%</i>	<i>Further expansion of the use of service water in Terminal 1.</i>	<i>2012</i>
	<i>Reduce the deployment of aircraft deicing agents by increasing the percentage of water per deiced aircraft by 20% (N*ICE)</i>	<i>Equipping 49 vehicles with NAD technology (N*ICE Advanced Deicing System) (N*ICE).</i>	<i>2014 ff.</i>
Organization	<i>Promote environmental management at all Fraport Group sites</i>	<i>Support for Fraport subsidiaries to set up environmental management and to introduce an Environmental Management System at every Fraport Group location requiring this due to environmental aspects and concerns.</i>	<i>Ongoing</i>
Research and development	<i>Analyze and develop operational and political options for taking action on climate change</i>	<i>Support for the noise impact study carried out by the Environment & Community Center (UNH).</i>	<i>2014</i>
		<i>Support for noise monitoring by the Environment & Community Center.</i>	<i>Ongoing</i>
		<i>Carrying out a research project "Chamäleon" together with the University of Oldenburg and the Institute for Ecological Business Research: Adaptation to climate change in public utility companies.</i>	<i>2014</i>

Accounting principles for the environmental situation at Frankfurt Airport

Aspects with the relevant EN numbers in conformity with the Global Reporting Initiative (GRI):
performance indicators environment

Traffic volume	Unit	Comment	2008	2009	2010
Frankfurt Airport					
Traffic unit (without transit takeoff)	Number of traffic units	1, 2	74,350,444	69,497,660	75,465,534
Aircraft movements (landing + takeoff)	Number of movements		485,783	463,111	464,432
Therein at night	Number of movements	3	48,523	43,228	45,868
Passengers	Number of passengers		53,472,915	50,937,897	53,013,771
Cargo weight	t		2,133,302	1,917,228	2,307,793
Airfreight	t		2,042,956	1,837,054	2,231,348
Airmail	t		90,346	80,174	76,445
therein FCS					
Cargo weight					
Airfreight	t		358,358	412,420	558,079
Traffic units	Number of traffic units		3,583,580	4,124,200	5,580,790
therein N*ICE					
Deiced aircraft	number	4	4,799	6,817	16,602

¹ A traffic unit is equivalent to a passenger or 100 kg airfreight or airmail.

² Commercial and non-commercial traffic.

³ Nighttime: 10 p.m. to 6 a.m.

⁴ Weather-dependent, the winter 2009/2010 was very snowy and very cold.

Employees	Unit	Comment	2008	2009	2010
Fraport AG	Number		12,363	12,083	11,967
FCS	Number		232	226	300
N*ICE	Number		11	14	17

Aspect: Materials					
EN1 Materials used by weight or volume					
(core indicator)	Unit	Comment	2008	2009	2010
Fraport AG					
Operating Materials and supplies		1			
Airfields surfaces deicing agents					
Potassium formate	m ³	2, 3	1,085	3,271	3,307
Hazardous materials	t	4, 5	83	89	86
N*ICE					
Aircraft deicing agent					
propylene glycol	m ³ active substance	5	943	1,215	4,479
Aircraft deicing agent	m ³ active				
propylene glycol per deiced aircraft	substance per aircraft	6	0.196	0.178	0.270

¹ Fraport as an airport operator is a service provider, the product is the "traffic unit", defined as a passenger with baggage or 100 kg of air-cargo. Other materials used can be found under "Direct energy consumption" and "Water".

² The quantities are specified for the relevant winter. The winter is generally attributed to the following calendar year, for example 2009/2010 to the year 2010.

³ No dangerous goods.

⁴ These are the hazardous materials that were supplied as dangerous goods and consumed by Fraport AG (excluding fuel).

⁵ Rise is weather-dependent, winter 2009/2010 was substantially colder and more snowy than the winter before.

⁶ Rise is weather-dependent, very heavy falls of snow often require more deicing agent for each aircraft (deicing several times).

Aspect: Energy					
EN3 Direct energy consumption					
(core indicator)	Unit	Comment	2008	2009	2010
Frankfurt Airport					
Purchased direct non-renewable energy sources	TJ	1, 2, 5	733.2	733.1	821.2
Purchased direct non-renewable energy sources	TJ per mill TU	1, 2, 3, 5	9.9	10.5	10.9
Natural gas	TJ	2, 5	67.5	71.0	80.9
Natural gas	Mill kWh	2, 5	18.754	19.730	22.464
Liquid gas (LPG)	TJ	2, 6	0.02	0.01	0.02
Liquid gas (LPG)	m ³	2, 6	437	352	441
Biogas	TJ	2, 5	0.2	0.2	0.2
Biogas	m ³	2, 6	5,639	5,678	5,678
Heating oil	TJ	2	69.3	69.0	91.8
Heating oil	Mill liters	2	1,920	1,911	2,544
Diesel	TJ	2	563.7	558.6	610.7
Diesel	Mill liters	2	15.834	15.692	17.154
Gasoline	TJ	2	32.5	33.9	34.8
Gasoline	Mill liters	2	1.003	1.047	1.075
Kerosine (Jet A1)	TJ		0	0.29	2.83
Kerosine (Jet A1)	Mill liters		0	0.008	0.081
therein Fraport AG					
Purchased direct non-renewable energy sources	TJ	2	457.6	453.1	512.7
Purchased direct non-renewable energy sources	TJ per mill TU	2, 3	6.2	6.5	6.8
Natural gas	TJ	2	8.6	8.2	8.4
Natural gas	Mill kWh	2	2.377	2.278	2.339
Liquid gas (LPG)	TJ	2	0.02	0.01	0.02
Liquid gas (LPG)	m ³	2	437	352	441
Biogas	TJ	2	0.2	0.2	0.2
Biogas	m ³	2	5.639	5.678	5.678

Aspect: Energy					
EN3 Direct energy consumption					
(core indicator) (continuance)	Unit	Comment	2008	2009	2010
therein Fraport AG (continuance)					
Heating oil	TJ	2	62.2	62.7	85.8
Heating oil	Mill liters	2	1.722	1.737	2.377
Diesel	TJ	2, 4	369.4	363.0	395.5
Diesel	Mill liters	2, 4	10.375	10.196	11.109
Gasoline	TJ	2, 4	17.4	18.7	20.2
Gasoline	Mill liters	2, 4	0.536	0.578	0.625
Kerosine (Jet A1)	TJ		0	0.25	2.56
Kerosine (Jet A1)	Mill liters		0	0.007	0.074
Total energy consumption:					
Renewables energy sources	%		0	0	0
Non-renewable energy sources	%		100	100	100
therein FCS					
Purchased direct non-renewable energy sources					
	TJ		5.4	5.4	6.1
Diesel	TJ		5.3	5.2	6.0
Diesel	Mill liters		0.148	0.146	0.168
Gasoline	TJ		0.1	0.2	0.1
Gasoline	Mill liters		0.003	0.006	0.003
Total energy consumption:					
Renewables energy sources	%		0	0	0
Non-renewable energy sources	%		100	100	100
therein N*ICE					
Purchased direct non-renewable energy sources					
	TJ		6.9	8.5	21.5
Diesel	TJ		6.9	8.5	21.5
Diesel	Mill liters	7	0.193	0.239	0.603
Total energy consumption:					
	TJ				
Renewables energy sources	%		0	0	0
Non-renewable energy sources	%		100	100	100

¹ All companies on the composite owned land of Frankfurt Airport: Fraport AG, subsidiaries of Fraport AG, more than 500 third parties.

² All data including technical losses.

³ TU = A traffic unit is equivalent to one passenger with baggage or 100 kg of air cargo or airmail.

⁴ Fuel consumption for mobile ground support equipment and automobiles on the apron and roadways at the airport.

⁵ Consumption data for third parties incomplete, because no information is available on some incineration plants.

⁶ Value of Fraport AG, values of the more than 500 third parties at Frankfurt Airport not known, because delivery not by Fraport AG.

⁷ 144% more aircraft were deiced in the winter 2009/2010 than in the winter 2008/2009.

EN4 Indirect energy consumption					
(core indicator)	Unit	Comment	2008	2009	2010
Frankfurt Airport					
		1			
Purchased energy	TJ	2	3,841.5	3,843.6	4,082.4
Purchased energy	TJ per Mill. TU	2, 3	51.7	55.3	54.1
Electricity	TJ	2	2,077.8	2,046.6	2,116.7
Electricity	Mill kWh	2	577.154	568.510	587.980
District heating	TJ	2	1,345.9	1,365.1	1,517.6
District heating	Mill kWh	2	373.860	379.183	421.565

EN4 Indirect energy consumption					
(core indicator) (continuance)	Unit	Comment	2008	2009	2010
Frankfurt Airport (continuance)					
		1			
District cooling	TJ	2	417.8	431.9	448.0
District cooling	Mill kWh	2	116.064	119.972	124.453
<i>Indirect energy consumption</i>					
Renewables energy sources	%		24.0%	25.0%	19.0%
Non-renewable energy sources	%		76.0%	75.0%	81.0%
therein Fraport AG					
Purchased energy	TJ	2, 5	2,248.4	2,304.9	2,509.8
Purchased energy	TJ per Mill TU	2, 3, 5	30.2	33.2	33.3
Electricity	TJ	2, 5, 6	1,137.1	1,179.7	1,226.4
Electricity	Mill kWh	2, 5, 6	315.854	327.694	340.660
District heating	TJ	2, 5	711.8	719.9	852.2
District heating	Mill kWh	2, 5	197.726	199.966	236.723
District cooling	TJ	2, 5	399.5	405.3	431.2
District cooling	Mill kWh	2, 5	111.052	112.674	119.773
<i>Indirect energy consumption</i>					
Renewables energy sources	%		24.0%	25.0%	19.0%
Non-renewable energy sources	%	4	76.0%	75.0%	81.0%
therein FCS					
Purchased energy	TJ		34.0	36.5	41.1
Electricity	TJ		13.9	16.7	15.6
Electricity	Mill kWh		3.866	4.643	4.345
District heating	TJ		20.1	19.8	25.4
District heating	Mill kWh		5.583	5.496	7.067
<i>Indirect energy consumption</i>					
Renewables energy sources	%		24.0%	25.0%	19.0%
Non-renewable energy sources	%		76.0%	75.0%	81.0%
therein N*ICE					
Purchased energy	TJ		1.69	1.70	2.15
Electricity	TJ		1.27	1.31	1.57
Electricity	Mill kWh		0.353	0.365	0.436
District heating	TJ		0.42	0.39	0.58
District heating	Mill kWh		0.116	0.108	0.160
<i>Indirect energy consumption</i>					
Renewables energy sources	%		24.0%	25.0%	19.0%
Non-renewable energy sources	%		76.0%	75.0%	81.0%

¹ All companies on the composite owned land of Frankfurt Airport: Fraport AG, subsidiaries of Fraport AG, more than 500 third parties.

² All data including technical losses.

³ TU = A traffic unit is equivalent to one passenger with baggage or 100 kg of air cargo or airmail.

⁴ RECS certificates ("Renewable Energy Certificates System") from hydropower were purchased for the appropriate quantity of CO₂ emissions.

⁵ The values for 2010 are different from those in the Sustainability Report. The data have been updated.

⁶ The values for 2009 are different from those in the Sustainability Report. The data have been updated.

ENS Energy saved due to conservation and efficiency improvements (add indicator)					
	Unit	Comment	2008	2009	2010
Fraport AG					
	Mill kWh	1, 2	0	0.567	0.518

¹ Based on the year 2008, accumulated effects from the year 2008, to the extent effective in subsequent years.

² Calculation of energy which could be saved for reasons of improved procedures, replacement and upgrading of systems and equipment, and modified employee behavior.

Aspect: Water					
EN8 Total water consumption (core indicator)					
	Unit	Comment	2008	2009	2010
Frankfurt Airport					
		1			
Total water consumption	Mill m ³		1.772	1.541	1.779
Total water consumption	Liters per TU	2	23.8	22.2	23.6
Drinking water	Mill m ³		1.581	1.336	1.460
Service water	Mill m ³		0.191	0.205	0.319
therein Fraport AG					
Total water consumption	Mill m ³	3	1.444	1.000	1.184
Total water consumption	Liters per TU	2	15.4	14.4	15.7
Drinking water	Mill m ³	4	0.988	0.833	0.905
Service water	Mill m ³		0.156	0.167	0.279
therein FCS					
Total water consumption	Mill m ³		0.007	0.009	0.008
Drinking water	Mill m ³		0.007	0.009	0.008
Service water	m ³		n/a	n/a	n/a
therein N*ICE					
Total water consumption	Mill m ³	5	0.005	0.005	0.015
Drinking water	Mill m ³	5	0.005	0.005	0.015
Service water	Mill m ³		n/a	n/a	n/a

¹ All companies on the composite owned land of Frankfurt Airport: Fraport AG, subsidiaries of Fraport AG, more than 500 third parties.

² TU = A traffic unit is equivalent to one passenger with baggage or 100 kg of aircargo or airmail.

³ Increase due to construction activities.

⁴ From community water supply.

⁵ In 2010, 59% more aircraft were deiced. Water is used to dilute the aircraft deicing agent. The winter 2009/2010 was colder with heavier snow than winters in previous years.

Aspect: Biodiversity					
Land use	Unit	Comment	2008	2009	2010
Frankfurt Airport					
Owned land by Fraport AG	ha	1	1906.6	1906.6	1913.8
of which paved area	ha		n/a	891.5	891.3

¹ Continuous owned land.

Aspect: Emissions, wastewater, and waste					
EN16 Greenhouse gas emissions					
(core indicator)	Unit	Comment	2008	2009	2010
Fraport AG (Scope 1 and 2 GHG)					
CO ₂ emissions	1,000 t CO ₂	1, 2, 6, 7	212.5	234.2	229.6
direct CO ₂ emissions	1,000 t CO ₂	1	34.4	33.9	38.5
indirect CO ₂ emissions	1,000 t CO ₂	2, 6	178.1	200.3	191.2
Climate intensity of traffic performance	kg CO ₂ per TU	1, 2, 3, 6	2.86	3.37	3.04
direct CO ₂ emissions	kg CO ₂ per TU	1, 3	0.46	0.49	0.51
indirect CO ₂ emissions	kg CO ₂ per TU	2, 3, 6	2.40	2.88	2.53
compensated CO ₂ emissions (certificates)	1,000 t CO ₂	4	133.2	133.2	144.1
Other relevant greenhouse gas emissions	t CO ₂ equivalent	5	<2	<2	<2
FCS (Scope 1 and 2 GHG)					
CO ₂ emissions	1,000 t CO ₂	7	2.9	3.4	3.5
direct CO ₂ emissions	1,000 t CO ₂	1	0.4	0.4	0.6
indirect CO ₂ emissions	1,000 t CO ₂	2	2.5	3.0	3.0
N*ICE (Scope 1 and 2 GHG)					
CO ₂ emissions	1,000 t CO ₂		0.7	0.8	1.8
direct CO ₂ emissions	1,000 t CO ₂	1	0.5	0.6	1.6
indirect CO ₂ emissions	1,000 t CO ₂	2	0.2	0.2	0.2

¹ Direct emissions in conformity with Scope 1 GHG Protocol Standard: fuels, fuels for combustion plants, here heating oil, natural gas, propane gas.

² Indirect emissions in conformity with Scope 2 GHG Protocol Standard: sourcing of electricity, district heating, district cooling.

³ TU = A traffic unit is equivalent to one passenger with baggage or 100 kg of air cargo or airmail.

⁴ Compensation for emissions resulting from electricity production through RECS certificates (www.recs.org).

⁵ Only negligible amounts of additional greenhouse gases (such as CH₄, N₂O) are under the influence of Fraport AG.

⁶ The values for 2010 are different from those in the Sustainability Report. The data have been updated.

⁷ The values for 2010 are different from those in the Sustainability Report 2010.

EN17 Other relevant indirect greenhouse gas emissions					
(core indicator)	Unit	Comment	2008	2009	2010
Fraport AG (Scope 3 GHG)					
Air traffic	1,000 t CO ₂	1	902.3	863.5	895.8
Employee traffic at Fraport AG and third parties at Frankfurt Airport	1,000 t CO ₂	2	116.2	125.5	122.3
Passenger traffic (passengers originated here)	1,000 t CO ₂	3	262.5	241.8	272.7
Business trips of employees of Fraport AG	1,000 t CO ₂	4, 7	1.00	0.90	0.95
Energy consumption of third parties (infrastructure and vehicles)	1,000 t CO ₂	5, 8	159.8	162.7	158.7
Other relevant greenhouse gas emissions	t CO ₂ equivalent	6	<2	<2	<2

¹ Air traffic up to 914 m (LTO cycle) of all aircraft landing and taking off at Frankfurt Airport.

² Travel by employees to and from the workplace.

³ Travel to and from the airport by passengers, travel in private vehicles and public transport.

⁴ Includes cars, rail and air travel.

⁵ Electricity, heat, cooling, fuels.

⁶ After investigations were carried out in 2005, the emissions of other greenhouse gases at the airport were negligible.

⁷ The values for 2010 are different from those in the Sustainability Report 2010. The data have been updated because the emission data for Lufthansa in 2010 were only available after publication of the Sustainability Report 2010.

⁸ The values are different from those in the sustainability report. The data have been updated.

EN20 NO_x, SO_x, and other significant air emissions					
(core indicator)	Unit	Comment	2008	2009	2010
Air traffic at Frankfurt Airport					
		1			
NO _x	t	2	2,381	2,320	2,423
HC	t	2	623	578	595
PM10	t	2	11.4	11.0	11
SO ₂	t	2	159.0	152.5	159.5
NO _x	g per TU	2, 3	31.83	33.09	32.11
HC	g per TU	2, 3	8.32	8.24	7.88
PM10	g per TU	2, 3	0.15	0.16	0.15
SO ₂	g per TU	2, 3	2.13	2.18	2.11

¹ Caused by 110 to 114 different airlines depending on flight timetable (summer, winter), only indirectly influencable by Fraport.

² Air traffic: emissions in tons per calendar year up to an altitude of 300 meter (taxiing, starting, climb, descent incl. rollout, engine ignition, APU). Up to an altitude of 300 meter the emissions are regional effectual.

³ TU = A traffic unit is equivalent to a passenger with baggage or 100 kg of airfreight or airmail.

EN20 NO₂, SO₂, and other significant air pollutants					
(core indicator)	Unit	Comment	2008	2009	2010
At Frankfurt Airport					
NO ₂	µg/m ³	1, 3	49	45	45
SO ₂	µg/m ³	1, 3	5	5	3
PM10 (Fine dust < 10 µm)	µg/m ³	1	21	22	26
Benzene	µg/m ³	1, 2	0.9	1.0	0.8

¹ Annual average of the measured values at the SOMMI1 Station. These values present the aggregated result of all emissions from different source groups, i.e. apart from pollutants contributed by the airport they also include emissions from third parties (road traffic, trade and industry, domestic fuel, fires, large-scale background pollution). The proportion of the airport depends on the location, and model calculations indicate that the proportion here is between approx. 10% and 30% depending on the component.

² Value from the year 2009 on account of small size of database only for orientation.

³ The values for 2010 are different from those in the Sustainability Report 2010. The data were updated.

EN21 Total wastewater discharge					
(core indicator)	Unit	Comment	2008	2009	2010
Frankfurt Airport					
Sewage water	Mill m ³	1, 2	1.548	1.351	1.5903
Sewage water	Liters per TU	1, 3	20.8	19.4	21.1

¹ Sewage water from Fraport AG and from 580 other companies at Frankfurt Airport. The disposal of sewage water from Frankfurt Airport is carried out by Fraport AG, allocation to individual companies is not possible.

² Sewage water is treated in the fully biological water treatment plant at Fraport AG (12%) and fully biological community water treatment plants in Frankfurt-Niederrad (75%) and Frankfurt-Sindlingen (13%).

³ TU = A traffic unit is equivalent to one passenger with baggage or 100 kg of aircargo or airmail.

EN22 Waste by type and disposal method					
(core indicator)	Unit	Comment	2008	2009	2010
Fraport AG					
Amount of waste	1,000 t	1, 2, 3	24.11	22.27	23.54
Hazardous waste	1,000 t	1, 2	1.97	1.24	1.78
Non-hazardous waste	1,000 t	1, 2	22.15	21.02	21.76
Total recycling	1,000 t	1, 2	20.02	19.04	19.83
Total disposal	1,000 t	1, 2	4.09	3.23	3.71
Total recycling rate	% of amount of waste	1, 2	83.0	85.5	84.3
FCS					
Amount of waste	1,000 t	1	0.77	0.85	1.15
Hazardous waste	t	1	0.163	0.005	2.523
Non-hazardous waste	1,000 t	1	0.77	0.85	1.15
Total recycling	1,000 t	1	0.77	0.85	1.15
Total disposal	t	1	0.163	0.005	2.523
Total recycling rate	% of amount of waste	1	100	100	100
N*ICE					
Amount of waste	1,000 t	1	0.07	0.05	0.08
Hazardous waste	1,000 t	1	0	0	0
Non-hazardous waste	1,000 t	1	0.07	0.05	0.08
Total recycling	1,000 t	1	0.07	0.05	0.08
Total disposal	1,000 t	1	0	0	0
Total recycling rate	% of amount of waste	1	100	100	100

¹ Without soil and building rubble.

² Including waste from third parties, primarily residual waste out of aircraft (no catering waste).

EN23 Significant spills					
(core indicator)	Unit	Comment	2008	2009	2010
Fraport AG					
Total number and volume of significant spills					
Number of spills	Number		566	483	482
Volume of spills	m ³		11.00	11.60	10.33
Frequency of spills	Number per 1,000 aircraft movements		1.17	1.04	1.04
Effects		2	none	none	none

¹ Spills primarily by third parties.

² No environmental hazard because releases are generally on surfaced areas with comprehensive safety installations implemented downstream. Spills on unsurfaced areas are very rare exceptions, and are cleared up immediately.

Groundwater improvement	Unit	Comment	2008	2009	2010
Frankfurt Airport					
Nitrate content at reference measuring station well FB5					
	mg/l		69	61	56

Aspect: Aircraft noise					
EN29 Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce					
(add indicator)	Unit	Comment	2008	2009	2010
Surrounding area of Frankfurt Airport					
Approach		7			
Monitoring station 01					
Offenbach Lauterborn Day	Leq(3) in dB(A)	1, 2	60	59	60
Monitoring station 01					
Offenbach Lauterborn Night	Leq(3) in dB(A)	1, 3	54	54	54
Monitoring station 06 Raunheim Day	Leq(3) in dB(A)	1, 2	62	62	61
Monitoring station 06 Raunheim Night	Leq(3) in dB(A)	1, 3	57	56q	55
Take off		7			
Monitoring station 12					
Bad Weilbach Day	Leq(3) in dB(A)	1, 2	60	59	60
Monitoring station 12					
Bad Weilbach Night	Leq(3) in dB(A)	1, 3	48	47	49
Monitoring station 51 Worfelden Day	Leq(3) in dB(A)	1, 2	57	56	56
Monitoring station 51 Worfelden Night	Leq(3) in dB(A)	1, 3	53	53	53
Frequency of the exceedance of the maximum level of 72 dB(A) per night		3, 7			
Monitoring station 01					
Offenbach Lauterborn	Number of exceedances	4	8.4	7.6	9.3
Monitoring station 06 Raunheim	Number of exceedances	4	18.8	15.4	12.5
Monitoring station 12 Bad Weilbach	Number of exceedances	4	2.4	1.8	3.3
Monitoring station 51 Worfelden	Number of exceedances	4	5.2	6.0	6.2
Share of western operations Day	Share in %	2, 5, 6	68	68	75
Share of western operations Night	Share in %	3, 5, 6	70	72	79

¹ Energy equivalent continuous sound level [Leq(3) in dB(A)] based on the German Aircraft Noise Act in conformity with DIN 45643.

Leq(3) is calculated during the six busiest months from May until October based on the German Aircraft Noise Act, segmented in day and night.

Leq(4) is not calculated anymore since the introduction of the new German Aircraft Noise Act. Changes to the monitoring stations on the approach and takeoff routes of the parallel runway system are mainly based on the fluctuations in the distribution of operations (east/west) from year to year caused by different weather conditions or wind directions. The website www.fraport.de provides detailed information.

² Daytime: 6:00 – 22:00.

³ Nighttime: 22:00 – 6:00.

⁴ During the six busiest months.

⁵ From the parallel runway system with takeoff toward the west, approach from the east.

⁶ Share of eastern operations: difference from share of western operations in % to 100%.

⁷ Selected characteristic noise monitoring stations from a monitoring network with 26 fixed measuring stations. All 26 measuring stations are shown graphically in the environmental aspect aircraft noise.

Aspect: Transport					
EN29 Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce					
(add indicator)	Unit	Comment	2008	2009	2010
Fraport AG					
<i>Employee traffic</i>					
Travel to and from work					
by public transport	Share of employees in %	1	42.9	31.2	31.0
Travel to and from work					
by carpooling	Share of employees in %	1	11.0	14.3	15.5
<i>Passenger traffic Frankfurt Airport</i>					
Travel of originated passengers					
to and from the airport	Share of passengers				
by public transport	volume in %	1	36.4	37.4	39.2
Therein arrival/departure by ICE	Share of passengers				
(Intercity Express)	volume in %	1	18.8	18.7	19.9

¹ The values are based on a survey.

Glossary

ACARE Advisory Council for Aeronautics Research in Europe – The Council has delegates from the EUR member states, the EU Commission, EUROCONTROL, the aerospace industry and research establishments in the EU, as well as representatives from airports, airlines, regulatory authorities, and universities. The goal is to establish and implement a Strategic Research Agenda (SRA) for the aeronautics industry. www.acare4europe.org

ACI Airports Council International – International association of airports based in Geneva, Switzerland. The organization attempts to boost cooperation between airports, and represents their interests in international forums or in negotiations with governments. It has more than 1,530 member airports located in almost all countries worldwide, 400 airports are within ACI Europe. www.aci-europe.org

ADV Arbeitsgemeinschaft Deutscher Verkehrsflughäfen – German Airports Association. An association for civil aviation in Germany, founded in Stuttgart in 1947. This association today represents airports in Germany, Austria, and Switzerland. www.adv.aero

Airport charges – Regulate the airport, infrastructure and ground-service charges that the airlines pay to the airport. Fraport airport charges have a component dependent on noise and emissions.

Aircraft movement – A take-off or a landing.

Aircraft noise monitoring system/Aircraft noise measurement system of Fraport AG at Frankfurt Airport – The measuring and monitoring system was launched in 1964 and has been continuously improved since then. Apart from recording the aircraft noise situation at each monitoring station, the system is also used for acoustic monitoring of specified flight routes and flight procedures.

APU Auxiliary Power Unit – The power supply unit on board an aircraft that is used to provide electricity for the power supply and air-conditioning on the ground.

Biodiversity – The variety of all life on earth. Science distinguishes four aspects of diversity: genetic diversity, species diversity, diversity of ecosystems (e.g. the variation in habitats), and functional biodiversity (i.e. the variation in biological interactions).

CDP Carbon Disclosure Project – Initiative that wants to introduce more transparency for the CO₂ emissions generated by major companies. This is the world's biggest initiative ever undertaken by the finance industry. It assesses the effects of global climate change on companies and analyzes their strategies. Fraport has been participating since 2006.

Chapter 4 aircraft – Aircraft which currently comply with the most stringent noise protection category – the chapter 4 noise standard. The Environmental Committee (CAEP) of the ICAO agreed on this in September 2001. This standard specifies that from 2006 all newly certified aircraft must go 10 decibels or more below the previously valid chapter 3 noise limits, accumulated over the defined measuring points. The noise limit values for aircraft were defined

by the ICAO in Annex 16 of the Agreement on International Civil Aviation.

Dangerous goods – Materials, compounds and objects which contain substances that present specific hazards during transportation for safety or order of the community, in particular for the general public, important common assets, life and health of humans and animals, and other items on account of their characteristics, their physical or chemical properties, or their status, and which should be classified as dangerous goods on the basis of legal regulations.

Decibel (A); dB(A) – Named after Alexander Graham Bell, the inventor of the telephone, the decibel defines sound pressure levels logarithmically. The sound pressure level characterizes the pressure ratio of a sound event to the human auditory threshold. dB(A) means that the frequency dependence of the human sense of hearing is taken account of during measurement by applying a filter. The sound pressure level defined as A has proved effective and has now been standardized internationally. An increase of ten dB corresponds to a tenfold increase in sound intensity. A difference of 10 dB is equivalent to halving or doubling the perceived volume.

DFS Deutsche Flugsicherung GmbH – German Air Traffic Control. Its functions are regulated in accordance with the German Air Traffic Control Act (Luftverkehrsgesetz). They mainly comprise air-traffic control and acceptance, processing, and forwarding of flight plans. The DFS is also responsible for the technical facilities and radio navigation systems for aircraft. The DFS has joined forces with airports, airline companies and the aircraft noise commission to establish air-safety procedures and measures to reduce aircraft noise. www.dfs.de

DGNB – See German Sustainable Building Council.

EMAS European Eco-Management and Audit Scheme – A voluntary environmental instrument for companies and organizations with the goal of continuously reducing environmental impacts. EMAS organizations verifiably comply with the legal regulations relevant to the environment, maintain a management and auditing system which allows them to continuously reduce environmental impacts, and periodically draw up an Environmental Statement which places achievements in environmental protection in the public domain. The Environmental Statement presents the environmental footprint for the organization. It is therefore audited by an environmental auditor and confirmed if it fulfills EMAS requirements. EMAS therefore represents performance, credibility and transparency.

Emissions – All (solid, gaseous, or odorous) substances, wave radiation or particle radiation emitted from systems and plants, vehicles, products, materials, or other sources (for example aircraft) which exert an impact on the surrounding environment.

Energy equivalent continuous sound level Leq(3) – The sound level which a steady continuous noise would need to have in order to supply the same sound energy as the different individual noises actually occurring during a defined time period. The Leq(3) is a standard international noise measurement with the halving para-

meter $q = 3$. The halving parameter $q = 3$ effectively means that if the aircraft mix remains identical and the number of planes flying past a monitoring station doubles, the continuous sound level increases by 3 dB. If the number of aircraft movements halves, the continuous sound level comes down by 3 dB. Pursuant to the German Aircraft Noise Act (Fluglärmsgesetz) ratified in 2007, the continuous sound levels $Leq(3)$ should be calculated separately for day and night in the six months of a year with the highest traffic volumes.

EnEV Energie-Einspar-Verordnung – The German Energy Saving Directive is part of German building legislation and defines standards for property developers relating to energy-saving heat insulation and energy-saving system technology in buildings.

Environment & Community Center – Institution of the “Airport and Region Forum” dedicated to providing transparent and neutral information. The institution’s key aim is to continuously improve cooperation between the airport, its users and its neighbors. It also has the functions of bringing together the results derived from monitoring different aspects of environmental protection and providing neutral expert advice.

Environmental auditor – natural or legal person who is granted the right under the German Environmental Audit Law (Umwelt-auditgesetz) to confirm that organizations (industrial companies, service companies, or other institutions) are in conformity with the requirements of the European Eco-Management and Audit Scheme (EMAS). Environmental auditors/organizations are subject to a special authorization procedure.

Environmental performance – the quantifiable results derived from the management of the environmental aspects of an organization by this organization.

Environmental Statement – According to EMAS, an Environmental Statement must be drawn up regularly and placed in the public domain. This statement describes the organization together with its activities, products and services. The in-house Environmental Policy, the key environmental effects, and the Environmental Program are presented together with the concrete goals for improving operational environmental protection. Data on environmental performance is also provided with an assessment. Each Environmental Statement must be verified by an independent, nationally accredited environmental auditor. If it meets the requirements of the EMAS Directive, the environmental auditor declares that the Environmental Statement is valid (validation). The Environmental Statement is made available to the public as a printed document or in electronic form.

ETS Emission Trading Scheme – An instrument of the European Union (EU) that is intended to contribute to reducing the emission of greenhouse gases in the EU efficiently, cost-effectively and economically.

EUROCONTROL – Established in 1960 with the goal of providing air traffic control for all international flights in the airspace of the

member states. The organization also levies the charges for air traffic control and makes an important contribution to training and research into air traffic control. Eurocontrol currently involves 39 member states and the European Union.

FCS Fraport Cargo Services GmbH – The company is the biggest neutral cargo handler at Frankfurt Airport and offers comprehensive full-service packages for cargo handling and complete handling for special freight: dangerous goods, express freight, perishables, animals, valuable freight, etc.

FRA – International three-letter code for Frankfurt Airport.

Geothermy – Use of geothermal power (natural heat of the earth) to generate energy

German Sustainable Building Council – Deutsche Gesellschaft für Nachhaltiges Bauen (DGNB). The mission of this council is to develop and promote initiatives and solutions for sustainable construction, use and planning of buildings.

GHG – Greenhouse Gas Protocol Initiative (GHG Protocol) develops internationally recognized reporting standards for greenhouse gas emissions generated by companies. The emissions are classified into three so-called “Scopes” on the basis of their origin. Scope 1: Emissions that are generated and controlled directly as part of the business activity of the company (e.g. by the combustion of fuel in company vehicles). Scope 2: Emissions that are generated indirectly by third parties for the company (e.g. electricity generated by utility companies). Scope 3: Indirect emissions that are outside the direct control of the company but are generated because they play an important role in the business activities of the company (e.g. travel by passengers to and from the airport).

GRI – Global Reporting Initiative, engages in a participative procedure to develop guidelines for drawing up sustainability reports by major companies, small and mid-sized companies, governments and non-government organizations.

Hazardous materials – Operating materials that possess hazardous characteristics or may release hazardous substances, for example at the workplace.

HLUG – Hessisches Landesamt für Umwelt und Geologie – Hessian Agency for the Environment and Geology.

IATA International Air Transport Association.
www.iataonline.com

ICAO International Civil Aviation Organization – A special body of the United Nations. It is charged with establishing uniform standards for international aviation safety, security, continuity and efficiency, and developing them on an ongoing basis.
www.icao.int

ICAO International Civil Aviation Organization, Annex 16 – The ICAO has been issuing a standard for limiting the sound

emitted by civil aircraft since 1971: Annex 16 to the Agreement on International Civil Aviation. When aircraft are newly licensed, proof must be provided that they are in conformity with the latest requirements defined in the Annex.

Impacts – Effects of noises (sound or noise emissions), airborne pollutants (air emissions), vibrations (vibration emissions) and heat (heat emissions) on the environment.

Indirect dischargers – Wastewater dischargers who do not discharge their wastewater directly into the waterways, but through public drains and sewage plants.

Intermodality – Combined goods transportation, combination of individual and public passenger carriers (park-and-ride, park-and-rail, bike-and-ride) or the use of public transport, particularly high-speed rail transport as a feeder shuttle for air transport.

IPCC Intergovernmental Panel on Climate Change – The inter-governmental UN panel of experts was set up to carry out research into climate change in 1988 by the World Meteorological Organization (WMO) and the environment program of the United Nations. www.ipcc.ch

ISO International Organization for Standardization.

ISO 14001 – This international environmental management standard defines globally recognized standards for environmental management. It allows companies to establish environmental protection systematically within their internal structures. www.iso.org

Kyoto Protocol – The agreement defines binding targets for reducing the emission of greenhouse gases. It was adopted in 1997 as an additional agreement linked to the United Nations Framework Convention on Climate Change (UNFCCC) and came into force in February 2005. The agreement expires in 2012.

Long-distance train station – opened in 1999. This provides the direct link between Frankfurt Airport and the high-speed European rail network. It represents a key factor for the ongoing development of the airport's intermodality, i.e. networking different transport systems. Frankfurt Airport has a second station under Terminal 1 – the regional station – for the commuter trains (S-Bahn) and regional trains.

N*ICE Aircraft Services & Support GmbH – The subsidiary company of Fraport AG and Serviceair SAS is a specialist in deicing aircraft. The company has developed innovative procedures exerting minimum impact on the environment. It also provides training for technical personnel at other airports.

Operational direction – The operational direction of an airport depends on the prevailing direction of the wind: aircraft only take off and land against the wind. Frankfurt Airport has the operational directions 25 (this corresponds to 250 degrees on the compass rose, i.e. west wind) and 07 (east wind). Because winds in a westerly direction occur for 75 percent of the time, the operational direction 25 is flown correspondingly more frequently.

PCA – Pre-Conditioned Air System is an air-conditioning system for aircraft in the parked position achieved by supply of air-conditioning air.

Population equivalent – Unit for comparing trade or industrial sewage water with household sewage water. A population equivalent represents the biochemical oxygen consumption (measured as the BOD or Biochemical Oxygen Demand, 60 g BSB5/Ed) or water consumption (200 l/Ed) that an inhabitant requires each day.

RECS – Renewable Energy Certificate System introduced in 2002 with the objective of facilitating trade in green electricity throughout Europe and promoting regenerative energies. The certificate issued by RECS guarantees that identifiable amounts of electrical energy are supplied from specific regenerative sources.

SES Single European Sky – Uniform European airspace. The initiative by the European Union will optimize traffic flows, standardize flight controllers' licenses, harmonize technology, and hence maintain safety, capacity, and punctuality in an environment where air traffic is increasing. One of the goals is to reduce CO₂ emissions in European civil airspace by approximately 10 percent.

SESAR Single European Sky Air Traffic Management Research – Initiative by the European Commission and EUROCONTROL, which is intended to ensure the future capability of European air-traffic management encompassing all the participants in air traffic.

SESAR JU SESAR Joint Undertaking – The Joint Undertaking was established in 2007 in order to head the research and development program for SESAR. The goal is to standardize European air-traffic management systems by 2020. Fraport is one of the airport partners of SESAR JU.

Site – According to EMAS "a specific geographical location which is under the control of an organization and where activities are carried out, products are manufactured and services are provided, including the entire infrastructure, all equipment and all materials. A site is the smallest unit that can be considered for registration."

Stakeholder – Groups or individuals who are affected by the activities of a company and can exert influence on attainment of their aims. Accordingly, the stakeholders of a company are the employees, shareholders and lenders, customers, suppliers, neighbors, non-government organizations, government agencies, and politicians.

Sustainability – The concept of sustainability has been applied as a model for the sustainable development of humanity. Sustainable development meets the needs of the people living on the planet at the moment without endangering the opportunities of future generations in turn to satisfy their needs.

TU Traffic Unit – Equivalent to a passenger with baggage (excluding transit passengers, according to ADV and ACI) or 100 kg cargo or mail. Transit passengers are people who do not leave the aircraft (< one percent of all passengers). ADV = German Airports Association, ACI = Airports Council International.

Environmental auditor's declaration on verification and validation activities

The undersigned Dr. Burkhard Kühnemann,
with EMAS environmental auditor registration number D-V-0103,
accredited or licensed for the scope NACE 52.23,

declares to have verified whether the site or the whole organization as indicated in the updated environmental statement of the organization Fraport AG with registration number DE-125-00032 meets all requirements of Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organizations in a Community eco-management and audit scheme (EMAS).

By signing this declaration, I declare that:

- the verification and validation has been carried out in full compliance with the requirements of Regulation (EC) No 1221/2009,
- the outcome of the verification and validation confirms that there is no evidence of non-compliance with applicable legal requirements relating to the environment,
- the data and information of the updated environmental statement of the organization reflect a reliable, credible and correct image of all the site's activities, within the scope mentioned in the environmental statement.

This document is not equivalent to EMAS registration. EMAS registration can only be granted by a Competent Body under Regulation (EC) No 1221/2009. This document shall not be used as a stand-alone piece of public communication.

Carried out at Frankfurt on 23/06/2010

The official German version of the Environmental Statement 2011 has been validated by:
Dr. Burkhard Kühnemann
Certified Environmental Expert D-V-0103

The authorized independent environmental auditor is from the environmental organization:

**Dr. Kühnemann
und Partner** **Institut
für
Umwelt
technik**

Business address: Prinzenstraße 10a, 30159 Hannover, Germany
Registration number: D-V-0133

Schedule

The next abridged environmental statement, scheduled for July 2012, will be subject to validation by an environmental auditor before being released for publication.



*Validated in accordance with EMAS
Certified in compliance with DIN EN ISO 14001*

The next two abridged Environmental Statements are due to be published in July 2012 and July 2013. The next validation will take place in July 2014.

The official German version of the Environmental Statement has been validated by:
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