

Environmental Statement 2014

Including the Environmental Program until 2017

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



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Dear Readers:

Frankfurt Airport is Germany's Gateway to the World and it is one of the most important global air traffic hubs. The highly export-oriented German economy accesses the world's markets through Frankfurt and the airport opens up air traffic links to give a key competitive advantage. At the same time, the airport is one of the most important reasons for international companies deciding to locate in the Frankfurt/Rhine-Main Region. The airport is, therefore, extremely important for Germany as a business center while at the same time being the country's biggest workplace. 78,000 people work at 500 companies which operate on the airport infrastructure platform.

Fraport AG has a long track record of commitment to reducing and minimizing the environmental impacts arising from the operation of the airport. Already in the year 1972, the company preceding today's Fraport AG declared environmental protection to be a major part of the company policy. Since 1999, we have been subject to the environmental audit in accordance with the "Eco-Management and Audit Scheme" (EMAS), which the European Union uses to define environmental management systems with the world's most stringent requirements. EMAS provides us with important guidelines for successfully organizing environmental protection at Frankfurt Airport, conserving scarce resources and identifying environmental risks at an early stage. EMAS supports our operational areas in attaining environmental targets and, finally, EMAS gives us comparator benchmarks which underpin the improvements in our environmental achievements.

Since the publication of our last Environmental Statement three years ago, public interest in the environmental impacts of the airport has increased following the opening of the new Runway North-west. This interest has focused in particular on the aircraft noise which is produced by the noise emissions generated through air traffic. Our objective is to keep the noise impacts as low as possible for people living in the region and to implement all the measures available for noise abatement quickly and with maximum commitment. In future, we will continue to deploy new procedures and technical developments as swiftly as possible. We are working consistently on implementing the measures adopted by the "Alliance for Noise Abatement" which was launched by the State of Hesse, together with our partners, the Hesse Government, Deutsche Lufthansa AG, "Forum Airport and Region", German Air Navigation Services (Deutsche Flugsicherung GmbH) and the Board of Airline Representatives in Germany (BARIG). Examples include investment in the satellite-based GBAS System, which can open up new noise abatement options on the approach, and the further differentiation of landing and takeoff fees based on noise, which provides air-

lines with an economic incentive to invest in aircraft with lower noise levels. The latter measure in particular is an innovation of Frankfurt Airport which has defined a benchmark for the world.

Alongside the regionally limited impacts of air traffic caused by aircraft noise, climate protection is one of the biggest environmental challenges of our time. Around two percent of the CO₂ emissions caused by mankind are attributed to air traffic. The operation of all the airports in the world is responsible for 0.1 percent of these. Fraport is well aware of the responsibility that this entails and makes its contribution to climate protection. We are continuously working on reducing carbon-dioxide emissions, for example by energy-efficient construction or the use of electric vehicles.

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 in accordance with the "Airport Carbon Accreditation" of the "Airports Council International Europe". Since 2006, we have been taking part in the "Climate Disclosure Project" (CDP), which is the world's leading climate reporting initiative in the financial industry. Since the German Leadership Index was created in 2010, we have been listed among the best ten percent of the companies participating in the CDP.

The Fraport Environmental Statement 2014 represents the latest status for the environmental activities of our company at Frankfurt Airport. The facts and figures documented here have been checked by an independent, accredited environmental auditor in conformity with the European regulation on the Eco-Management and Audit Scheme (EMAS). They demonstrate how environmental management has developed over the past year and indicate which action initiatives are currently being pursued. Given that we have been conducting these EMAS audits regularly for the past 15 years, a high level of transparency and dependability has been established for the Fraport Environmental Management System at Frankfurt Airport.

This Environmental Statement once again demonstrates our commitment to providing comprehensive information in the public domain. We hope that you will enjoy reading our Environmental Statement and look forward to a rewarding dialogue with you.



Dr. Stefan Schulte
Chairman of the Executive Board (VV)

Owned land and operating area at Frankfurt Airport

The total owned land of the airport operator Fraport AG amounts to nearly 23 km². More than 18 km² of this area relates to the actual operation of the airport. The apron area for the ground handling

operations for aircraft amounts to 14 km². Lufthansa is responsible for 0.77 km² of the airport area (area of responsibility).



General data for Frankfurt Airport in 2013

Criteria	2013
Total owned land [km ²]	22.97
Operational area [km ²]	18.18
Take-off and landing runways	2
Take-off runways	1
Landing runways	1
Terminals	2
Number of aircraft movements ¹	472,692
Coordinated aircraft movements (number of movements per hour) ²	96 plus 2 ⁴
Number of airlines (only passenger flights): summer schedule 2014	108
Number of destinations (only passenger flights): summer schedule 2014	295
Share of intercontinental passengers	39% (2014)
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	58.05 million
Cargo volume [tons]	2.13 million
Traffic units (without transit)	78.85 million
Number of employees at the airport ³	Approx. 78,000
Number of employees at the Fraport parent company, FCS, N*ICE	11,985 345 42
Number of companies at the airport	More than 500
Fraport Group revenues [million euros]	2,561.4
Fraport parent company revenues [million euros]	1,954.7
Fraport Earnings before Interest, Tax and Depreciation, and Amortization (EBITDA) [million euros]	880.2
Fraport AG Earnings before Interest, Tax and Depreciation and Amortization (EBITDA) [million euros]	603.8

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

4 96 planned flights plus 2 ad-hoc flights

Fraport AG (Fraport parent company)

Fraport AG is an international airport operator with head office at Frankfurt Airport (FRA). Apart from the FRA site, Fraport has operations at 9 airports on four continents and provides expertise through numerous subsidiary companies – including locations 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 Strategic Business Units, three Service Units and 13 Central Units.

The Environmental Management System of Fraport

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 descrip-

tion of the key functions and processes in the EMS and their allocation within the organizational structure of Fraport AG is shown in the organizational chart presented below.

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

Chairman of the Executive Board (VV)	Member of the Executive Board and Executive Director Labor Relations (VA)	Member of the Executive Board and Executive Director Controlling and Finance (VF)	Member of the Executive Board and Executive Director Ground Handling (VG)	Member of the Executive Board and Executive Director Operations (VO)
Segment Responsibility	Segment Responsibility	Segment Responsibility	Segment Responsibility	Segment Responsibility
		External Activities & Services	Retail & Real Estate Ground Handling	Aviation
Strategic Business Units	Strategic Business Units	Strategic Business Units	Strategic Business Units	Strategic Business Units
	Airport Security Services (ASM)		Retail and Properties (HVM)	Airside and Terminal Management, Corporate Safety and Security
			Preventive fire protection Emergency management Operation of miscellaneous buildings Energy supply Energy and meter management	Terminal operations Flight operations systems Traffic management Monitoring of aircraft noise Forest and biotope Environmental impacts (noise and air) Community issues Passive noise abatement Preventive fire protection Emergency 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	
Service Units	Service Units	Service Units	Service Units	Service Units
		Corporate Infrastructure Management (ZIM)		Real Estate and Facility Management (IFM)
		Officer for water protection Mitigation area management Construction planning		Technical building management Operation of service workshops Operation of filling stations Operations management PTS Operational winter service Management of landscaped areas Vehicle engineering Geoinformation Water supply Waste management, remediation Operation of drainage systems Operation of sewage treatment plants Operation of the nitrate removal plant
				Information and Telecommunication (IUK)
				Environment databases
Central units	Central units	Central units	Central units	Central units
Corporate Compliance, Risk and Values Management (CWR)	Human Resources (PSL)	Global Investments and Management (BET)	HR Top Executives (PFK)	
Legal Affairs (RAV)	Environmental training	Controlling (FCO)		
Internal Auditing (REV)	Central Purchasing, Construction Contracts (ZEB)	Finance and Investor Relations (FIR)		
Corporate Development, Environment and Sustainability (UEW)	Environmental procurement	Accounting (REW)		
Coordinator for the Environmental Management System Officer for waste Environmental policy and strategy Coordination of environmental management Environmental indicators Environmental reporting Traffic data	Occupational Health and Safety (VA 4)			
	Officer for dangerous goods and radiation protection			
Corporate Communications (UKM)				

The Unit "Boards and Committees" (VV1) reports directly to the Chairman of the Executive Board.
The Unit "Investment Management" (VF1) reports directly to the Executive Director Controlling and Finance.
The Units "Representative for Data Protection" (VA1), Diversity and Services (VA2), Occupational Medicine (VA3) report directly to the Executive Director Labor Relations.

Structure and Functions of the Environmental Management System

The responsibility for the Environmental Management System lies with the Chairman of the Executive Board of Fraport AG.

The Coordinator for the Environmental Management System is based in the Central Unit for Company Development, Environment and Sustainability. This Coordinator handles the necessary organizational and coordination functions, authorizes the internal environmental audit and external auditing of the Environmental Management System (in conformity with EMAS and ISO 14001), and advises the Executive Board and senior management on all issues relating to environmental management. The Coordinator for the Environmental Management System reports to the Chairman of the Executive Board in management reviews.

The functions in environmental protection defined under statutory regulations are performed by the operating officers for water protection (Service Unit for Corporate Infrastructure Management), waste (Central Unit for Corporate Development, Environment and Sustainability), hazardous goods and radiation protection (Central Unit for Occupational Health and Safety). The operating officers perform monitoring, advisory and facilitating actions within their specialist functions. They also report to the Executive Board.

Noise and air pollution monitoring is the responsibility of the Department "Environmental Impacts Noise and Air" (Strategic Business Unit Airside and Terminal Management, Corporate Safety and Security). The Neighborhood Dialogue Service Center and the program for passive noise abatement are also allocated to this department.

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 then acts as the central control unit for crisis management at Frankfurt Airport. Some functions relating to crisis management are mainly executed 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 Coordinator 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 organizing the training courses defined under statutory regulations for the transport of dangerous goods and radiation protection.

Influence on third parties

Fraport AG is able to exert indirect influence over the environmental behavior of the companies and government 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 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 implementing the measures.
- Internal procedure, 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, 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 timeframe.

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 the parent company of 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 all 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 for 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.

Principles for environmental policy

The environmental policy issues relating to climate protection, biodiversity and stakeholder engagement are underpinned by additional principles:

Climate protection principles

We participate in climate protection to ensure the sustainable development of our Group. Fraport is committed to the Kyoto Protocol and aspires to limit the output of relevant greenhouse gases to minimum emissions. We are also involved in local and regional initiatives addressing climate issues within the Agenda 21 process concerning issues relevant for climate protection. Our climate protection activities also make a long-term contribution to limiting the risks arising from altered weather conditions caused by climate change. We are therefore contributing to the sustainable development of our locations.

Biodiversity principles

Our businesses and the protection of natural biodiversity can be reconciled. Natural areas and their inherent biodiversity are conserved and supported to the extent possible within operational guidelines, and operational disruptions are kept to a minimum. If significant interventions are made in the natural environment, equivalent mitigation or substitution is provided including the guarantee of long-term maintenance of purpose.

Stakeholder engagement principles

We engage in a regular dialogue with our community stakeholder groups and we incorporate their concerns and points of view in our corporate decision-making processes. We communicate closely with our partners in the air transport chain and work together to develop joint strategies and concepts directed toward continuous improvement of environmental compatibility in air traffic.

Environmental aspects

The following section provides a description of the important environmental aspects for Fraport AG. These include aircraft noise, climate gases, energy consumption, traffic, air pollutants, impacts on biodiversity, water consumption, wastewater, contamination of soil water and groundwater, dangerous goods and hazardous substances, and waste. The

individual impacts, sources, responsibilities, indicators and trends are described on the basis of the environmental aspect. Each environmental aspect is assessed on the basis of its materiality and controllability. The description of our management initiatives presents the activities to reduce negative impacts on our environment.



Environmental aspect: Aircraft noise

Type of Environmental aspect	Indirect, cannot be directly influenced by Fraport	
Assessment of the environmental aspect	Materiality:	High
	Controllability:	Poor
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. German Air Navigation Services (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 parent company: 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), 0600 to 2200 hours, for the six months with the heaviest traffic. Equivalent continuous sound level Leq(3), 2200 to 0600 hours, for the six months with the heaviest traffic. Frequency with which aircraft exceed the maximum level of 68 dB(A) each night for the six months with the heaviest traffic (see accounting principles).	

Trend(s)

The development of aircraft 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. Operations at the new Runway Northwest started on October 21, 2011, as part of the capacity expansion at the airport. Since the number of annual aircraft movements has actually stagnated over recent years due to global economic effects, the expansion of the runway system and the operating concept of the current four-runway system have led to a shift in the location of aircraft noise impacts. Additional impacts have arisen particularly in the area of the approach ground lines to the new runway. This contrasts with a reduction in impacts in the area of the "old" approach ground lines, since approximately half of all approaches no longer fly here but are located about 1.5 km further north.

In line with expectations, an increase in aircraft noise impact has been recorded at the measuring stations 08 (Kelsterbach), 11 (Flörsheim) and 45 (Oberrad), which monitor the approaches to the new Runway Northwest (no measured values were available for the comparator period of 2011 at the newly installed measuring stations MS 14 (Hochheim) and 44 (Frankfurt-Lerchesberg).

At the same time, a decrease in aircraft noise impact has been recorded at the measuring stations 01 (Offenbach-Lauterborn), 02 (Offenbach-Bieber), 05 (Rüsselsheim-Opelbrücke), and 89 (Bischofs-

heim), which monitor the approaches to the south and central runways, because there are usually no more approaches to the central runway. This effect is also noticeable at measuring station 41 (Frankfurt South). The effect is less marked at measuring station 06 (Raunheim) because the noise reduction for operational direction (BR) 07, as a result of the non-use of the central runway, is counteracted by an increased noise impact at BR 25 due to the new southern fly-round routes.

Since the "missed approach" procedure for the Runway Northwest ("go-around") means that the direct northwest take-off route is restricted on the central and south runways for operational direction 25, a significant decline in aircraft noise impact has also been recorded at measuring station 12 (Bad Weilbach). This effect is also evident to a lesser extent at the measuring stations 07 (Eddersheim) and 17 (Okriftel). At the measuring stations 31 (Groß Gerau-Nord), 32 (Nauheim) and 35 (Groß Gerau-West), no increase in aircraft noise impact has been recorded even though the fly-round routes were implemented at the same time as the new runway came into operation. In fact there has been a decrease in noise impact. This is because since then, at BR 25 of the parallel runway system, the German Air Navigation Services has not directed departures from Runway 18 in the direction of the SOBRA way-point located in the southwest via the short takeoff route through the measuring station MS31/MS32. Instead, aircraft have been routed via the long

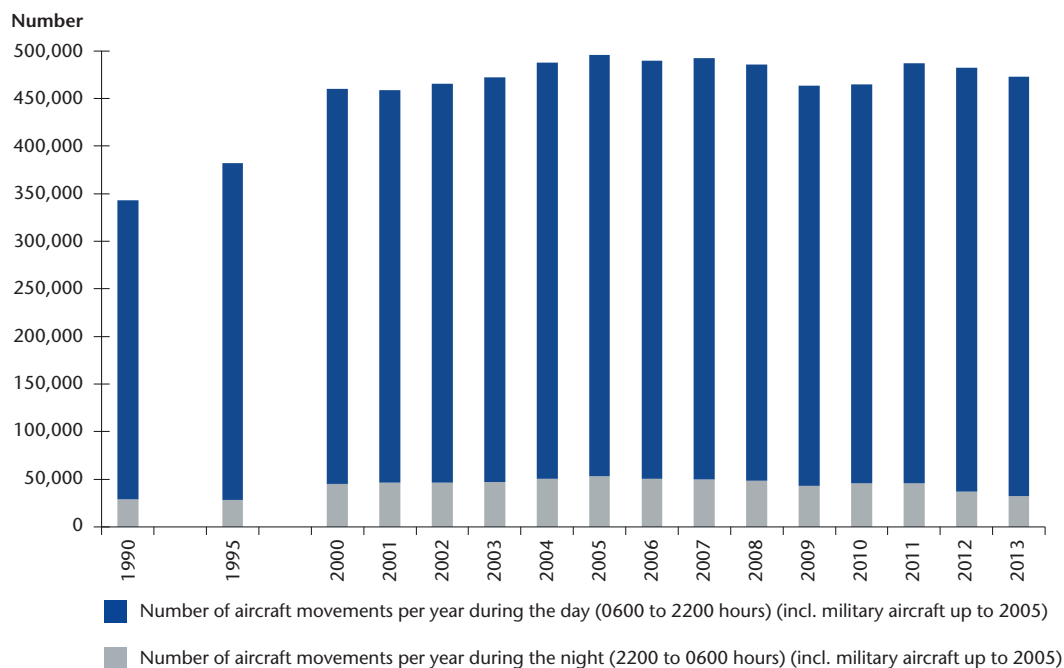
SOBRA routes which lead through the measuring port MS51/MS52. The additional traffic through this measuring port and at measuring station 55 (Büttelborn) has resulted in an increase in aircraft noise impact.

At the measuring stations in the southeast, the aircraft noise impact continues unchanged (level

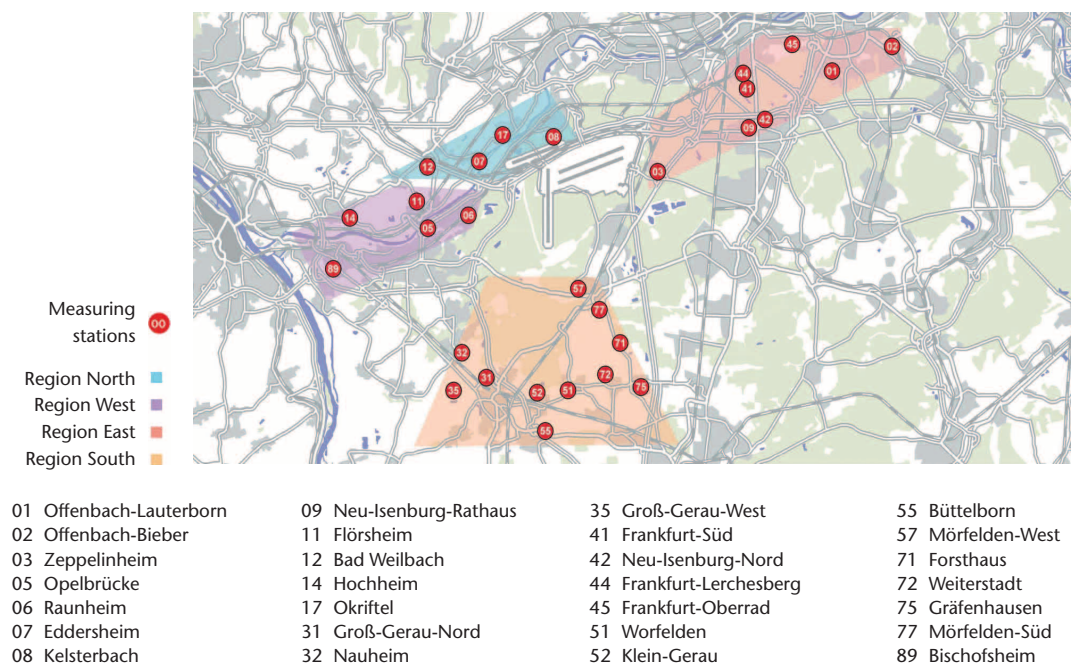
changes in the order of 1 dB may well be primarily due to rounding).

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

Number of aircraft movements per year, day and night



Measuring stations 2013/2014



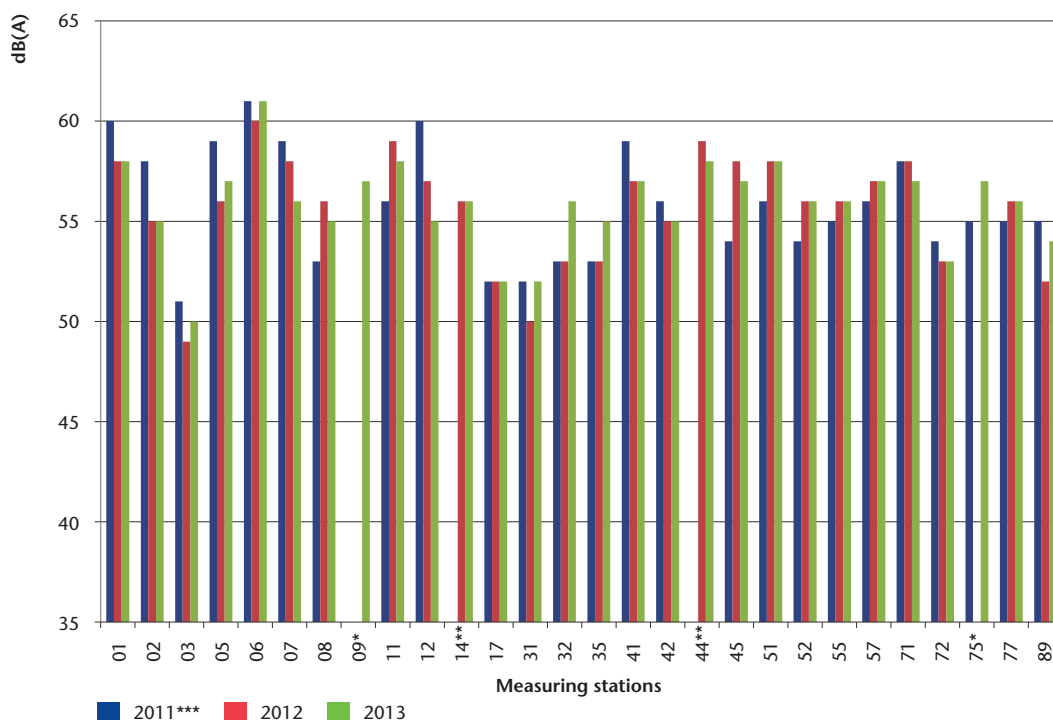
Energy equivalent continuous sound level $Leq(3)$, by day (0600 to 2200 hours) at the 28 measuring stations of the Fraport parent company

Assessment period: the six months of the year with the heaviest traffic, usually May to October

* these were currently out of operation due to construction work at the locations of the measuring stations.

** Operation commenced in September 2011

*** Months: March, May and July – October



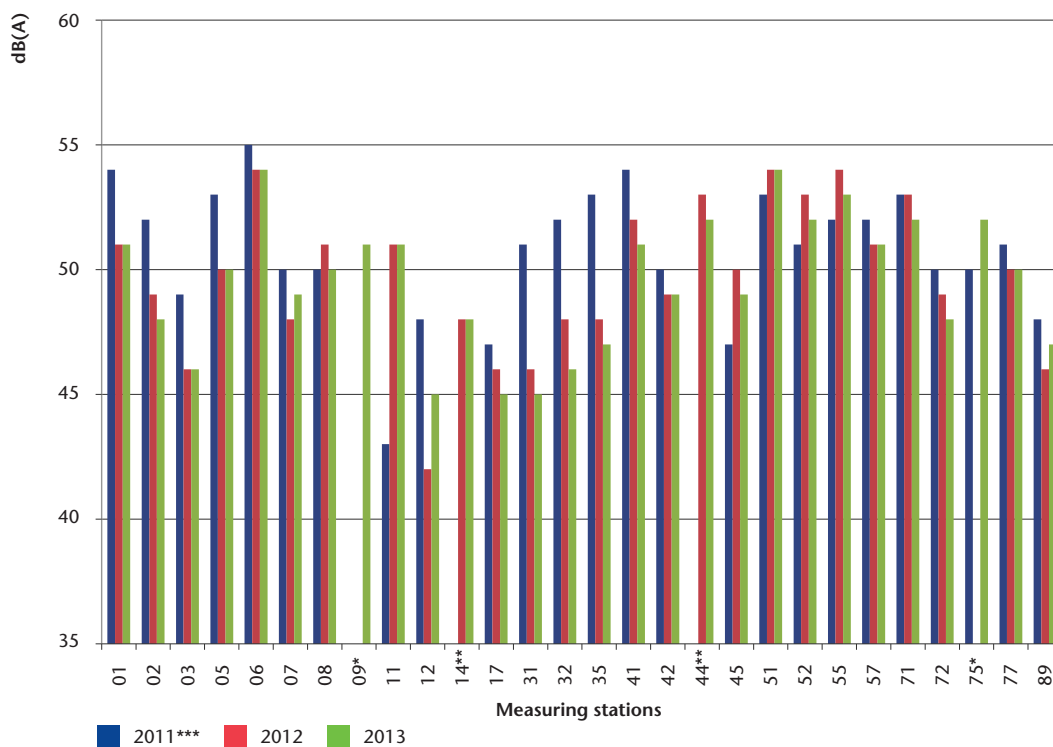
Energy equivalent continuous sound level $Leq(3)$, by night (2200 to 0600 hours) at the 28 measuring stations of the Fraport parent company

Assessment period: the six months of the year with the heaviest traffic, usually May to October

* these were currently out of operation due to construction work at the locations of the measuring stations.

** Operation commenced in September 2011

*** Months: March, May and July – October



Management initiative

Aircraft noise monitoring expanded

In September 2011, shortly before operations started at the new Runway Northwest, the Fraport parent company commissioned two additional stationary aircraft noise measuring stations in Hochheim and Frankfurt Lerchesberg (measuring stations 44 and 15). Fraport AG now operates a total of 28 stationary measuring stations and three additional mobile measurement containers in the neighborhood of the airport. The measuring stations provide continuous monitoring of aircraft noise development and documentation of unusual noise events.

Package with 19 measures developed for active noise abatement

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.

Fraport AG cooperates closely with partners from the airline industry, the State Government and the region. We have joined forces with experts from the airline industry and German Air Navigation Services (DFS) in the "Alliance for more Noise Abatement 2012" to develop an action plan comprising 19 measures. These include noise-reducing approach and take-off procedures, a concept involving alternating use of runways, and financial incentives to promote the use of maximally quiet aircraft. The success of the measures is monitored using comprehensive monitoring and the results are posted on the website of the Environmental and Neighborhood House. The expert committee Active Noise Abatement of the Airport and Region Forum (FFR) is continuously working together with experts, representatives of the airline industry and residents from the local communities. The committee develops measures to reduce noise, assesses the results and makes recommendations on implementation.

Noise-reducing approach procedures create more distance to the ground

In mid-2011, we were testing new procedures developed by the expert committee for a noise-reducing landing approach. For example, a second navigation system located on the Runway Northwest permits a steeper approach angle from a greater altitude. Since October 2012, the approach angle to this runway has been increased from 3 to 3.2 degrees if the weather conditions are suitable. An initial evaluation has shown that the maximum level of noise produced has been reduced by 0.5 to 1.2 dB(A), depending on the measuring station and the type of aircraft, compared to the existing approach angle. Testing of the procedure will continue.

In October 2012, the altitudes of the downwind approach routes in the north and south of Frankfurt

Airport were each raised by 1,000 feet (approx. 304 meters). This is part of the landing approach where the aircraft is initially guided in the opposite direction before it passes through the turning areas to the west or east of the airport and enters the final approach. The minimum altitude for the downwind approach is now 6,000 feet (1,828 meters) in the north and 5,000 feet (1,524 meters) in the south. Since October 2012, turning procedures are no longer permitted over the towns of Mainz and Offenbach under normal conditions. These measures are achieving tangible reductions in noise.

New technology for precision approach is introduced

In May 2013, Fraport concluded a joint-venture agreement with German Air Navigation Services for installation of the Ground Based Augmentation System (GBAS). GBAS permits precise control of the landing approach by collecting additional data about flight progress and integrating this with the satellite-based GPS data. A special feature of this system is that aircraft adopting a flight path on a curved approach at variable altitude can be guided past densely populated areas or they can cross these areas at a greater altitude. Frankfurt Airport is the first airport in Europe to be tested for GBAS. Roll-out of the system for Runway Northwest is scheduled from mid-2014 and the aim is also to replace the existing instrument landing system on the other runways. The approach glide angle could be raised on all runways from the current 3 to 3.2 degrees. However, apart from the ground equipment required to make full use of GBAS, the aircraft also need to be equipped with the appropriate equipment. At the moment, only modern aircraft have this type of equipment, older airliners will need to be gradually upgraded.

Procedure for alternate use of runways permits noise breaks

Fraport also makes use of the available potential for noise abatement when aircraft take off. In 2012, we rolled out the procedure for alternate use of runways – Dedicated Runway Operations (DROps) in regular operations. On mornings of days with uneven dates, takeoffs are bundled on dedicated runways and individual take-off routes between the hours of 5 and 6 a.m. The system was initially developed for night-time flying and it creates noise breaks for the residents living near the routes not being used. Since the aircraft take off on parallel runways to the west or east according to the wind direction, there is a specific DROps system for the individual flight operation in which the take-offs from the Runway West are also integrated.

You will find additional information on active noise abatement at www.fraport.com/en/sustainability/aircraft-noise-infoservice/active-noise-abatement.html.

System of noise-based airport charges is further nuanced

Aviation noise-based landing and take-off charges are another component of active noise abatement. Since 2001, Fraport has been providing an economic incentive for the use of quieter aircraft. At the beginning of 2013, we significantly increased the amount of noise-based charge. Aircraft generating a lot of noise therefore now have to pay much higher charges than was previously the case. Defining 16 noise classes rather than the previous number of 12 and managing noise classes for landings separately from takeoffs has enabled us to provide further differentiation within the system of charges. Fraport gives aircraft with particularly noise-efficient ratings a discount of maximally ten percent.

You will find additional information on active noise abatement at www.fraport.com/en/our-expertise/aviation-services/terminal-traffic-management/airport-charges.html.

Financial resources provided for structural noise abatement measures

Passive noise abatement aims to reduce the noise level in rooms inside buildings by specific construction measures. Fraport meets all the existing statutory regulations in this area as they are defined in the Aircraft Noise Abatement Act (FluglärmsG) in conjunction with the corresponding implementation regulations of the Federal Government and in the "Directive for Defining the Noise Abatement Area for Frankfurt Airport" from 2011. Approximately 86,000 households located in the surrounding area of Frankfurt Airport are entitled to submit claims for passive noise abatement. In the night protection zone, residents are able to claim for structural sound insulation in bedrooms and children's rooms and in day protection zone 1 they can additionally claim for living rooms and communal spaces. In day protection zone 1, residents can also claim for impairments of use in outdoor living areas due to aircraft noise in the form of compensation payments. However, some of the statutory claims for compensation only come into force after a waiting period of up to five years.

Measures extending beyond the statutory requirements are financed from the Regional Fund with financial resources totaling between 265 to 270 million euros set up by the Hesse Government together with Fraport. This fund is used, for example, to bring forward construction measures required under statutory regulations but which are subject to a waiting period. The Program for Passive Noise Protection and the Regional Fund have jointly provided funds amounting to some 415 to 420 million euros.

Statutory payments for passive noise abatement and the Regional Fund can only be granted on application. Fraport maintains a comprehensive package of information and services on their company home page [\[www.fraport.com/en/sustainability/aircraft-](http://www.fraport.com/en/sustainability/aircraft-noise-infoservice/passive-noise-abatement.html)

[noise-infoservice/passive-noise-abatement.html\]](http://www.fraport.com/en/sustainability/aircraft-noise-infoservice/passive-noise-abatement.html) for providing assistance to residents in determining their claims and supporting the application.

Compensation program established for residential property owners

When the Frankfurt site started expanding, Fraport set up a compensation program to provide compensation for owners of residential property who had acquired a property before the land-use planning decision granted permission for the Runway Northwest if their property is now located in an existing flight path or in a newly designated flight path. Fraport therefore offered to make compensation payments to owners of residential properties in Raunheim if aircraft fly over their property at an altitude of less than 350 meters. Fraport also offered to purchase residential properties in specific areas of Flörsheim and Kelsterbach, if aircraft fly in their approach to the airport at altitudes of less than 350 meters. Initially, an offer to purchase was only made for properties located in a defined core zone. In 2012, Fraport extended the scope of the scheme under the umbrella of "Alliance for more Noise Abatement 2012" and since then it has been offering to purchase properties located in so-called transition zones. The financial commitment to these measures was increased to more than 100 million euros for this purpose and the application deadline was extended until the end of October 2014. We established Fraport Casa GmbH for the purchase and subsequent management of the residential units. By the end of 2013, more than 200 properties had been purchased. The proportion of properties rented out again at the typical rent for the area is more than 90 percent.

You will find further information at www.fraport.com/en/sustainability/aircraft-noise-infoservice/casa-program.html.

Information options on aircraft noise for neighboring residents are comprehensively expanded

In 2013, the noise abatement channel [\[www.fraport.de/schallschutzinfo\]](http://www.fraport.de/schallschutzinfo) on the company home page was comprehensively restructured to refocus it on the information needs of the residents living near the airport. Fraport also used this framework to put the FRA Map [\[www.framap.fraport.de\]](http://www.framap.fraport.de) online and provide a world first as an information system for aircraft noise patterns. Local residents impacted by noise and anyone else interested in finding out flight data can call up comprehensive aircraft noise information for their particular location or place of residence on an interactive map. For example, users can find out how many planes were scheduled to fly overhead, the noise values measured over an extended period of time, and they can identify the routes being used. They can also obtain historic information on these topics. Information about areas where claims can be made for noise insulation measures can also be called up, as can information about compensation payments. Our aim is to use these tools to present the complex pattern of air-

craft noise and the causal factors for local residents in a comprehensible and transparent way.

The FRA.NoM Information System [<http://franom.fraport.de/franom.php>] has been on the Fraport company home page since 2012. Fraport was the first airport operator in Germany to use its website to provide a continuous stream of information for members of the public about aircraft noise patterns and noise measurements around its main site. Anybody interested in finding information can use the easily accessible website to track the noise level at the measuring stations in different views and in parallel observe the flight tracks of all the aircraft identified that are currently either flying toward Frankfurt or moving away from the city. Technical reasons mean that the data is displayed with a two-hour delay. Further services offered by the website include identification of aircraft noise events and display of the latest weather data. All the data is also available in the archive for the previous two months.

Apart from Fraport, the communities in the surrounding area and the measuring stations operated by the Environmental and Neighborhood House (UNH) produce their own measuring data on aircraft noise patterns. The results are documented on the website of the UNH. In April 2013, the UNH also opened a multimedia information center where any interested citizens, schoolchildren, students, organizations and institutions can find information about the development of Frankfurt Airport and the local region around the airport.

Impacts of aircraft noise on health and quality of life are investigated

Fraport participates in the NORAH Noise Impact Study ("Noise-Related Annoyance, Cognition, and Health") primarily financed by the State of Hesse with the aim of conducting more detailed research on the effects of aircraft noise on health and quality of life. This study is being organized by a research consortium under the management of the Ruhr University Bochum and it has been divided into three modules.

Module 1 is about quality of life and noise impact from a variety of different noise sources. The views of residents living near a selection of commercial airports in Germany (Frankfurt, Berlin, Cologne-Bonn, Stuttgart) are surveyed in a series of questionnaires over a period of three years.

Module 2 analyzes the health impacts of exposure to noise on the basis of parameters, such as blood pressure, quality of sleep, and risk for defined diseases. Anonymized data from health insurance schemes are evaluated, blood-pressure measurements are taken on site and the quality of sleep is logged.

Module 3 looks at the mental development and quality of life of children at elementary school whose premises are impacted by aircraft noise.

The study is subject to a continual process of independent quality assurance. The first results are projected for publication in autumn 2014. The final report is due to be published in 2015.



Environmental aspect: Climate gases

Type of Environmental aspect	Direct and indirect	
Assessment of the environmental aspect	Materiality:	High
	Controllability:	Medium
Responsible process owner(s)	Fraport parent company: 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 parent company: CO ₂ emissions (absolute, relative to the traffic unit) [CO ₂ t; t CO ₂ /traffic unit].	

Trend(s)

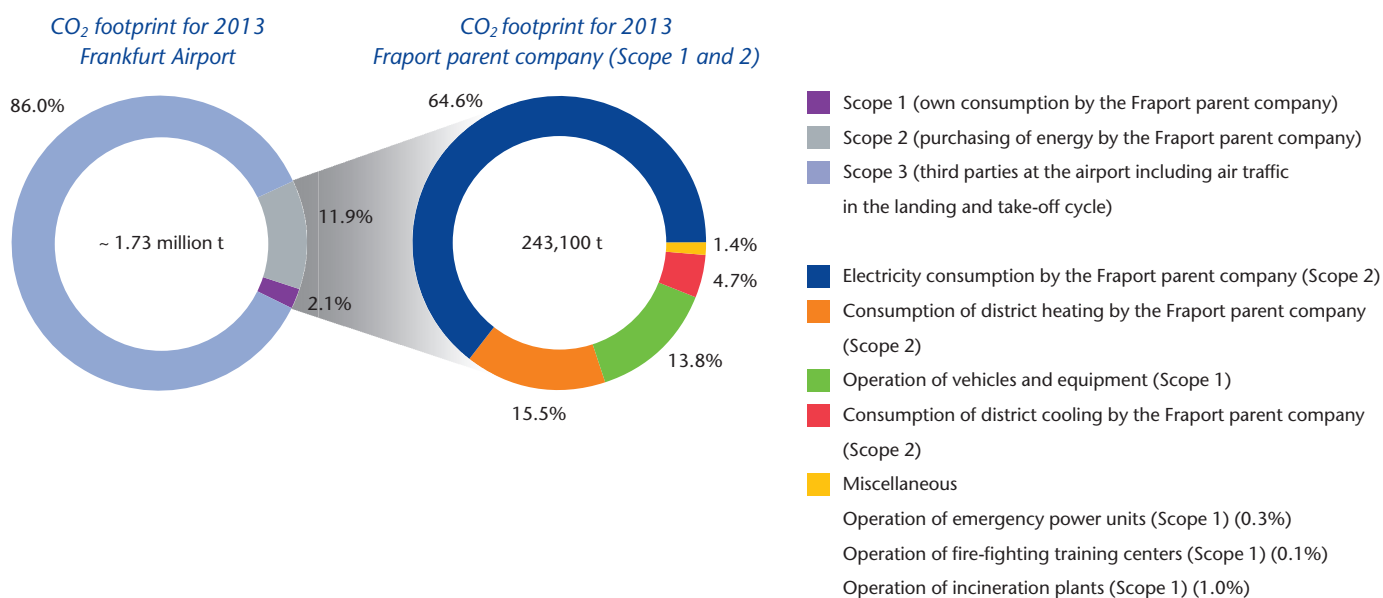
CO₂ emissions by the airport

Total CO₂ emissions by Frankfurt Airport were approx. 1.73 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 (53 percent) originated from the operation of the aircraft (including use of Auxiliary Power Units – APU), 22 percent from inbound and outbound travel by passengers and employees to and from the airport. Some 25 percent of emissions are generated by electricity, district heating and district cooling, and only 3.4 percent were caused by vehicles and ground support equipment 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 a reduction of 4 percent since 2005 despite a 10 percent increase in traffic volume from 71.5 million traffic units in 2005 to 78.8 million traffic units in 2013.

CO₂ emissions by the Fraport parent company

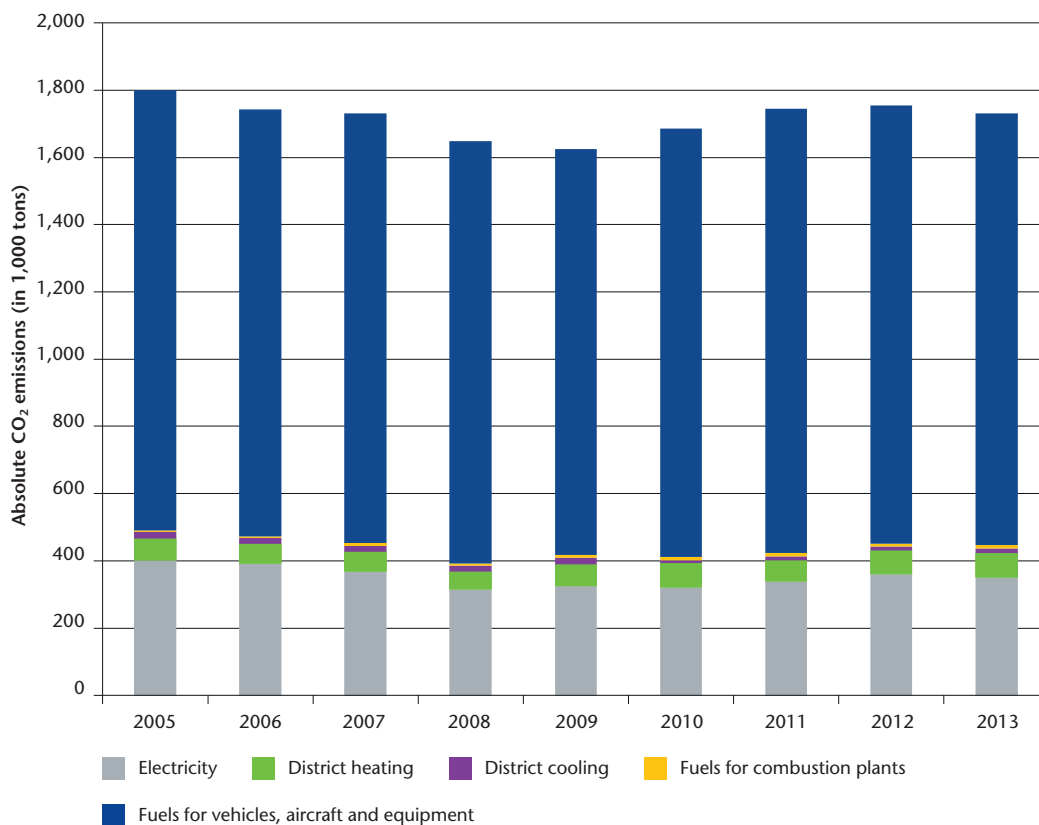
The proportion of the Fraport parent company in the total emissions by the airport was 14 percent in 2013. 2.1 percentage points of total emissions were caused by direct emissions, primarily by the operation of the vehicles and mobile ground support equipment. The remaining 11.9 percentage points were 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 have come down by 8 percent 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, calendar year 2013

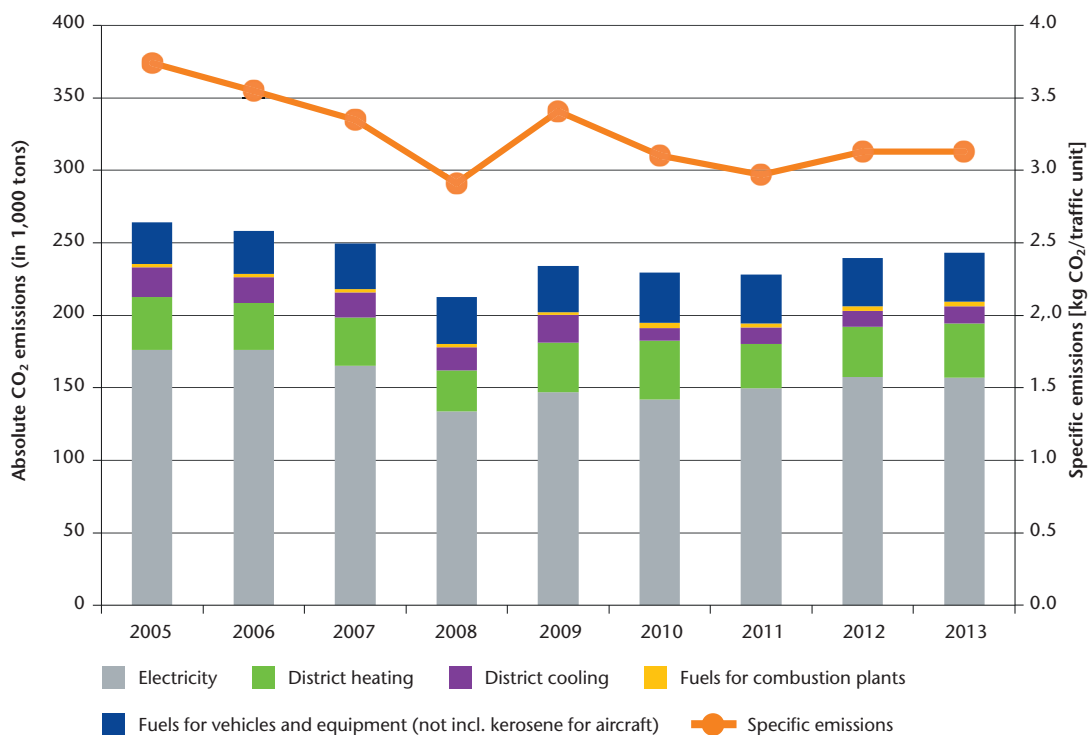


CO₂ emissions at Frankfurt Airport

(Fraport parent company, flight operation of the airlines up to an altitude of 914 m and third parties)



CO₂ emissions of the Fraport parent company



Management initiative

Improvement in environmental performance with the Airport Carbon Accreditation Program

Fraport participates in Airport Carbon Accreditation (ACA), a program of the Airports Council International Europe (ACI Europe), the umbrella organization for the airport operators, with the objective of motivating the maximum number of European airports to implement comprehensive CO₂ management and CO₂-neutral operation. This program will enable the environmental performance to be improved in relation to climate gases. The highest level of 3+ (climate neutrality) can be reached in four stages. Frankfurt Airport was the first airport to be included in the program and was accredited to Level 2 of the Airport Carbon Accreditation in 2009. Reporting was expanded for the upgrade to Level 3 by including information on emission sources which have to be allocated to "Scope 3" in accordance with the Greenhouse Gas Protocol (GHG Protocol) and the upgrade was granted at the beginning of 2012. These include operation of aircraft in their parking positions on the ground in stationary operation and ground run-ups, the landing and take-off cycle up to 3,000 feet, and the operation of buildings and ground handling vehicles of third parties, the supply of aircraft with ground power supply, travel to and from the airport by passengers and employees, and business trips. The dialogue with companies based at the airport was also intensified.

Objective: reduction of CO₂ emissions despite expansion

Our target is to reduce CO₂ emissions per passenger or 100 kilograms of airfreight of the Fraport parent company at the Frankfurt site by 30 percent by 2020 compared with the baseline of the year 2005. The second climate protection target relates to the absolute CO₂ emissions. To date, the objective has been to avoid exceeding the value from the year 2005 amounting to 264,000 t of CO₂ (Scope 1 and 2) up until the year 2020 despite the increase in airport capacities and the rise in traffic volumes. We have adjusted the value downward to 238,000 t CO₂ due to postponement of the construction of the new Terminal 3.

Fraport implements company-wide climate protection project

The management activities of the Fraport parent company 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 in the operation of buildings and infrastructure, efficient use of energy in new buildings, and limiting energy consumption of the vehicle fleet.

Portfolio of buildings is upgraded to low-energy status

A rolling program of refurbishment has been ongoing in a project for the air-conditioning control centers at Terminal 1 since 2007. The refurbishment is being done while operations continue as normal. The potential savings in the first project stage amount to around 8,300 tons of CO₂. Savings of 3,000 tons of CO₂ have already been achieved. The next refurbishment stages to reduce CO₂ emissions by 5,300 tons of CO₂ are currently being implemented.

Energy-saving measures are also being optimized in office and service buildings at the Fraport parent company. Typical measures include replacing pumps and fans with more efficient components, hydraulic balancing of heating systems, and upgrading windows and doors. The overall potential estimated by assessments made in 2009 amounts to approximately 4,000 t of CO₂. Measures generating savings of approximately 715 t CO₂ are being currently implemented and savings of approx. 834 t of CO₂ have already been achieved.

Lighting and air-conditioning are harmonized at sites of use

Alongside very intensive measures to reduce CO₂ in the portfolio of buildings, a series of operational measures is being implemented as follows:

- Scaling back lighting in the terminals when they are not being used through adjustment of the switching times. Shutting down air-conditioning systems in the terminals at night.
- Dimming lighting in parking garages at Terminal 1 and in the employee parking garage during the period from midnight to 4 a.m.
- Equipping lighting in the vicinity of the exterior walls of the parking garages with sensors to detect exterior light.

The measures enable annual savings of approximately 300 tons of CO₂ at Fraport. The Fraport parent company sees further promising potential for operational measures to reduce energy consumption in its portfolio of buildings and the objective is to implement these measures over the upcoming years.

New buildings are planned for optimum energy use

The key issue in new buildings is to ensure maximally efficient use of energy for subsequent operation. Dynamic building simulations are carried out for selected building projects with the aim of reviewing energy use in the building plans and optimizing efficiency measures at the planning stage.

The building plan for Terminal 3 is also directed toward achieving a high level of energy efficiency.

A "Round Table" made up of external and internal experts was involved in defining the energy concepts for sustainable construction of Terminal 3, and these include:

- Covering the cooling requirement by free cooling and highly-efficient refrigerating machinery.
- Hundred-percent coverage of the heating requirement by internal thermal loads and the heat dissipated from the baggage conveyor system.
- Use of LED lighting.
- Intelligent use of daylight.
- Short pipe and wiring distances with local configuration of air-conditioning centers.

Energy use optimized for baggage conveyor system

Since 2014, we have been upgrading our baggage conveyor system. The measures currently planned are projected to achieve aggregated annual savings of 2,000 tons of CO₂ by the year 2020. Fraport will be replacing old motors, installing new, more efficient conveyor belts with reduced frictional resistance and implementing systematic shutdown of sections of the system not being used.

The use of LED lamps is gradually being expanded

The use of LEDs is an important lever for saving energy. Their energy consumption is about 30 percent less compared to conventional lighting and the lamps have a much longer service life. Fraport is testing the LED technology in different areas of Frankfurt Airport and gradually introducing it:

- Since 2010, the signage on the apron and in the area of the take-off and landing runways has been illuminated with LEDs.
- The green taxiway lighting, the blue taxiway margin lighting and the red stop lighting are being gradually replaced by LEDs in an upgrade program
- Since summer 2013, we have been testing the use of LEDs for apron lighting in several trial areas.
- Fraport has also been conducting field tests with LED lamps in selected areas at both terminals, e.g. in the B and C arrival halls. The test in Terminal 2 has achieved a successful economic and qualitative outcome and the process of implementing LEDs has been ongoing since the end of 2013.
- Fraport Cargo Services GmbH (FCS) has tested LED technology in the area of the truck station with the objective of saving energy and also cutting down CO₂ emissions. The deployment of appropriate LED lamps is to be expanded to the FCS airfreight handling hall during the course of 2014. This measure is estimated to save 660 tons of CO₂ each year.

Feasibility of electric vehicles for routine operations is tested in airport operations

The use of low-emission vehicles is a key focus of our efforts directed toward protecting the climate. Compared with the vehicles powered by an internal combustion engine, this drive technology is particularly suitable for the short distances covered by traf-

fic at the airport and makes a contribution to limiting the impact on air pollution. Approximately ten percent of Fraport vehicles operating at Frankfurt Airport today are powered by electric motors. This includes a lot of energy-intensive special-purpose vehicles, such as pallet loaders, tow-tractors and conveyor-belt trucks.

In 2012, Fraport launched a project sponsored by the Federal Ministry of Transport and Digital Infrastructure (BMVI) focusing on the federal program "Electromobility in Model Regions" in order to enhance electrification. The aim by the end of 2015 is to have tested a total of 42 electric vehicles in everyday operation as workhorses at the airport site. This will be supported by installing 15 intelligent charging systems based on a Fraport-compliant standard.

This project run by Fraport and the Lufthansa Group is combined with other projects on electromobility at Frankfurt Airport under the umbrella of E-PORT AN [[Link to www.e-port-on.com/](http://www.e-port-on.com/)]. In 2013, the Federal Government identified this initiative as a lighthouse project. The Federal State of Hesse and the Frankfurt/Rhine-Main Model Region are supporting this initiative. E-PORT AN forms part of the activities in "Model Region Electromobility" in Hesse.

In April 2014, the joint initiative also received the GreenTec Award in the air traffic category. The GreenTec Awards are Europe's biggest environment and business prize and are awarded each year for environmental commitment and green environmental technologies.

Car sharing launched for company cars

Some of Fraport's own company cars have been organized in an interdepartmental car pool since 2012. 2,000 employees at five sites have access to this car pool. The selection from different types of vehicles and the reservation procedure is done via the Intranet. Car sharing improves utilization capacity for the vehicles and the number of company cars to be maintained and purchased is significantly reduced.

The car pool also offers further opportunities to test electric cars. This pool has a total of 70 cars and there are currently seven purely battery-driven electric vehicles and eight plug-in hybrid vehicles.

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. The system contributes to avoiding empty runs by ground-handling service vehicles. This helps to reduce unnecessary fuel consumption and emission of pollutants. The ASTRO disposition system (Airport System for Transport and Operations) started trial oper-

ation in November 2012 and was rolled out in regular operation in March 2013. In 2013, the absolute consumption of diesel for baggage transport was reduced by 2 percent compared with 2012.

Fraport contributes to the leading climate reporting initiative in the finance industry

Fraport also contributes its climate reporting data externally in the "Carbon Disclosure Project" (CDP), the world's leading climate reporting initiative in the

finance industry. This organization analyzes companies and their strategies for climate change and CO₂ reporting. Fraport has been involved in the CDP since 2006 and has been listed for the fourth time in succession in the Climate Disclosure Leadership Index (CDLI) for Germany, Austria and Switzerland. This index lists the best ten percent of the participating companies. Fraport is one of two companies from the transportation sector to be listed in this Index.



Environmental aspect: Energy consumption

Type of environmental aspect	Direct and indirect	
Assessment of the environmental aspect	Materiality:	High
	Controllability:	Medium
Responsible process owner(s)	Fraport parent company: 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 for vehicles (absolute, relative per traffic unit) [GWh, kWh/traffic unit]. Fraport parent company: Consumption of electricity, heat (district heating, local heating), district cooling, fuels for vehicles (absolute, relative per traffic unit) [GWh, kWh/traffic unit].	

Trend(s)

Energy consumption at Frankfurt Airport

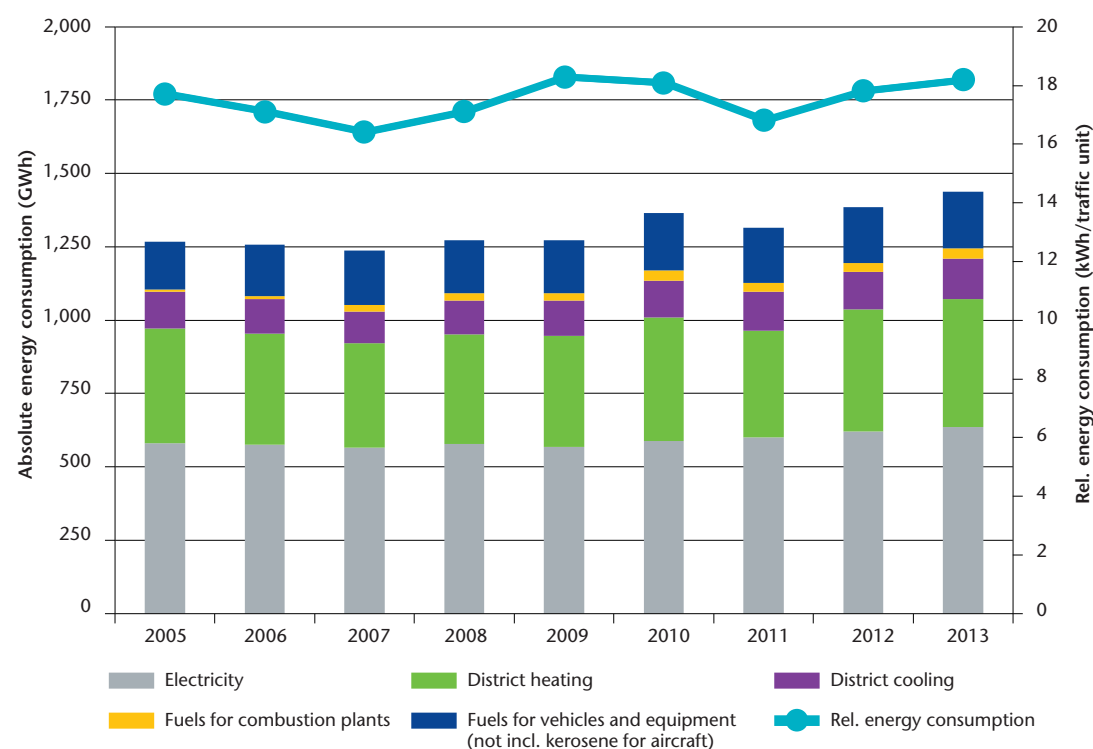
The primary energy sources are electricity and district heating. The development of total energy consumption reflects the continuous expansion of infrastructure and the enhanced use of our services resulting from the growth in traffic volume. The absolute energy consumption has risen over the past three years. The drivers for this are the start-up of the Runway Northwest, the Pier A-Plus finger at Terminal 1, including the associated expansion of ground power units, the baggage handling system and the apron illumination, the Group Head Office, and two other new buildings and Fire Station 4. During this period, traffic growth stagnated and this led to an increase in relative consumption. The

energy efficiency measures taken in the section on climate gases exerted a particularly strong impact on the absolute and specific consumption figures.

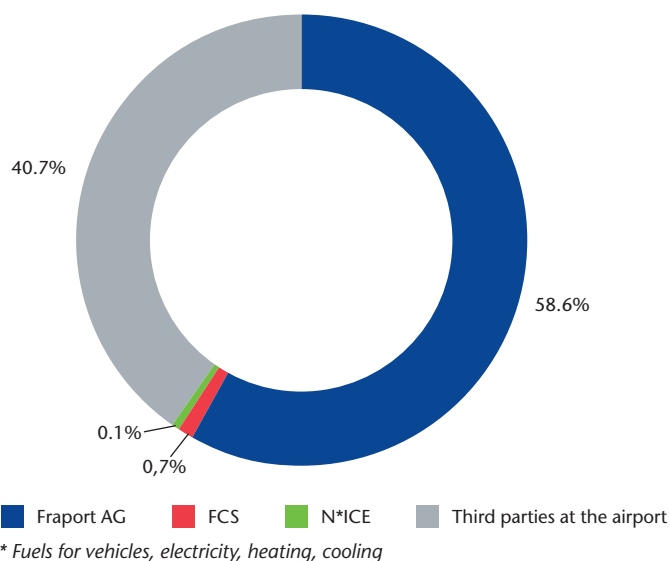
Energy consumption at the Fraport parent company

The Fraport parent company itself is the biggest consumer of energy at Frankfurt Airport. Energy consumption here remained relatively constant at approx. 750 million kWh per year between 2005 and 2009. Starting in 2010, consumption started to rise as a result of the expansion. The absolute and specific consumption by the Fraport parent company essentially reveals the same trend as total energy consumption at the airport.

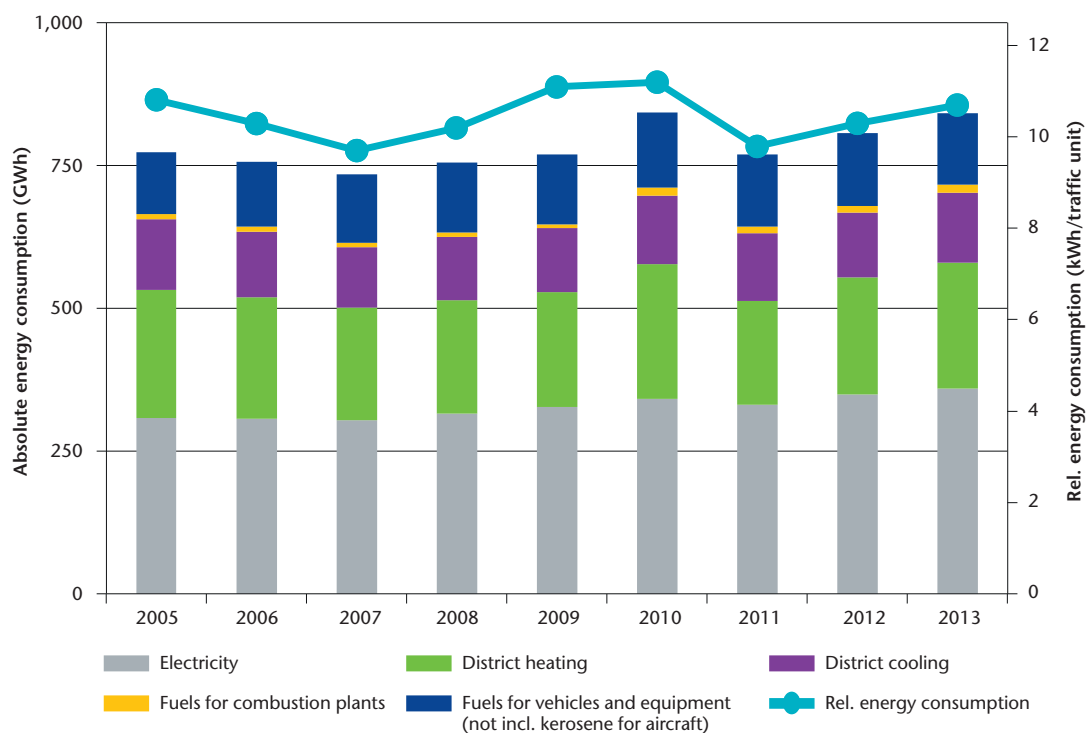
Energy consumption broken down by energy carriers at Frankfurt Airport (Fraport parent company, FCS, N*ICE, third parties) and specific energy consumption (kWh per traffic unit)



Energy consumers* at Frankfurt Airport in 2013



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



Management initiative

The issues

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



Environmental aspect: Traffic

Type of environmental aspect	Indirect	
Assessment of the environmental aspect	Materiality:	Moderate
	Controllability:	Poor
Responsible process owner(s)	Passengers: Choice of transportation to and from the airport. Employees: Choice of transportation to and from the airport. Public carriers: Offer of rail and bus connections. Airline companies: Offer of integrated products rail/flight. Truck and cargo forwarders: structure of smooth-running airfreight dispatch and return. Fraport parent company: Impact on the appeal of the link between the airport and the public transportation network.	
Indicator(s)	Frankfurt Airport: Proportion of passengers who use public transport (% originating passengers). Fraport parent company: Proportion of employees who use public transportation (% employees).	

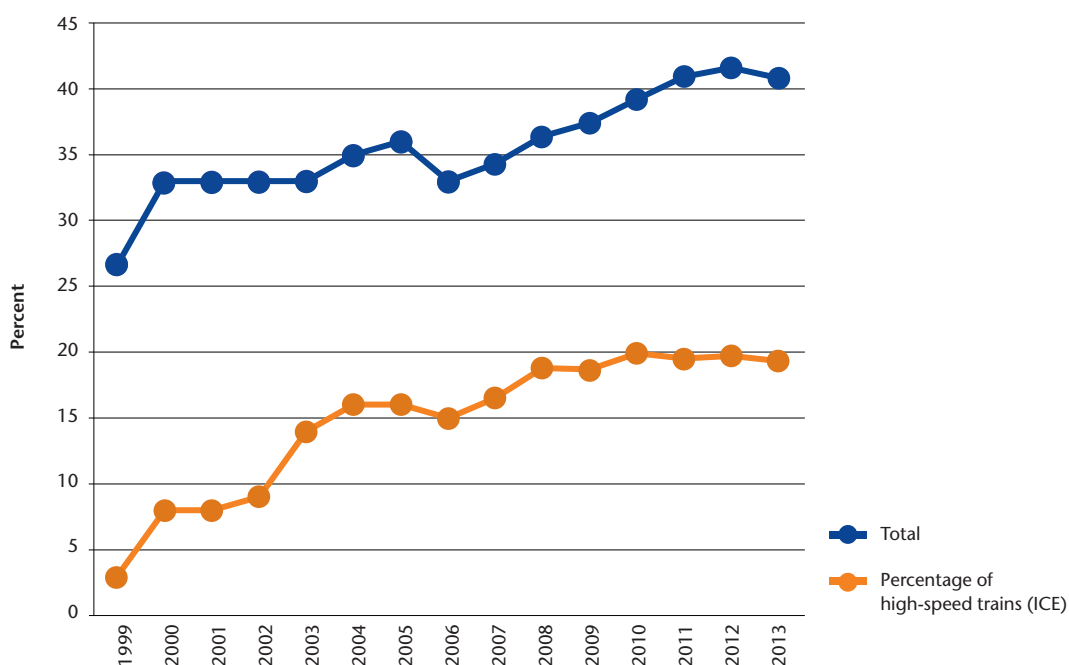
Trend(s)

Intermodal traffic links give passengers and employees the opportunity to go to or leave the airport using public transportation. 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 26.6 percent of the passengers starting their flight in Frankfurt travelled to or from the airport by public transportation (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 percent for the year 2020. (Environmental Pro-

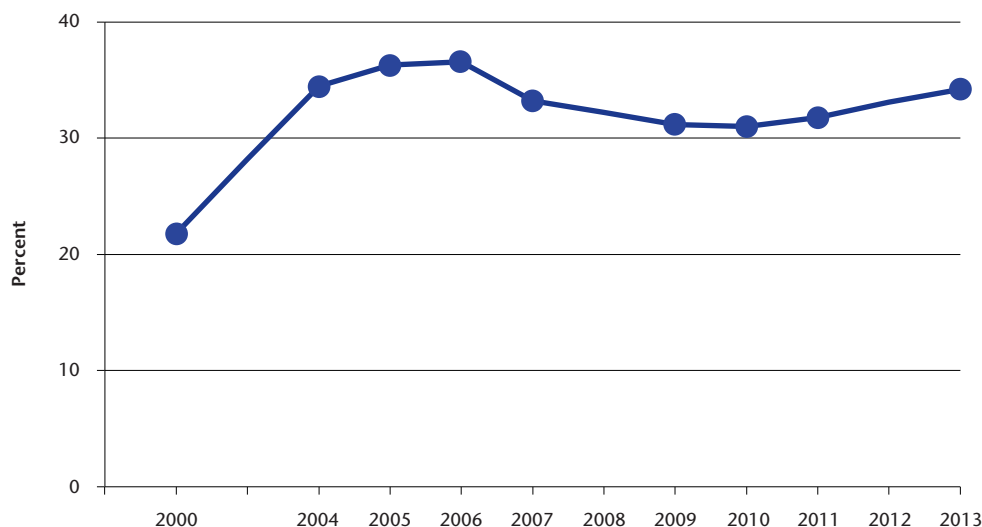
gram 2008 of Fraport AG). In 2013, 40.8 percent of passengers used public transportation.

The proportion of employees who use public transportation to reach their workplace rose from nearly 22 percent in 2000 to 35 percent in 2004. Between 2004 and 2013, the value fluctuated in a range between 31 percent and 37 percent. The use of public transportation depends significantly on varying and flexible shift schedules. 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 transportation.

Proportion of passengers who use public transportation (rapid transit trains, regional trains, regional express, high-speed trains (ICE), intercity trains (IC), buses)



Proportion of employees of the Fraport parent company who use public transportation to travel to and from work



Management initiative

Active structuring of traffic workflows in CargoCity

Many companies, e.g. truck and airfreight forwarding companies, airlines, cargo handling agents, security companies, and government agencies, perform their activities in Cargo City at Frankfurt Airport. The processes in Cargo City are associated with a significant volume of road traffic. In peak periods, there may therefore be logjams and delays in cargo workflows. Since Fraport cannot exert any direct influence on the traffic situation in Cargo City, we take on the role of a coordinator in cooperation with the companies involved with the aim of establishing active control of the traffic flows. We have set up or initiated various projects to facilitate this over recent years, such as the founding of Air Cargo Community Frankfurt e.V. and the introduction of the IT platform Fair@Link (project developer: IT company Dakosy AG, Hamburg). This platform is intended to define and establish rules which result in airfreight dispatch and return being implemented in a more coordinated and seamless way than was the case in the past. A further objective was to avoid traffic jams.

Further optimizing appeal of intermodal packages at Frankfurt Airport

Fraport works together with German Rail (Deutsche Bahn), Lufthansa and other airlines to enhance the

appeal of intermodal 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. Furthermore, the package of scheduled long-distance bus connections is being improved from and to the German regions which are not optimally connected to the long-distance rail network of German Rail (DB) to Frankfurt Airport. Long-distance bus stops are being set up to serve this mode of transport.

Fraport provides the Job Ticket for employees

Fraport employees are motivated to use public transport with the Job Ticket provided free of charge. In 2013, 34 percent of the workforce took up this offer. However, many timetables frequently 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. The RMV public transportation network (Rhein-Main-Verkehrsverbund) is now planning to introduce 24-hour operation for suburban train services routed to the airport and therefore provide commuters with an improved level of service.



Environmental aspect: Air pollutants

Type of environmental aspect	Direct* and indirect**		
Assessment of the environmental aspect	Materiality:	Low*	High**
	Controllability:	Medium*	Poor**
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, aircraft. Fraport parent company: Operation of buildings, equipment and vehicles.		
Indicator(s)	Air traffic at Frankfurt Airport (up to an altitude of 300 m): Emissions of the air pollutants NOx, benzene, PM 10 (absolute, relative per traffic unit) [t, g/traffic unit] (see accounting principles for the environmental situation, air emissions).		

Trend(s)

Emissions from the airport

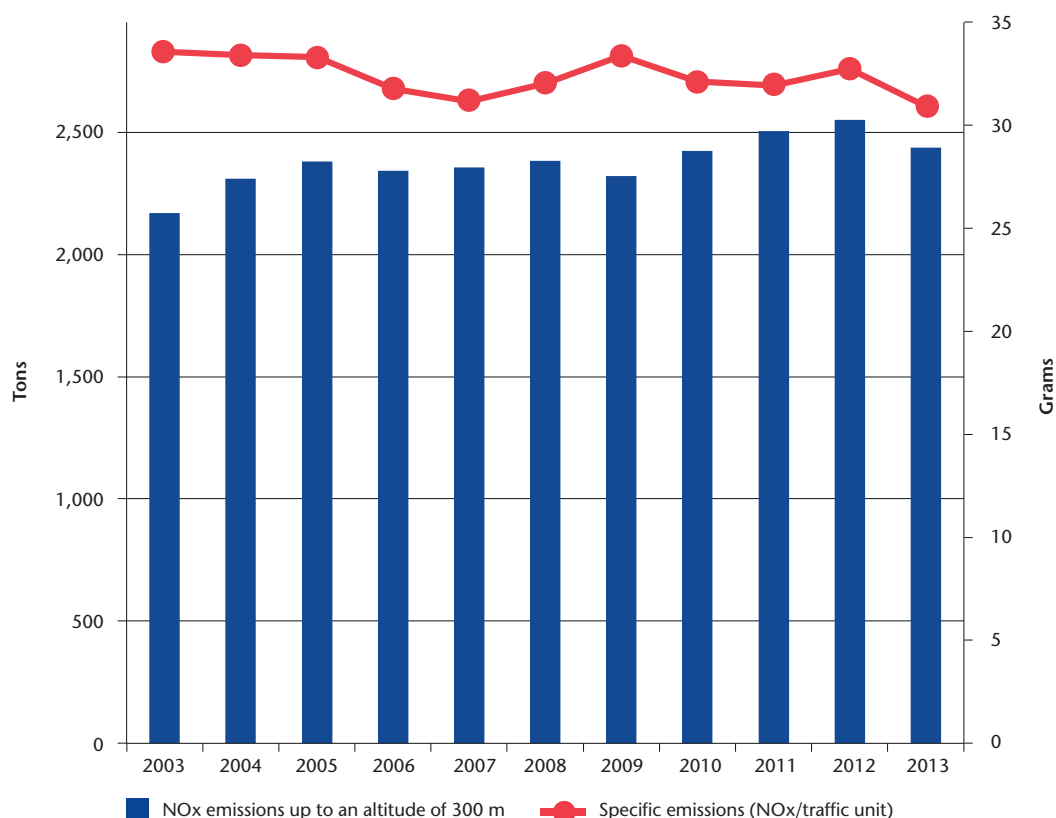
The emissions from the airport are primarily caused by air traffic. The second most important cause relates to emissions on the ground generated by traffic on the apron and by automobiles travelling to and from the airport, and road traffic at and around the airport.

Aircraft emissions have been calculated continuously since 2000. The method of logging pollutant emissions from aircraft to create an inventory was adjusted to comply with the ICAO-Doc 9889 "Air-

port Air Quality Manual" from 2013. This has brought about some changes in the total airport emissions.

Carbon monoxide and nitrogen oxides (NOx) represent the biggest proportion of aircraft emissions. Since 2010, the NOx emissions from air traffic are trending slightly upward with increasing traffic figures and currently amount to some 2,438 tons annually. The specific emission amounts to approximately 31 grams per traffic unit. Aircraft emissions amount to a proportion of 90 percent of total airport emissions up to an altitude of 300 m.

NOx aircraft emissions (absolute and specific) at Frankfurt Airport up to an altitude of 300 m



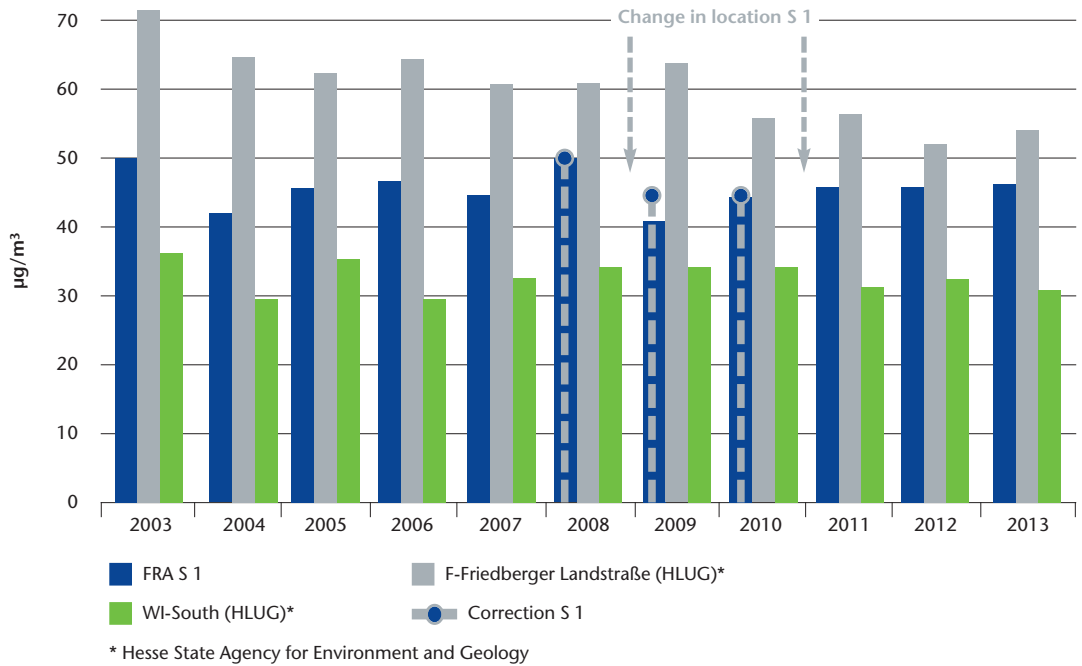
Comment: In order to improve the accuracy of calculations, the calculation has been done without increased reverse thrust (compared with idle) since 2013 and adjustments have been made to "ICAO Doc. 9889" for Auxiliary Power Unit (APU).

Air pollutants Frankfurt Airport

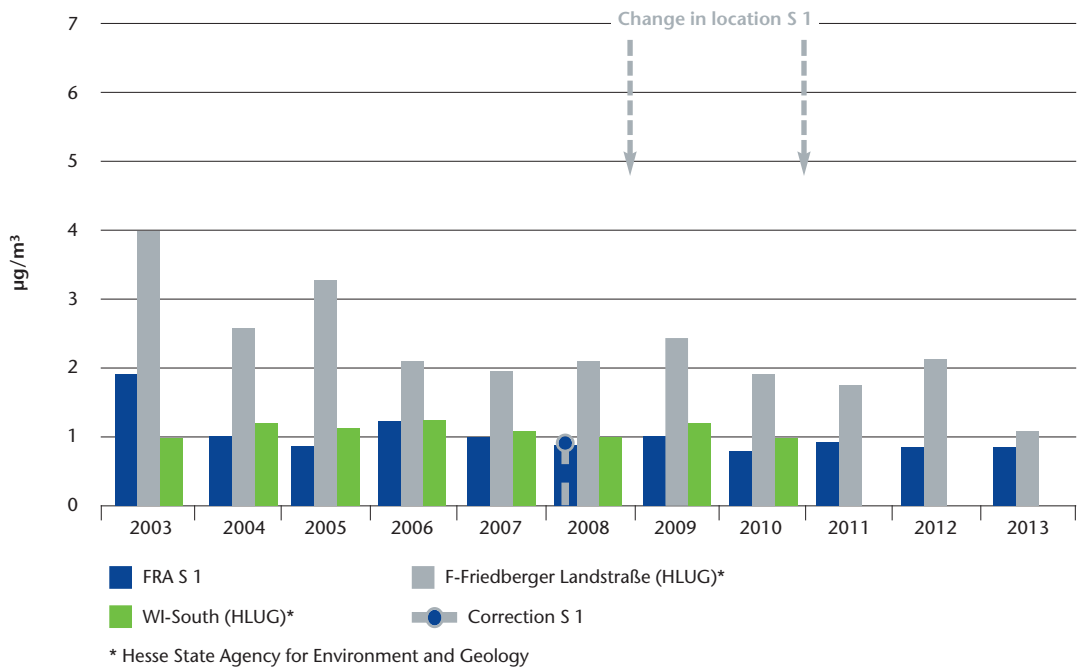
The emissions of relevant air pollutants have been recorded at Frankfurt Airport since the commencement of continuous monitoring in the urban district surrounding the airport site in 2002. Until 2008, it even proved possible to comply with the strict precautionary limit values of the 22nd Federal Pollutant

Control Ordinance (BImSchV), 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.

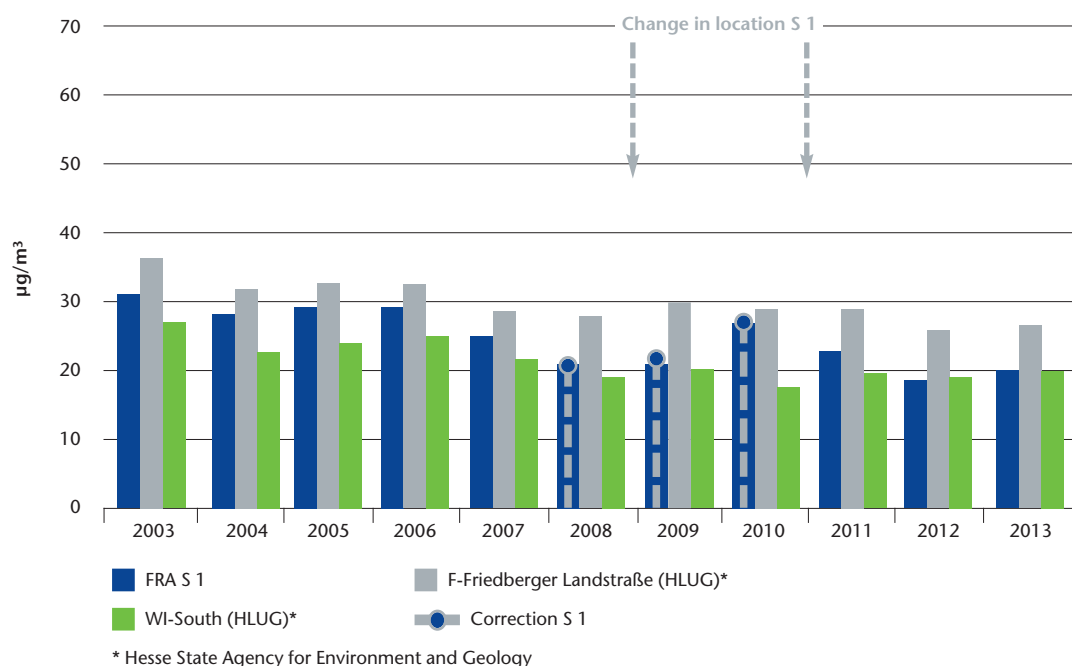
Comparison of annual averages for NO₂



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. Measurements have been taken at up to five measuring stations. The Fraport parent company publishes detailed information on airport quality in its Air Quality Annual Report www.fraport.com/en/sustainability/stakeholder-dialog/publications.html.

Calculation of pollutant emissions caused by air traffic

The contribution of air traffic to the total concentration of air pollutants at Frankfurt Airport is determined using the LASPORT dispersal model. This involves the latest traffic and individual aircraft data being evaluated. This data platform provides nuanced information for the assessment of the air-pollution situation which can be used to provide transparent communication.

To date, it has not been possible to provide an annual presentation of the emissions from stationary sources (e.g. heating, emergency power units) and ground processes. Fraport is working on this model so as to be in a position to calculate this systematically in future.

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
- are described in the section on climate gases (page 15 ff.) because they also impact the reduction of CO₂ emissions.



Environmental aspect: Impacts on biodiversity

Type of environmental aspect	Direct	
Assessment of the environmental aspect	Materiality:	High
	Controllability:	Good
Responsible process owner(s)	Fraport parent company	
Indicator(s)	Frankfurt Airport: Surfaced areas [km ²].	

Trend(s)

The total owned land of Frankfurt Airport amounted to 22.97 km² at the close of 2013. 10.65 km² of this area was surfaced. Since 2010, the operational area was expanded from 16.19 km² to 18.18 km² as a result of the expansion of the airport with the opening of the new northwest runway. The new areas essentially relate to the location of former woodlands that have been felled and the environmental loss has been mitigated elsewhere.

One of the mitigation measures implemented was the restoration of a former ammunition depot at Mörfelden-Walldorf covering some 100 hectares to its natural habitat. This measure means that this area is increasingly providing the local population with a recreation amenity. The former bunkers were dismantled and various measures have been implemented under species-protection legislation, such as the reinstatement of amphibian ponds and the conversion of two bunkers to winter quarters for bat populations. A particularly rewarding outcome is provided by bats already populating the newly established habitat in the first year.

Management initiative

Ecological measures for the airport expansion are rapidly implemented

Following the resolution passed by the Hesse Ministry of Economics, Transport and Regional Development (HMWVL) on December 18, 2007, ecological measures for the expansion of the airport were defined in the Zoning Plan to compensate for the loss of the area and for human interventions in the natural environment and landscape in the form of mitigation, coherence and species support measures.

The loss of an area of 282 hectares of woodland required for the expansion measures was mitigated by planting a new area of woodland measuring 288 hectares. This measure is divided into 13 reforestation areas in the Frankfurt/Rhine-Main region which have now been replanted and are currently in a development growth stage lasting a number of years.

As mitigation for the human interventions in the European NATURA 2000 network of conservation areas across Europe, comprehensive forest improvement measures are implemented for about 2,000 hectares of existing woodlands located close to the airport (state-owned forest, Kelsterbach Forest, Fraport's own woodlands). These coherence measures will also help to retain this coherent (=integrated) network of conservation areas. This is being done by active regeneration of woodlands that are far removed from their natural state, e.g. coniferous forests, and converting them to areas that resemble natural woodlands. As well as removing plants that are not indigenous, commercial exploitation will no longer take place in future.

On the airport site itself, the spaces between the newly built taxiways and the new runway are being developed to create nutrient-poor grasslands (approx. 85 hectares) and dwarf shrub heathlands (approx. 132 hectares). Indigenous seeds for this planting program were gathered on the airport site itself and in the surrounding area before being distributed on the areas being sown. Another project involved the conversion of sandy grassland and sand heaths from the former Kelsterbach transformer substation to open spaces in the Kelsterbach Forest (approx. 2 hectares). This project was a success and the biotopes also underwent positive development with the growth of such protected species as maiden pinks and buckthorn.

Success of ecological measures in the course of airport expansion is reviewed and documented

The implementation of the ecological measures described here and all other similar measures associated with the expansion of the airport is documented in the course of environmental monitoring every year. A specific focus of the verification assessment is on the feasibility of the measures and the successful outcome of their implementation.

Monitoring is also done to establish the effectiveness of the avoidance and minimization measures implemented under statutory legislation in advance of construction work to protect species such as stag beetles, bats, sand lizards, natterjack toads and other protected species. The success of the measures is demonstrated by the species becoming established in the habitats and the emergence of new generations.

The monitoring program established the following results in 2012:

- The Kelsterbach Forest continues to be a habitat for the middlespotted woodpecker and the black woodpecker. There have been no changes in the breeding behavior of the observed species. The nest boxes set up in the surrounding woodland areas (approx. 320 boxes) are being populated by the birds.
- 13 species of bat (e.g. Bechstein's bat, greater mouse-eared bat, Natterer's bat) have been identified. Six bat colonies were known to date and these have now been augmented by two new colonies. The artificially drilled tree hollows (350 hollows), the hanging flat bat boxes and the overwintering boxes (685 boxes) are being increasingly populated by the bats and used as roosting sites.
- Large numbers of amphibian species such as natterjack toads and agile frogs are increasingly being identified in new stretches of open water. A high rate of reproduction has also been verified for sand lizards in the settlement areas.

You will find further information at:

www.fraport.com/en/sustainability/environment/conservation-of-natural-resources.html.

Ecological structural diversity at the airport site is improved

All unsurfaced areas at the airport are greened. Approximately 500 hectares of green space between the southern parallel runway system and Runway 18 West for aircraft takeoffs only are extensively managed. This policy has been pursued since the mid-1980s. Mulch mowing is done on an annual basis to a height of 25 cm of grass. Water and fertilizers are not applied to the grassland areas. Future plans involve further improving the structural diversity over an area of approximately 250 hectares by only mowing the area every two years.

Ensuring sustainable use of forest resources

Fraport is planning to have an audit carried out for its own inventory of forest resources and for the mitigation areas restored to their natural state and replanted with local native species of tree in compliance with a global forest certification system. This is intended to ensure that Fraport's own woodlands are used sustainably and improved in the future.

Bees are used for biomonitoring

The Fraport parent company finances a project involving the use of bees for environmental monitoring at the airport and at two reference sites in the Hintertaunus mountain areas 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.

Fraport Environmental Fund sponsors ecological projects in the Frankfurt/Rhine-Main region

Since 1997, the Fraport parent company has been using its voluntary Environmental Fund to support nature and environmental conservation projects, ecological research projects, and environmental education programs in the Frankfurt/Rhine-Main region. A total of 800 projects were sponsored with funds amounting to nearly 34 million euros – these projects range from purely conservation measures, such as maintaining orchard meadows or creating new stepping stones, through environmental education campaigns (e.g. exhibitions, field trips and advanced training programs), to the awareness campaign about the biowaste bin in German households.

The Rhine-Main Regional Park makes a major contribution to the appeal of the region and is by far the biggest project sponsored by the Environmental Fund. Alongside this project, the funding focus of the fund for some years has been on preserving and promoting biodiversity in the region as well as climate protection.

Minimizing the risk of bird strike with biotope management

Collisions between aircraft and individual birds and particularly with flocks of birds are a source of hazard. Since about 70 percent of all bird strikes occur at airports and in their immediate vicinity, Fraport as an airport operator is committed to keeping this risk to a minimum. Contrary to the approach at many international airports, Frankfurt focuses on a special system of biotope management. This involves taking action to minimize or avoid opportunities for breeding, resting and feeding. The bird strike rate in Frankfurt based on verified reports by pilots over the past thirteen years was two to a maximum of 3.5 strikes per 10,000 aircraft movements.



Environmental aspect: Water consumption

Type of environmental aspect	Direct and indirect	
Assessment of the environmental aspect	Materiality:	Moderate
	Controllability:	Medium
Responsible process owner(s)	Fraport parent company: network operators, consumers. Third parties at the airport: consumers.	
Indikator(en)	Frankfurt Airport: volume of drinking and service water (absolute, volume per traffic unit) [m ³ , l/traffic unit]. Fraport parent company: volume of drinking and service water (absolute, volume per traffic unit) [m ³ , l/traffic unit].	

Trend(s)

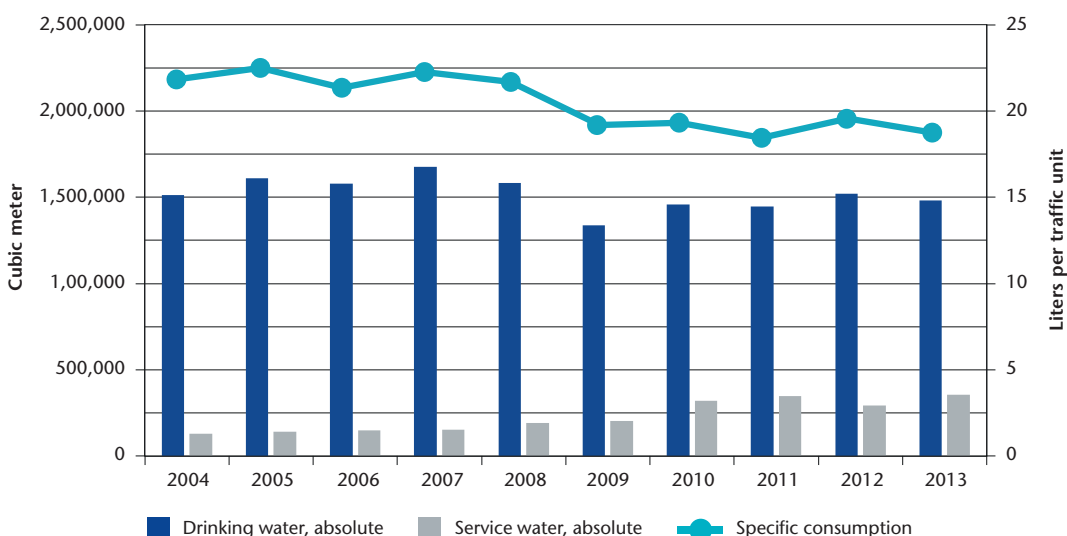
Water consumption at the airport

In 2013, a total of 1.837 million m³ water was consumed at Frankfurt Airport (2012: 1.815 million m³). The volume of drinking water included in this figure amounted to 1.482 million m³ in 2013. The increasing use of service water during recent years (2013: 0.355 million m³) means that the consumption of drinking water is declining. This has mainly been achieved by the increasing use of rainwater, treated water from the River Main and Fraport's own groundwater (well water). The percentage of service water consumed by comparison with total water consumption amounted to 17.9 percent in 2013. The consumption of drinking water per traffic unit amounted to 18.8 liters in 2013. 15 years ago, this volume was still 25 liters per traffic unit and ten years ago the figure was 21.8 liters.

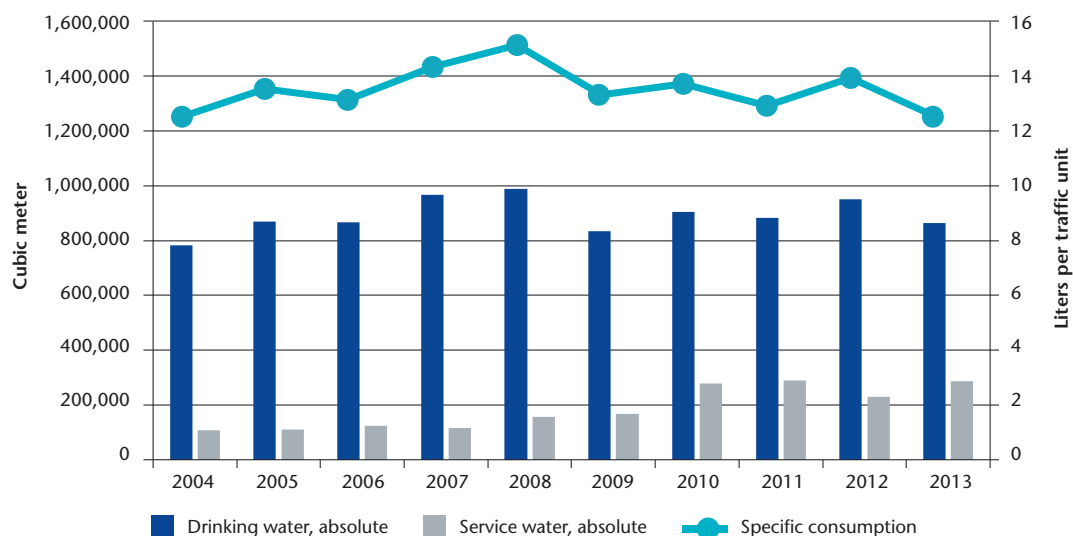
Water consumption by the Fraport parent company

The total water consumed by the Fraport parent company amounted to 1.151 million m³ (2012: 1.181 million m³) in 2013. The volume of drinking water and service water included in this figure amounted to 951,000 m³ (2012: 864,000 m³) and 287,000 m³ (2012: 230,000 m³) respectively. The percentage of service water consumed has been increased from 12 percent in 2004 to 25 percent in 2013. The consumption of drinking water per traffic unit amounted to 12.5 liters in 2013 and this represented an improvement of 10 percent compared with 2012. This was enabled by an increase of 57,000 liters in the use of service water compared with the previous year.

Absolute consumption of drinking and service water and consumption of drinking water per traffic unit at Frankfurt Airport



Absolute consumption of drinking and service water and consumption of drinking water per traffic unit at the Fraport parent company



Management initiative

Consistent expansion of the use of service water

Fraport operates several rainwater treatment plants located on the site of CargoCity South and in Terminals 1 and 2. The new Pier A-Plus has also been equipped with a rainwater treatment plant. The service water is sourced from rainwater and groundwater (well water). When rainfall is low, purified water from the River Main is used. The service water is sourced through separate supply networks and supplied for sprinkler systems, toilet flushing 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 still undergoing expansion until 2016.

Water-saving technology established as standard

The biggest savings have already been made by installing water-saving aerators in sink 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 resulted from the introduction of systems operating with circuits in vehicle washing equipment.



Environmental aspect: Wastewater

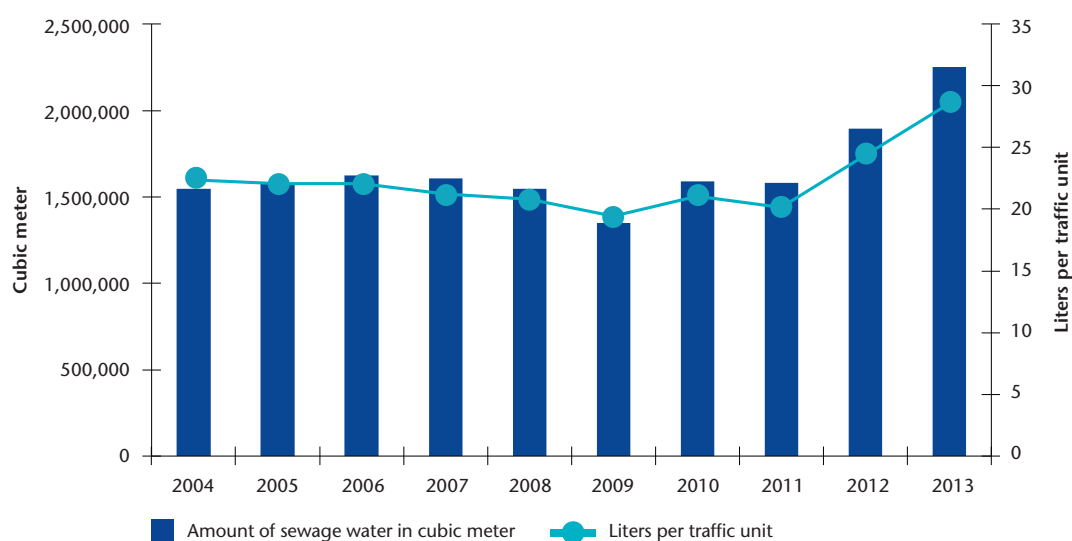
Type of environmental aspect	Direct and indirect	
Assessment of the environmental aspect	Materiality:	High
	Controllability:	Medium
Responsible process owner(s)	Fraport parent company: Operation and use of the drainage networks and other wastewater systems. Third parties at the airport: Use of wastewater drainage networks and other wastewater systems.	
Indicator(s)	Frankfurt Airport: volume of sewage water (absolute, relative to the traffic unit) [l, l/traffic unit].	

Trend(s)

In the years 2012 and 2013, the annual volume of sewage water generated at Frankfurt Airport was significantly higher than in previous years at 1.90 million m³ and 2.25 million respectively. The reason for this increase was the previous two tough winters with ice and snow (at the end of 2012 and the be-

ginning of 2013) which meant that more wastewater containing deicing agent was channeled into the sewage water drainage system. Deicing agents increase the polluting load. This was equivalent to 74,600 population equivalents in 2013.

Volume of sewage water at Frankfurt Airport



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 washing equipment. 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.

Wastewater is pretreated

Grease and oil separators, and demulsification plants are positioned where wastewater is generated, for example 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 treatment plants in Sindlingen and Niederrad. Fraport operates its own sewage treatment plant in the southern section of the airport with a capacity of 100,000 population equivalents. The plant treats approx. 1,400,000 m³ of sewage water each year. The sewage water from the entire southern section is treated here together with the wastewater containing deicing agent from aircraft movement areas.

After flowing through the sludge removal tanks, rainwater from the apron and operational areas is conducted through oil separators in order to remove potential contaminants from risk areas (fuelling, maintenance, etc.). The permissible run-off volumes from the areas defined above are guaranteed by rainwater retention basins. The water is only then channeled into the River Main, the Creek Gundbach or conducted into infiltration plants when purification is completed. Systematic checks are performed to establish compliance with the specified tolerance limits.

Water management also includes the drainage systems installed at the Runway Northwest. Contrary to the drainage in the old runway system, the precipitation water from the runway for aircraft landings only and its taxiways flows along slot channels configured along the sides of traffic surfaces, where it is conducted through a network of drains 23 kilometers in length. The water is then pumped from there into two underground reservoirs, each with a capacity of 12,500 cubic meters. Subsequently, the water passes through filters with a total area of 20,000 square meters and deicing agents are removed during the winter months.

Volume of deicing agent reduced by Advanced Deicing System

The Fraport subsidiary company N*ICE Aircraft Services & Support GmbH (N*ICE), responsible for deicing of aircraft, uses a mixture of polypropylene glycol and different proportions of water. We use potassium formate for deicing aircraft-movement areas at Frankfurt Airport in concentrations to match the weather conditions. Both deicing agents are easily biologically degradable within a short space of time and meet stringent environmental requirements. Precipitation water containing deicing agent from drained surfaces is retained and treated in the water treatment facilities.

Since winter 2012/13, N*ICE has been using the N*ICE Advanced Deicing System (NAD) to reduce the quantity of deicing agent in all deicing vehicles. Using separate tanks for water and deicing agent combined with a modern mixing system means that the deicing mixture used for deicing and anti-icing can be matched to the prevailing weather conditions. This method uses a higher proportion of water which leads overall to a 20 percent reduction in the amount of deicing agent required. N*ICE developed the procedure for converting the deicing vehicles in cooperation with the corresponding vehicle manufacturers. There is currently a fleet of 58 deicing vehicles. All new vehicles purchased are fitted with the new technology.

Quality assurance for wastewater with systematic checks

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 conducts measurements of chemical and physical parameters in the wastewater at the confluence points and the wastewater units in order to guarantee that no pollution occurs. The precipitation water is continuously monitored at the discharge points in the River Main and the central seepage installations.



Environmental aspect: Contamination of soil* and groundwater**

Type of environmental aspect	Direct and indirect		
Type of environmental aspect	Materiality:	Moderate*	High**
	Controllability:	Good*	Good**
Responsible process owner(s)	Fraport parent company: 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 on) [mg/l].		

Trend(s)

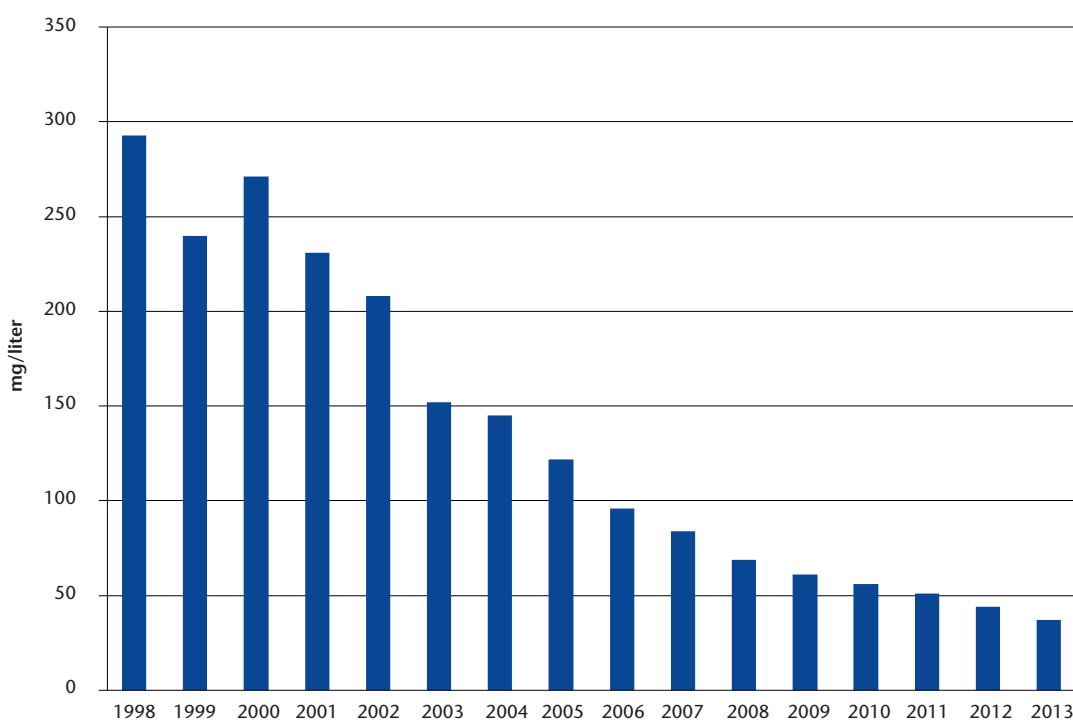
Some parts of the soil and the groundwater at Frankfurt Airport have been polluted by various uses of the site over a period of more than 80 years. Following identification of contaminated areas, a professional clean-up operator did this work, and this process is still ongoing.

During the 1970s, pollution occurred at the Luft-hansa 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.

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 37 mg/liter in 2013 and this meant it had come down by 16 percent compared with the previous year

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



Management initiative

Use of winter deicing agents reduced by scatter data management

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 dispensed. This means that the use of winter deicing agents can be reduced and duplication of deicing is avoided.

Water treatment plant cleans up groundwater

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 60 mg/l (limit value in the Drinking Water Ordinance: 50 mg/l). Fraport is therefore continuing to operate the plant.

Technical monitoring of the drainage systems and run-off surfaces

Fraport performs a process of regular monitoring by expert auditors 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. Any defects identified are remedied.

Monitoring groundwater quality at 550 measuring 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.

As the airport has expanded, Terminal 3, aprons and other buildings have been created on the site of the former Rhine-Main US 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.

Waterways alarm plan is activated in a pollution incident

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



Environmental aspect: Dangerous goods* and hazardous materials**

Influence of the Fraport parent company	Direct and indirect		
Assessment of the environmental aspect	Materiality:	Moderate*	Low**
	Controllability:	Medium*	Medium**
Responsible process owner(s)	Fraport parent company: Application of hazardous materials, handling of dangerous goods. FCS: Handling dangerous goods. N*ICE: Aircraft deicing.		
Indicator(s)	Frankfurt Airport: Handling dangerous goods at FCS [t], discrepancies and damage to packaging during the handling of dangerous goods [number]. Fraport parent company: Use of hazardous materials [t], products containing hazardous materials [number].		

Trend(s)

Dangerous goods

Turnover of dangerous goods at the Fraport parent company

Notifiable dangerous goods incidents involving Fraport continued to be maintained at a very low level over the course of the previous year. The so-called discrepancies, i.e. nonconformities with the regulations for the handling of dangerous goods, came down by five incidents to 94. It is gratifying to record that only two cases involving the release of materials were reported in 2013. The number of incidents relating to the packaging of dangerous goods increased from five to six. The target for this year is to maintain this level or even reduce it still further.

Turnover of dangerous goods at Cargo Services GmbH

The turnover of dangerous goods not including Class 7 (radioactive) in airfreight by Fraport Cargo Services GmbH (FCS) amounted to:

2011: 6,347 tons

2012: 6,880 tons

2013: 6,505 tons

Class 7 (radioactive) amounted to:

2011: 4,425 containers

2012: 4,616 containers

2013: 3,465 containers

Notifiable dangerous goods incidents with the involvement of FCS

So-called discrepancies, i.e. nonconformities with the regulations in the handling of dangerous goods involving FCS, were not recorded in 2013. There were also no reports relating to release of materials in 2013. This enabled the high level of dangerous goods handling to be maintained.

Hazardous materials for the Fraport parent company

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.

Management initiative

Dangerous goods

Precautions for emergencies are planned and trained at all levels

Emergency procedures for the transport of dangerous goods are documented in Fraport's EMERGENCY PLAN (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 the Fraport parent company, 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.

As soon as even minor external damage is detected in containers for dangerous goods, the Fraport Safety and Security Control Center and the Airport Fire Department are alerted. They possess the necessary training and special equipment to respond appropriately.

Fraport trains employees who are involved in the transport and storage of dangerous goods and employees who use hazardous materials at 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.

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

A dangerous goods warehouse facility is operated by FCS in CargoCity South for all classes of hazardous goods, including radioactive materials, in conformity with the Federal Impacts Control Act (BlmschG). Employees at this facility check the physical properties and the documentation of each dangerous goods consignment in conformity with the regulations of ICAO T.I. (International Civil Aviation Organization – Technical Instructions) and IATA DGR (International Air Transport Association –

Dangerous Goods Regulations) and ADR ("Accord européen relatif au transport international des marchandises Dangereuses par Route", in English "European Agreement concerning the International Carriage of Dangerous Goods by Road"). There are central storage facilities for radioactive materials.

Dangerous goods and radiation protection officers monitor the handling of dangerous goods

The dangerous goods and radiation protection officers at the Fraport parent company are responsible for monitoring compliance with rules and regulations governing the transportation, acceptance, delivery, temporary storage, packing, unpacking, loading, and unloading of dangerous goods. The same applies to the FCS which is assisted by the "Medical Airport Services".

Hazardous materials

Chemical products are checked before procurement

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 conducted 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 done by the Fraport parent company 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 materials 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 percent 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.



Environmental aspect: Waste

Type of environmental aspect	Direct and indirect	
Assessment of the environmental aspect	Materiality:	High
	Controllability:	Medium
Responsible process owner(s)	Fraport parent company: waste generators and waste owners. Third parties at the airport: waste generators and delivery of waste to the Fraport parent company. Disposal companies: sorting, recycling, recovery, disposal.	
Indicator(s)	Fraport parent company: – 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 recovery of waste [recoverability rate in %]	

Trend(s)

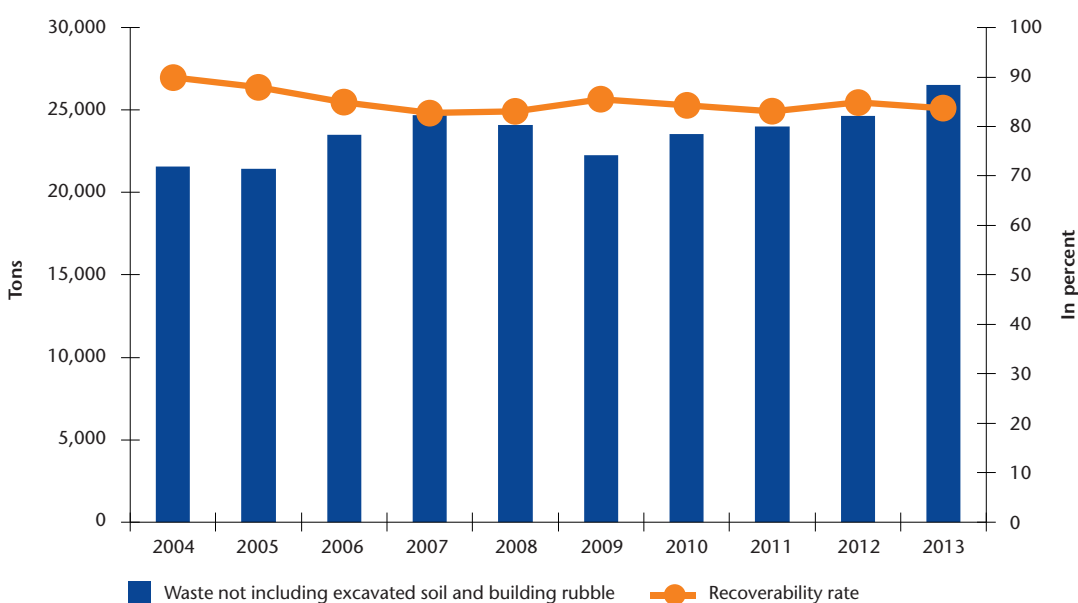
The total volume of waste (not including excavated soil and building rubble) disposed of by the Fraport parent company amounted to 26,540 tons in 2013. The fluctuations in total annual waste volumes since 2004 are correlated with the development of the number of traffic units and are also driven by a series of diverse effects. These include:

- Start-up/shutdown/acquisition of equipment (e.g. nitrate removal system, rainwater reservoir, sewage treatment plant)

- Maintenance cycles for wastewater systems (changes in occurrence of residues from year to year)
- Change in processes (disposal of deicing agents for the first time in 2013)

The recoverability rate remained at a high level of approx. 84 percent in 2013.

Total amount of waste and recoverability rate (not including excavated soil and building rubble)



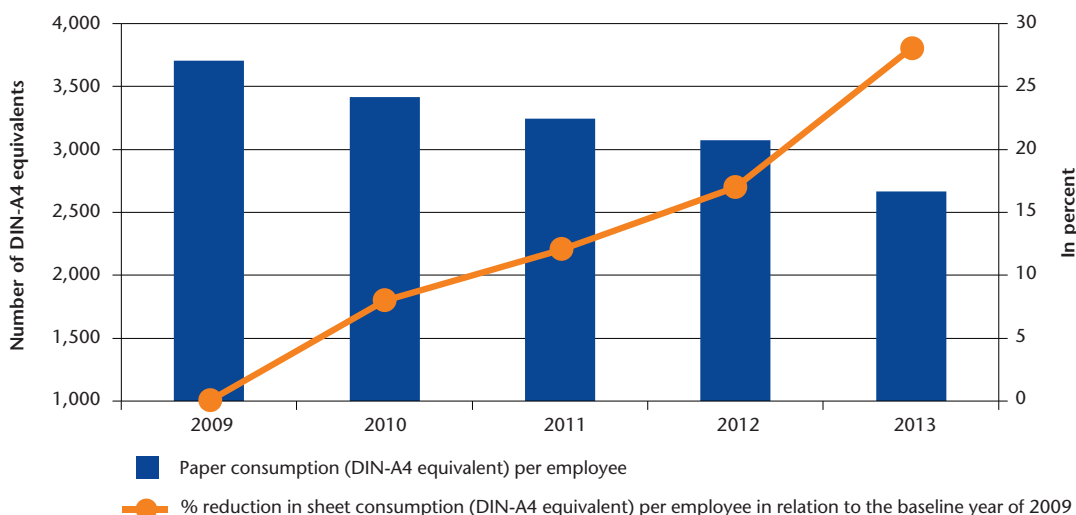
Management initiative

Waste avoidance is the top priority

The objective of the Fraport parent company is to achieve a 25 percent reduction in paper consumption by 2015 compared with the baseline year of 2009. This target has already been exceeded. At the end of 2013, paper consumption had been reduced

by approx. 28 percent per employee. This was achieved by introduction of a central printer concept with printpoints, the conversion of the preset print option from single-page to printing on both sides, electronic document management, paperless distribution of employee information, etc.

Paper consumption and annual percentage reduction per employee compared with the baseline for 2009



Consistent separation of waste permits high recoverability rate

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 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 recovered or disposed of in an environmentally compatible way

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

Fraport waste management guarantees professional disposal

Waste Management at the Fraport parent company 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.

Monitoring and advice provided by the operational officer for waste

The Fraport parent company has appointed a Waste Officer. The functions of this officer include the provision of advice, promotion of low-waste procedures, internal and external monitoring and raising awareness and training for employees.

Key for the assessment of materiality and controllability of the environmental aspects




Categories	Materiality
Low	In standard operation, no or negligible quantities occur/no or negligible quantities are implemented or the risk in the case of non-standard operation is not identifiable
Moderate	In standard operation, minimal to moderate quantities occur/minimal to moderate quantities are implemented or the risk in cases of non-standard operation exists but is classified as minimal
High	In standard operation, large quantities occur/large quantities are implemented or the risk in the case of non-standard operation is high
Categories	Controllability
Poor	Difficult, can only be changed with a high level of technical or organizational input or under the responsibility of third parties
Medium	Medium, can only be changed with an enhanced level of technical or organizational input, technology may not (yet) be available
Good	Easy, can be changed without high level of input

Status of the Environmental Program 2011 to 2014, supplemented and modified 2012/13

The key objectives and measures of Fraport AG, N*ICE, FCS and Energy Air 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 parent company, N*ICE, FCS and Energy Air (from 2013) set a number of measures and goals for the upcoming years in the Environmental Statement 2011 and the abridged Environmental Statements for 2012 and 2013. 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 2014 and/or measure partly fulfilled
	Measure could not be implemented

The measures of Fraport parent company are not specifically marked.

The measures of Fraport Cargo Services GmbH are marked with FCS, those of N*ICE Aircraft Services & Support GmbH are marked with N*ICE and those of Energy Air GmbH are marked with Energy Air.

The environmental program of the Fraport parent company is shown in abbreviated form in the sustainability program (see www.fraport.com, Connecting Sustainably, Online Report 2013)

Climate protection

Target	Measures	Deadline		Status May 2014
Reduction of CO ₂ emissions per traffic unit (TU: one passenger with baggage or 100 kg of air-freight) by 30%, from 3.7 in 2005 to 2.6 kg/TU in 2020 (Fraport parent company, Scopes 1 and 2 GHG Protocol) Avoidance of additional CO ₂ emissions by expansion project in 2020 (Fraport parent company, Scopes 1 and 2 GHG Protocol, based on 2005)	Energy optimization of portfolio buildings			
	– Refurbishment of ventilation control centers in Terminal 1	to 2020		– Refurbishment of ventilation control centers in Terminal 1: total potential about 8,300 t CO ₂ , potential of 3,000 t CO ₂ has been implemented, a further 1,300 CO ₂ is being implemented. Continuation of the measure in the new environmental program.
	– Determination of possible energy savings in existing administration and service buildings of Fraport parent company	to 2020		– Energetic optimization in service and administration buildings, total potential approx. 4,000 t CO ₂ , potential of approx. 725 t CO ₂ are being implemented, approx. 834 t has been implemented. Continuation of the measure in the new environmental program.
	– Installation of LED lighting in a section of an airfreight building (FCS)	to 2013		Installation in a section is done. After completing the planning work throughout cargo hall, 4,422 fluorescent tubes are replaced by LED lights in the fourth quarter of 2014.
	Energy-optimized planning of new buildings	2012		Energy-optimized plans completed in four buildings (Fire station 4, Pier A-Plus, administration center, service buildings, ground handling services) for Terminal 3 in preparation. Continuation of the measure for Terminal 3 in the new environmental program.
	Setting up trial areas for LED lamps (new measure in 2013)	2013		– for apron illumination – in parking garages – in the arrival hall and external area at Terminal 1
	Establishment of CO ₂ controlling	2011/2012		Target process is implemented technically and organizationally. Inclusion in the regular reporting to the Executive Board has ensured.

Climate protection (continuation)

Target	Measures	Deadline	Status May 2014
Reduction of CO ₂ emissions per traffic unit (TU: one passenger with baggage or 100 kg of air-freight) by 30%, from 3.7 in 2005 to 2.6 kg/TU in 2020 (Fraport parent company, Scopes 1 and 2 GHG Protocol)	Use of alternative drive technologies – electric pallet loaders 20 percent – serial hybrid tow tractors in baggage handling 20 percent – electric conveyorbelts 100 percent	to 2015	Gradual implementation is planned until 2015. To date we have been deploying – 8 electric pallet loaders (approx. 5% of planned 20%) – 4 serial hybrid baggage tow-tractors (approx. 3% of planned 20%) – 81 electric conveyor belt trucks (approx. 86% of planned 100%) – 8 electric cars – 8 plug-in hybrid vehicles – 2 electric minibuses – 1 electric passenger staircase Continuation of the measure in the new environmental program.
Avoidance of additional CO ₂ emissions by expansion project in 2020 (Fraport parent company, Scopes 1 and 2 GHG Protocol, based on 2005)	Renewable energy generation – Investigation into use of geothermal energy at Frankfurt Airport	2013	Investigation of deep geothermal energy use at Frankfurt Airport provisionally closed. Based on the findings, the project will not be pursued at present.
Keeping emission factor by 15 percent below the national average (Energy Air)	Control of the purchasing portfolio electricity, optionally optimization (Energy Air)	to 2014	Due to the nationwide deterioration of the energy mix in Germany – as a result of increased coal use – the achievement is questionable. Continuation of the measure in the new environmental program.
	Optimization of purchasing renewable electricity from 24.1 percent to 30 percent in the context of the economic opportunities (Energy Air)	to 2020	The purchase of renewable electricity will be pursued. Continuation of the measure in the new environmental program.
Attainment of level 3 in the Airport Carbon Accreditation Scheme of ACI Europe	Expansion of activities of climate protection and CO ₂ reporting in accordance with Airport Carbon Accreditation, which are in connection with the airport, but not by Fraport to be accounted like air traffic or arrival or departure from passengers and employees. Increase of CO ₂ reporting.	2012	In 2012 goal was achieved. Successful renewal of the certificate at level 3 in January 2013 and 2014.
	Intensification of Stakeholder Dialog	continuous	– Alliance for electric mobility in the model region Rhein-Main together with the Federal Ministry of Transport, Construction and Urban Development. – Concession of Energy Award by Fraport parent company and Energy Air at IVG Immobilien AG and LSG Sky Chefs. – Support of the Sport Federation of Hesse concerning the climate protection prize for sports clubs.
Analyze and developing for operational and political action on climate change	Execution research project „Chamäleon“ with the University of Oldenburg and Institute for ecological economic research: Adaptation to the climatic change in enterprises of the public supply	2014	Project completed. Communication of research results done by the project partners.

Sustainable Building

Target	Measures	Deadline	Status May 2014
Further development of the concept "Sustainable Building" and integration in the business processes	Definition of principles and scope for "Sustainable Building" in new buildings and portfolio	2011	Principles with focus on climate protection regulated in an internal guideline of Fraport parent company.
	Establishment of organizational unit "Sustainable Building" within the Corporate Infrastructure Management of Fraport parent company	2012	The Central Infrastructure Management has implemented the content for Sustainable Building in existing processes.
	Conceptual approach for Life-Cycle-Costing (LCC) to provide planning and decision-making support, and implementation of an IT solution	to 2013	IT solution in progress.
	Involvement in research project Life-Cycle Benchmarking, supported by the Federal Ministry of Transport, Construction and Urban Development (BMVBS)	to 2014	Study largely completed, continuation in part projects.
	Optimization of building planning processes on the basis of dynamic building simulations	ongoing	Use of dynamic building simulation established.
	Development of KPIs	to 2013	Processing. The target values are defined in the Sustainable Building Guidelines, which became binding on April 22 nd 2013.
Certification of the new building for Terminal 3 in conformity with the DGNB Gold Standard (German Sustainable Building Council) and possible international standards	Preparation of energy concepts taking account of renewable energy	2011	Concepts were created in 2011.
	Stakeholder Dialogue on the energy concept with university researchers, politicians and NGOs	2011	Important stakeholders were involved in drawing up and evaluating the concept within the framework of a "Round Table Discussion".
	Implementation of sustainability criteria to support planning and construction of the new building for Terminal 3 for purposes of certification	to 2016	The certification is pursued further in the context of design planning. Continuation of the measure in the new environmental program.

Intermodality

Target	Measures	Deadline	Status May 2014
Improvement in intermodal services and services for passengers to increase the proportion of originating passengers travelling to and from the airport by public transportation (bus, suburban rail, regional rail, high-speed InterCity Express trains, other long-distance trains)	Redesign of signage and routing tools	to 2013	New signage by DB in the long distance train station has been completed.
	Further development of AiRail Check-in	2012	Number of airlines offering the AiRail Check-in respectively the baggage drop at Frankfurt Airport increased about 5%.
	Expansion of ICE Rail & Fly and Code Share links in cooperation with German Rail (DB) and the airlines	to 2015 extended	Air China has signed a code-share agreement with the DB for the routes Cologne, Düsseldorf and Hanover in 2013. It is marketed in January 2014 and used by Chinese passengers. Continuation of the measure in the new environmental program.
	Co-operation at the electrical bus connection between Gateway Gardens and Terminal 1 and Terminal 2	2011 continuous	Project delays because of changed procurement planning of the public transportation company Frankfurt/Main VGF.
	Connection of baggage conveyor system to the check-in desk at the AiRail Terminal	2015	Planning completed at Fraport parent company. Continuation of the measure in the new environmental program.
Growth in the originating passenger market by increasing the catchment area for users of public transportation	Improvement of the package of scheduled long-distance bus connections from German regions which are not optimally connected to the long-distance rail network of German Rail (DB) to Frankfurt Airport	2015	Completed planning for a central long-distance bus station in the parking lot near the Terminal 1 (P 36). Continuation of the measure in the new environmental program.

Intermodality (continuation)

Target	Measures	Deadline	Status May 2014
Improvement of intermodal package for airport employees	Review of improvements in rail and bus services, in particular in the marginal night-time hours for shift workers	to 2015 extended	Early ICE from Hamburg/Cologne (arrival FRA 4.35 am) by the German Rail (DB) will continue to be used; expectations by DB regarding the railway passenger demand are met. The Rhein-Main-Verkehrsverbund (Rhine-Main Transportation Association) plans a 24 hour S-Bahn service to and from the airport to serve commuters even better. Continuation of the measure in the new environmental program.
Expansion of the competitive position of the intermodal hub at Frankfurt Airport in the long-distance passenger rail travel	Initiatives with important joint-venture partners for expanding the integration of the airport in the Federal Transport Infrastructure Plan	to 2015	The Fraport parent company, as part of the Air Transportation Initiative for Germany, co-financed the study "Transport and economic benefits of intermodality". The study was completed in 2012.
Optimization of airfreight logistics chain for CargoCity with ecological and commercial perspectives	Support for developing a Cargo Community System to improve the workflows in airfreight handling	to 2013	Pilot phase was completed in 2012. Start of normal operation with new data platform to accelerate the processes in air cargo handling is planned for summer 2013.
	Feasibility study: Active management of traffic processes within Cargo City for purposes of traffic optimization and emission reduction	2012	In 2012 a "Cargo City Frankfurt Freight Task Force" conducted several traffic structure analyses. The results will be used to develop a concept for an active traffic control.
Transfer of the airfreight feeder service from road to rail	Implementation and completion of the research project "Air Cargo Rail Center" (ACRC)	2011	Research report shows: Airfreight volume alone is not adequate for a cost-effective shifting of freight transport to and from the airport from truck to rail.

Air quality

Target	Measures	Deadline	Status May 2014
Reduction of emissions of air pollutants due to the operation of the airport	Review of gradual introduction of stationary air-conditioning supply for (PCA) in new buildings (A-Plus Pier, C-Finger, Terminal 3)	2012 – 2013	In October 2012, a test run was started with a pilot facility at Terminal 1 A + and finished in 2014. As a result of the test run, there are technical specifications for PCA applications at Frankfurt Airport. The pilot plant will be used further in control mode.
	Introduction of electric ground handling equipment	to 2015	See Environmental Program for climate protection. Continuation of the measure in the new environmental program.
	Continuous monitoring of air hygiene at Frankfurt Airport	ongoing	Continuous measurements of air quality and annual publication in an air hygiene report on the Internet.
	Development of a prototype for modeling air pollutant emissions for a) infrastructure and ground handling b) subsequent extension to landside transport, option	2012 – 2013	Concept phase ongoing: Inventory and complement of existing operational data to infrastructure, research current emission factors, testing of methodological approaches. Preliminary partial results available for heating oil and natural gas firing, consolidation of the results of infrastructure completed by the end of 2014. Preliminary results for ground handling by the mid of 2015.
	Optimization of ground handling processes (saving of fuels) by development and employment of new software instruments, here for baggage transport (project team Plandis: Dispositionssystem ASTRO – Airport System for Transport and Operations).	2011	The trial operation of ASTRO (luggage transport) was recorded in November 2012 and the regular operation in March 2013. The absolute diesel consumption for transporting luggage has in 2013, compared to 2012, decreased by 2 percent.

Air quality (continuation)

Target	Measures	Deadline	Status May 2014
Reduction of emissions of air pollutants due to the operation of the airport	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	The target of 31 vehicles with EURO 5 emissions standard has been met in the fall of 2013, for the winter season 2013/2014 32 vehicles were operated with this emission standard. For the season 2014/2015 a deicing vehicle was newly purchased. It is the first vehicle in the EURO 6 emission standard.
Maintenance of incentives for the airlines to use aircraft with lower emission levels	Levying of airport charges for nitrogen oxides (NOx) and hydrocarbons (HC) beyond the trial phase	2012	System of airport charges established. A signal effect for aircraft manufacturers and operators is anticipated from the joint venture project with the German Air Transport Initiative.

Conservation of nature and resources

Target	Measures	Deadline	Status May 2014
Continuous improvement in environmental performance through management systems which are audited by environmental auditors	Continuation of validation in accordance with EMAS and certification in conformity with ISO 14001 at the Frankfurt site and selected Group sites	ongoing	In June 2012, the Fraport parent company and the subsidiary companies N*ICE and FCS operating at Frankfurt Airport were validated, respectively certified, in conformity with EMAS, respectively ISO 14001, by an external environmental auditor. The applied site registration to the European Union as well as the ISO14001 Zertifikat was maintained. The Group airports Lima and Antalya are also certified in conformity with ISO 14001.
Reduction of the volume of waste produced. Maintaining the high recoverability rate for unavoidable waste at Fraport parent company	Implementation of strategic status analysis of volume of waste with derivation of potential options for waste reduction and for recycling materials from unavoidable waste	2012	Analysis of the current state was completed in 2012; deflection of the corresponding potentials in processing.
Reduction of paper consumption per member of staff at Fraport parent company by 25% by 2015 (based on 2009)	a) Central printer concept b) Project for electronic document administration c) Test phase for printing on both sides as a standard setting for all members of staff	to 2015	All measures have been successfully implemented. Double-sided printing for all employees was introduced after the test phase. The savings in paper consumption at the end of 2013 was approx. 28% compared to 2009 (see figure in section waste, management approach). The target is reached.
Reduction of the consumption of drinking water by higher usage of service water – in Terminal 1 (38% by 2014) and – in the southern area (50% by 2020)	Expansion of usage of service water – in Terminal 1 – in the southern area*	to 2016 extended/ to 2020	– in Terminal 1: 69% of restroom facilities (233) in Terminal 1 are supplied with service water. – In the southern area: Service water use provided for two new cargo halls in Cargo City South (in planning). Planned start in 2015.
Maintenance and, if possible, increase in biodiversity on Fraport grounds	Implementation of a status analysis on biodiversity on Fraport grounds at the Frankfurt Airport site	to 2013	Measure of implementation: since the end of 2012, a study on biodiversity and Fraport developed with external support. It shows and assesses the remuneration and the company's activities concerning this subject.

* This refers to the area at the south of Runway 07R/25L. Cargo City South, the Development Area South for projects including the future Terminal 3, and maintenance facilities, for example Lufthansa, are located there.

Conservation of nature and resources (continuation)

Target	Measures	Deadline	Status May 2014
Maintenance and, if possible, increase in biodiversity on Fraport grounds	Implementation of a Biodiversity Check (European Business and Biodiversity Campaign, Global Nature Fund) and review/implementation of recommendations	2011 – 2014	Final evaluation completed in 2012, and measures deducted and initiated: – Support for projects to conserve ecosystems and biodiversity in the Rhine-Main area with funds from the Fraport Environmental Fund. – New buildings in Cargo City South areas are planned with ecological green roof. – Biodiversity is part of the Supplier Code of Conduct since 2013. – Exhibitions and events in terminals sensitize passengers and the general public about biodiversity.
Reduction in the use of aircraft deicing agent by increasing the proportion of water used for each aircraft deicing operation by 20% (N*ICE)	Equipping 49 vehicles with NAD technology (N*ICE Advanced Deicing System) (N*ICE)	2014 continuous	Measure was implemented successfully. All vehicles were converted to NAD technology in the meantime.

Noise abatement

Target	Measures	Deadline	Status May 2014
Achieving a lower number of people impacted by the aircraft noise than specified in the plan for an expansion in capacity with 701,000 aircraft movements, Night protection zone = 183,026 residents, Day protection zone = 28,980 residents	Dialogue with stakeholders from the region in the "Forum Airport and Region" on development of further measures.	continuous	In the context with "Alliance for noise protection 2012" developed Fraport AG, together with experts from the aviation industry and German Air Navigation Services, a package of 19 measures. These include noise abatement approach and departure procedures, a concept for alternating runway use, and monetary incentives for the use of quieter aircraft as possible.
	Selected runway and route use (Dedicated Runway Operations, DROps)	2011 continuous	– Original DROps concept has been successfully tested. – Measure constrained by introduction of ban on flights. – New concept "DROps Early Morning" since June 28 th 2013 in control mode: use change remains, application limited to first hour of operation. – When operating direction is 25, DROps days and 99% of the runway 25 used for departures, so that the DROps concept is implemented.
	Raising the approach angle to 3.2° with ILS (Instrument Landing System) on the Runway Northwest	2011 continuous	– Pilot operation since October 18 th 2012. – Monitoring Program launched by the German Aerospace Center (DLR). – Noise reductions in the maximum level at the monitoring measuring points from 0.5 to 1.2 dB (A).
	Support for noise impact study by the Environmental & Community Center	2011 continuous	Module 3 of NORAH study ("Noise-Related Annoyance, Cognition, and Health"), correlations between noise, harassment, thought processes and health) is completed, the results will be presented in October 2014. In module 3, the mental development and quality of life of primary school children are examined, whose schools are affected by aircraft noise. The other modules are located in the survey or evaluation phase.

Noise abatement (continuation)

Target	Measures	Deadline	Status May 2014
Achieving a lower number of people impacted by the aircraft noise than specified in the plan for an expansion in capacity with 701,000 aircraft movements, Night protection zone = 183,026 residents, Day protection zone = 28,980 residents	Further development of noise measurement and monitoring, and expansion of information provided on aircraft noise for citizens	continuous	<ul style="list-style-type: none"> – Aircraft noise monitoring in the vicinity of the airport Frankfurt with 28 fixed measuring stations and three mobile measuring containers. – Online Data Library and interactive FRA Map since 2013: About FRA Map, an interactive map, you can receive information on the number of overflights, noise levels and retrieved route usage for position or city. In addition, information can be called up about claim areas for noise abatement measures or on obtain compensation. – System Information FRA NoM: Continuous information about the aircraft noise events around the airport to sound levels at the measuring stations and flight tracks. Furthermore, the website offers the identification of aircraft noise events and the provision of current weather data.
	Introduction of variable satellite-controlled precision approach process (GBAS)	2013 ongoing	Cooperation agreement signed with German Air Navigation Services for setup. Start scheduled for August 2014.
Improvement of the noise situation for the residents affected	Bringing forward reimbursement of expenses for passive noise abatement to be paid to residents in the areas affected	2011 continuous	Bringing forward the reimbursements was officially announced and the entitled households were informed. So far involved 10 percent of all households.
	Expansion of the Casa2 Program for purchasing residential properties from the core zone to transition zones I+II by 70 million euros to a total volume of more than 100 million euros	2016	200 properties had been purchased under the Fraport Casa Program by the end of 2013. Vacancy rate below 10 percent of prevailing local rental.
	Establishment of a Regional Fund with resources to finance passive noise abatement for private households and public institutions eligible for protection	2013 continuous	Subsidy Guideline by the State of Hesse issued on December 31 st 2012. Funds are available. Citizens informed through press release. 23 worthy of protection institutions participate in it.

Environmental Program 2014 to 2017

The 2014 Environmental Program describes the most important goals and measures that the Fraport parent company, N*ICE, FCS and Energy Air have defined for Frankfurt Airport in the period between 2014 and 2017 and beyond, relating to the issues of noise abatement, climate protection, intermodality, air quality, and nature conservation and protection of resources.

Noise abatement

Target	Measure	Deadline
Achieving a lower number of people impacted by aircraft noise than specified in the plan for expansion in capacity with 701,000 aircraft movements Night protection zone = 183,026 residents, day protection zone 1 = 28,980 residents	Further development of selected runway and route usage for landings – (Dedicated Runway Operations, DROps) in order to create noise breaks	Summer schedule 2015
	Adoption of the increase in approach angle to 3.2° with ILS (Instrument Landing System) in regular operation on the new Runway Northwest	End of 2014
	– Introduction of a system for satellite-based precision approach procedures (GBAS)	Mid-2014
	– Development of GBAS-based noise-abatement approach procedures	Under development
Improvement of the noise situation for the residents affected	Offer to purchase residential property under the Casa2 Program in the transition zones I + II	2014 (application deadline for submission)
	Provision of resources to provide passive noise abatement for private households and public institutions eligible for protection from the Regional Fund	Dependent on the applicant implementing the construction measures
	Continuation of the dialogue with stakeholders from the region in the “Forum Airport and Region” on development of further measures	Unlimited
	Support for the noise impact study being done by the Environmental and Neighborhood House	2015

Climate protection

Target	Measure	Deadline
Reduction of CO ₂ emissions per traffic unit (TU: one passenger with baggage or 100 kg of air-freight) by 30%, from 3.7 in 2005 to 2.6 kg/TU in 2020 (Fraportparent company, Scopes 1 and 2 GHG Protocol)	Optimization of energy savings in the portfolio of buildings operated by the Fraport parent company – In the terminals – In office and service buildings	2020
Reduction of CO ₂ emissions by 238,00 tons in 2020 despite the expansion of the airport (Fraport parent company, Scopes 1 and 2 GHG Protocol, compared with the baseline year of 2005)	Planning and implementation of a new terminal (T3) with optimization of energy savings associated with specific construction projects	Implemented with specific construction projects
	Implementation of measures to achieve energy savings in the baggage conveyor system (projected reduction of 2,000 tons of CO ₂ emissions)	2020
	Use of alternative drive technologies – Pallet loaders – Baggage tow-tractors – Conveyor belts	2015
Reduction of CO ₂ emissions (Scope 2 GHG Protocol) in 2015 from 2,800 tons to 2,200 tons (based on the year 2013)	Equipping of freight-handling hall with LED lighting (FCS)	2014
Keeping the emission factor 15 percent below the nationwide average for Germany (Energy Air)	Management of the sourcing portfolio for electricity, as necessary optimization (Energy Air)	2014
	Optimize the purchase of renewable electricity where this is cost-effective from 24.1 percent to 30 percent (Energy Air)	2020

Intermodality

Target	Measure	Deadline
Improvement of intermodal packages and services for passengers in order to increase the proportion of originating passengers travelling to and from the airport by public transportation (bus, rapid transit railway, regional railway, high-speed trains (ICE), other long-distance trains)	Expansion of high-speed trains (ICE) Rail & Fly and Code Share connections in cooperation with German Rail (DB) airlines	by 2015
	Linking the baggage conveyor system with the check-in counter at the AIRail terminal	2015
Growth in the market for originating passengers by increasing the catchment area for users of public transportation	Promotion of the range of scheduled long-distance bus connections from the German regions which are not optimally connected to the long-distance rail network of German Rail (DB) to Frankfurt Airport	2015
Improvement in the intermodal travel packages available for airport staff	Review of the improvement in rail and bus travel options, particularly in marginal night-time periods for shift workers	2015
Expansion of the competitive position of the intermodal hub at Frankfurt Airport in long-distance passenger rail travel	Initiatives with important joint-venture partners for expanding the integration of the airport in the Federal Transport Infrastructure Plan	2015

Air quality

Target	Measure	Deadline
Reduction of emissions and air pollutants from the operation of the airport	Introduction of electric ground handling vehicles (see also under climate protection: use of alternative drive technologies)	2015
Review of emissions and air pollutants from the operation of the airport. Medium-term evaluation of measures for reducing emissions	Development of a methodological approach to calculating emission of air pollutants by <ul style="list-style-type: none"> – Infrastructure – Aircraft handling – Option of subsequent expansion to landside traffic 	2014

Nature conservation and resource protection

Target	Measure	Deadline
Reduction of the consumption of drinking water by higher usage of service water <ul style="list-style-type: none"> – in Terminal 1 (38% by 2016) – in the southern area (50% by 2020) 	Expansion in the use of service water <ul style="list-style-type: none"> – in Terminal 1 – in the southern area* 	2020
Improvement in structural diversity on an area of some 250 hectares	Launch of a two-year mowing cycle for the dry-grass habitats in the southern parallel runway system and the take-off runway 18 West	2015
Ensuring sustainable use of forestry resources located on the areas of land owned by the Fraport parent company	Certification of Fraport forestry resources	2015
Reduction of the use of deicing agents (N*ICE)	<ul style="list-style-type: none"> – Increase in remote deicing operations using a new Remote Deicing Pad (N*ICE) – Trial of the forced-air deicing procedure (N*ICE) 	2015
Reduction of the consumption of paper	Conversion to paperless work orders and electronic invoicing (N*ICE)	2015

* This refers to the area at the south of the take-off and landing runway 07R/25L. Cargo City South, the Development Area South for projects including the future Terminal 3, and maintenance facilities, for example Lufthansa, are located here.

Accounting principles for the environmental situation

*Frankfurt Airport, Fraport parent company, Fraport Cargo Service GmbH, N*ICE Aircraft Services & Support GmbH*

Aspects with the relevant EN numbers in conformity with the Global Reporting Initiative (GRI): performance indicators environment. Rounding off of differences is possible.

Traffic volume	Unit	Comment	2010	2011	2012	2013
Frankfurt Airport (FRA)						
Traffic unit (without transit)	Number of traffic units	1, 2	75,465,534	78,452,231	77,945,418	78,847,384
Aircraft movements (landing + takeoff)	Number of movements		464,432	487,162	482,242	472,692
Therein at night	Number of movements	3	45,888	45,942	36,852	32,349
Passengers	Number of passengers		53,013,771	56,443,657	57,527,251	58,052,554
Cargo weight	mt		2,307,793	2,251,618	2,100,747	2,127,893
Airfreight	mt		2,231,348	2,169,304	2,020,367	2,048,729
Airmail	mt		76,445	82,314	80,380	79,165
Therein FCS						
Cargo weight						
Airfreight	mt		558,079	493,398	453,689	443,536
Traffic units	Number of traffic units		5,580,790	4,933,980	4,536,890	4,435,360
N*ICE						
Deiced aircraft	Number	4	16,602	4,648	6,376	9,281

¹ A traffic unit is equivalent to one 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 2010 was very snowy and very cold.

Employees	Unit	Comment	2010	2011	2012	2013
Fraport parent company	Number	1	11,967	12,217	12,134	11,985
FCS	Number	1	312	345	346	345
N*ICE	Number	1	18	36	41	42

¹ Employees = Permanent employees + temporary staff (school children, students, interns, marginally employed and trainees) + apprentices, exempted employees, status December of every year.

Aspect: Energy						
EN3 Direct energy consumption (core indicator)	Unit	Comment	2010	2011	2012	2013
Frankfurt Airport						
Purchased direct non-renewable energy sources	TJ	1, 2, 3, 6	831.7	794.2	812.3	820.8
Purchased direct non-renewable energy sources	TJ per million TU	1, 2, 3, 4, 6	11.0	10.1	10.4	10.4
Natural gas	TJ	2, 3,	80.87	73.46	81.24	77.44
Natural gas	million kWh	2, 3,	22.46	20.41	22.57	21.51
Liquefied petroleum gas (LPG)	TJ	2, 5	10.50	7.19	9.15	6.83
Liquefied petroleum gas (LPG)	m ³	2, 5	441	302	385	287
Biogas	TJ	2, 5	0.2	0.0	0.0	0.0
Biogas	m ³	2, 5	5,678	0.0	0.0	0.00
Heating oil	TJ	2,	91.8	88.1	90.5	94.0
Heating oil	million liters	2,	2.544	2.441	2.507	2.604
Diesel	TJ	2	610.7	586.0	589.2	597.4
Diesel	million liters	2	17.154	16.460	16.550	16.781
Gasoline	TJ	2	34.8	35.5	38.1	41.7
Gasoline	million liters	2	1.075	1.094	1.176	1.287
Kerosene (Jet A1)	TJ		2.83	2.61	4.08	3.41
Kerosene (Jet A1)	million liters		0.081	0.075	0.117	0.098
Therein Fraport parent company						
Purchased direct non-renewable energy sources	TJ	2, 6	523.04	499.67	501.03	502.50
Purchased direct non-renewable energy sources	TJ per million TU	2, 4, 6	6.9	6.4	6.4	6.4
Natural gas	TJ	2	8.4	7.7	7.5	7.6
Natural gas	million kWh	2	2.34	2.12	2.09	2.12
Liquefied petroleum gas (LPG)	TJ	2	10.50	7.19	9.15	6.80
Liquefied petroleum gas (LPG)	m ³	2	441	302	385	287
Biogas	TJ	2	0.2	0.0	0.0	0.0
Biogas	m ³	2	5,678	0.0	0.0	0.0
Heating oil	TJ	2	85.8	84.04	84.2	87.4
Heating oil	million liters	2	2.377	2.328	2.332	2.420

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

² All data including technical losses.

³ Consumption of natural gas by third parties based on information that can not be verified (year 2012).

⁴ TU = A traffic unit is equivalent to one passenger with baggage or 100 kg of airfreight or airmail.

⁵ Value of Fraport parent company. Values of the more than 500 third parties at Frankfurt Airport not known, because delivery not by Fraport parent company.

⁶ Increase in 2011/2012 mainly due to new infrastructure: 1 full year of operations Runway Northwest, building 181, new A-Plus pier, expansion of apron south.

Without these effects the fuel consumption and emissions would have been at about the same level as the year before.

TJ = Terajoule

Aspect: Energy						
EN3 Direct energy consumption	Unit	Comment	2010	2011	2012	2013
(core indicator) (continuance)						
Therein Fraport parent company (continued)						
Diesel	TJ	1, 2, 4	395.5	378.3	376.2	374.9
Diesel	million liters	1, 2, 4	11.109	10.626	10.567	10.532
Gasoline	TJ	1, 2, 4	20.1	19.9	21.3	23.2
Gasoline	million liters	1, 2, 4	0.620	0.615	0.659	0.716
Kerosene (Jet A1)	TJ		2.56	2.56	2.64	2.60
Kerosene (Jet A1)	million liters		0.074	0.074	0.076	0.074
Total energy consumption						
Renewable energy sources	%		<1	<1	<1	<1
Non-renewable energy sources	%		100	100	100	100
Therein FCS						
Purchased direct non-renewable energy sources	TJ		6.1	5.8	5.6	5.7
Diesel	TJ		6.0	5.3	5.2	5.1
Diesel	million liters		0.168	0.150	0.145	0.143
Gasoline	TJ		0.1	0.4	0.4	0.6
Gasoline	million liters		0.003	0.013	0.013	0.017
Total energy consumption						
Renewable energy sources	%		0	0	0	0
Non-renewable energy sources	%		100	100	100	100
Therein N*ICE						
Purchased direct non-renewable energy sources	TJ		21.5	8.9	12.7	19.8
Diesel	TJ		21.5	8.9	12.6	18.6
Diesel	million liters	3	0.603	0.249	0.355	0.523
Gasoline	TJ		–	–	0.1	1.2
Gasoline	million liters		–	–	0.002	0.037
Total energy consumption						
Renewable energy sources	%		0	0	0	0
Non-renewable energy sources	%		100	100	100	100

¹ All data including technical losses.

² Fuel consumption of mobile work machines and automobiles operating on the apron and roadways.

³ In winter 2011 4,648 aircraft were de-iced and in the following winter (2012) 6,376.

⁴ The fuel consumption for private use of company cars is not taken into account.

TJ = Terajoule

Aspect: Energy						
EN4 Indirect energy consumption (core indicator)	Unit	Comment	2010	2011	2012	2013
Frankfurt Airport						
Purchased energy	TJ	2	4,082.40	3,953.18	4,191.61	4,356.23
Purchased energy	TJ per million TU	2, 3	54.1	50.4	53.8	55.2
Electricity	TJ	2	2,116.70	2,160.42	2,239.52	2,292.48
Electricity	million kWh	2	587.980	600.12	622.088	636.800
District heating	TJ	2	1,517.6	1,309.44	1,490.06	1,567.37
District heating	million kWh	2	421.565	363.73	413.906	435.38
District cooling	TJ	2	448.0	483.3	462.03	496.38
District cooling	million kWh	2	124.453	134.26	128.341	137.883
Indirect energy consumption						
Renewable energy sources	%		19.0	23.6	23.6	24.3
Non-renewable energy sources	%		81.0	76.4	76.4	75.7
Therein Fraport parent company						
Purchased energy	TJ	2, 5	2,509.8	2,271.7	2,400.6	2,528.8
Purchased energy	TJ per million TU	2, 3	33.3	29.0	30.8	32.1
Electricity	TJ	2	1,226.4	1,193.2	1,256.5	1,293.3
Electricity	million kWh	2	340.660	331.456	349.017	359.244
District heating	TJ	2	852.2	652.3	737.2	795.5
District heating	million kWh	2	236.723	181.208	204.764	220.965
District cooling	TJ	2	431.2	426.1	407.0	440.0
District cooling	million kWh	2	119.773	118.372	113.061	122.229
Indirect energy consumption						
Renewable energy sources	%		19.0	23.6	23.6	24.3
Non-renewable energy sources	%	4	81.0	76.4	76.4	75.7
Therein FCS						
Purchased energy	TJ		41.1	35.4	36.4	35.8
Electricity	TJ		15.6	15.2	14.3	14.4
Electricity	million kWh		4.345	4.225	3.977	3.987
District heating	TJ		25.4	20.2	22.1	21.4
District heating	million kWh		7.067	5.614	6.135	5.949
Indirect energy consumption						
Renewable energy sources	%		19.0	23.6	23.6	24.3
Non-renewable energy sources	%		81.0	76.4	76.4	75.7
Therein N*ICE						
Purchased energy	TJ		2.15	2.89	3.39	2.69
Electricity	TJ		1.57	2.48	3.04	2.2
Electricity	million kWh		0.436	0.688	0.845	0.601
District heating	TJ		0.58	0.41	0.35	0.58
District heating	million kWh		0.160	0.114	0.098	0.141
Indirect energy consumption						
Renewable energy sources	%		19.0	23.6	23.6	24.3
Non-renewable energy sources	%		81.0	76.4	76.4	75.7

¹ All companies on the continuous owned land of Frankfurt Airport: Fraport parent company, 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 airfreight or airmail.

⁴ Until 2012, RECS certificates ("Renewable Energy Certificates System") from hydropower were purchased for the appropriate quantity of CO₂ emissions.

⁵ Increase in 2011/2012 mainly due to new infrastructure: 1 full year of operations Runway Northwest, building 181, new A-Plus pier, expansion of apron south.

Without these effects the fuel consumption and emissions would have been at about the same level as the year before.

TJ = Terajoule

Aspect: Energy						
N5 Energy saved due to conservation and efficiency improvements (core indicator)	Unit	Comment	2010	2011	2012	2013
Fraport parent company	million kWh	1, 2, 3	2.44	8.03	14.93	15.45

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.

³ Calculated savings from calculated completed projects.

Aspect: Water						
EN8 Total water consumption (core indicator)	Unit	Comment	2010	2011	2012	2013
Frankfurt Airport		1				
Total water consumption	million m ³		1.779	1.793	1.815	1.837
Total water consumption	liters per TU	2	23.6	22.9	23.3	23.3
Drinking water	million m ³	4	1.460	1.445	1.521	1.482
Service water	million m ³	3, 5	0.319	0.348	0.294	0.355
Therein Fraport parent company						
Total water consumption	million m ³	7	1.184	1.174	1.181	1.151
Total water consumption	liters per TU	2	15.7	15.0	15.2	14.6
Drinking water	million m ³	4	0.905	0.884	0.951	0.864
Service water	Mio. m ³	5	0.279	0.290	0.230	0.287
Therein FCS						
Total water consumption	million m ³		0.008	0.007	0.008	0.007
Drinking water	million m ³	4	0.008	0.007	0.008	0.007
Brauchwasser	m ³		–	–	–	–
Therein N*ICE						
Total water consumption	million m ³	6	0.015	0.005	0.006	0.016
Drinking water	million m ³	4, 6	0.015	0.005	0.006	0.012
Service water	million m ³	5	–	–	–	0.004

¹ All companies on the composite owned land of Frankfurt Airport: Fraport parent company, 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 airfreight or airmail.

³ Minus the share of drinking water in service water treatment in Terminal 2.

⁴ From the local authority water supply.

⁵ The service water is treated from surface water, rainwater and ground water. Contains subsets, which are estimated.

⁶ Water is used to dilute the aircraft deicing agents. In cold and snowy winters larger amounts are needed for de-icing. The periods December 9 to 15, 2012, and the period from January to March 2013 were snowy. The winter 2009/2010 was colder and snowy as the winter of 2011.

⁷ Total consumption for the airport minus consumption by third parties at the Frankfurt Airport site.

A04 Quality of precipitation water (core indicator)	Unit	Comment	2010	2011	2012	2013
Frankfurt Airport						
Hydrocarbons	mg/l	1, 2	0.3	0.1	0.0	0.1
Materials capable of being deposited	ml/l	1, 3	0.2	0.4	0.8	0.4

¹ A 2 h mixed sample is collected each month from the precipitation water channel at a sampling test station located shortly before the discharge point into the River Main. The value for hydrocarbons was calculated from twelve individual samples, the value for "substances capable of being deposited" from eleven individual samples.

² In 11 samples of hydrocarbons in 2012, the value was <0.1 mg/l, in the case of one sample 0.1 mg/l.

³ The increased values come from a sample taken in February 2012 with dead biomass from the precipitation water network itself.

Aspect: Biodiversity						
Land use	Unit	Comment	2010	2011	2012	2013
Frankfurt Airport						
Owned land by Fraport AG	ha	1	1,913.8	2,239.6	2,244.73	2,296.88
of which paved area	ha		891.3	982.0	1,027.96	1,064.88

¹ Continuous owned land.

Aspect: Emissions, wastewater and waste						
EN16 Greenhouse gas emissions (core indicator)	Unit	Comment	2010	2011	2012	2013
Fraport parent company (Scope 1 and 2 GHG)						
CO ₂ emissions	1,000 t CO ₂	1, 2, 6	229.6	225.6	239.7	243.1
Direct CO ₂ emissions	1,000 t CO ₂	1	38.5	36.5	36.9	37.0
Indirect CO ₂ emissions	1,000 t CO ₂	2, 6	191.2	189.1	202.8	206.0
Climate intensity of traffic performance	kg CO ₂ per TU	1, 2, 3	3.04	2.88	3.08	3.08
Direct CO ₂ emissions	kg CO ₂ per TU	1, 3	0.51	0.47	0.47	0.47
Indirect CO ₂ emissions	kg CO ₂ per TU	2, 3	2.53	2.41	2.60	2.61
Compensated CO ₂ emissions (certificates)	1,000 t CO ₂	4	144.1	149.5	154.4	0.00
Other relevant greenhouse gas emissions	t CO ₂ equivalent	5	<2	<2	<2	<2
FCS (Scope 1 and 2 GHG)						
CO ₂ emissions	1,000 t CO ₂		3.5	3.3	3.2	3.2
Direct CO ₂ emissions	1,000 t CO ₂	1	0.6	0.4	0.4	0.4
Indirect CO ₂ emissions	1,000 t CO ₂	2	3.0	2.9	2.8	2.8
N*ICE (Scope 1 and 2 GHG)						
CO ₂ emissions	1,000 t CO ₂		1.8	1.0	1.3	1.8
Direct CO ₂ emissions	1,000 t CO ₂	1	1.6	0.7	0.9	1.5
Indirect CO ₂ emissions	1,000 t CO ₂	2	0.2	0.3	0.4	0.3

¹ Direct emission 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: purchasing of electricity (Fraport Group), district heating, district cooling (Fraport at the Frankfurt site).

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

⁴ Until 2012 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 parent company.

⁶ Increase in 2011/2012 mainly due to new infrastructure: First full year of operations Runway Northwest, building 181, new A-Plus pier, expansion of apron south. Without these effects the fuel consumption and emissions would have been at about the same level as the year before.

EN17 Other greenhouse gas emissions (core indicator)	Unit	Comment	2010	2011	2012	2013
Fraport parent company (Scope 3 in conformity with GHG)						
Air traffic	1,000 t CO ₂	1, 7	895.8	939.4	961.4	919.4
Employee traffic at Fraport parent company and third parties at Frankfurt airport	1,000 t CO ₂	2, 7	122.3	120.1	118.8	118.9
Passenger traffic (passengers originated here)	1,000 t CO ₂	3, 7	272.7	274.2	245.7	259.0
Business trips of employees at Fraport parent company	1,000 t CO ₂	4	0.95	0.97	0.75	0.86
Energy consumption of third parties (infrastructure and vehicles)	1,000 t CO ₂	5	159.1	181.8	189.0	187.2
Other relevant greenhouse gas emissions	t CO ₂ equivalent	6	<2	<2	<2	<2

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

² Travel by employees to and from the workplace.

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

⁴ Includes cars, rail and air travel.

⁵ Electricity, heat, cooling, fuels.

⁶ According to investigations conducted in 2005, the emissions of other greenhouse gases at the airport were negligible.

⁷ From 2013 calculation without increased reverse thrust (compared with idle) with APU according to ICAO Doc. 9889. In 2013, 932,495 t CO₂ according to the old method of calculation, also 2 percent fewer aircraft movements.

Aspect: Emissions, wastewater and waste						
EN20 NOx, SOx and other air pollutants (core indicator)	Unit	Comment	2010	2011	2012	2013
Air traffic at Frankfurt Airport		1				
NOx	t	2, 3	2,423	2,506	2,551	2,438
HC	t	2, 3	595	619	610	423
PM10	t	2, 3	11.3	11.8	12.3	23.0
SO ₂	t	2, 3	160	168	175	166
NOx	g per TU	2, 4	32.11	31.94	32.73	30.92
HC	g per TU	2, 4	7.88	7.89	7.83	5.36
PM10	g per TU	2, 4	0.15	0.15	0.16	0.29
SO ₂	g per TU	2, 4	2.11	2.14	2.25	2.11

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

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

³ Since 2013 calculation without increased reverse thrust (compared to idle) and adjustments of ICAO Doc. 9889 for APU, engine ignition (HC) and particulate emissions. Under the old method (until 2012), the emissions of NOx = 2,462 t, HC = 597 t, PM10 = 12.1 t, SO₂ = 270 t.

⁴ TU = A traffic unit is equivalent to a passenger with baggage or 100 kg of airfreight or airmail.

EN20 NOx, SOx and other air pollutants (core indicator)	Unit	Comment	2010	2011	2012	2013
Fraport parent company						
NOx	t	1	–	–	–	–
Benzene	t	1	–	–	–	–
PM10 (Fine dust < 10 µm)	t	1	–	–	–	–

¹ Fraport parent company emits per year approximately 264 t NOx, 0.4 t benzene and 9.3 t PM10. These data are derived from the zoning plan documents.

An annual update is not yet possible because determining the data is very complex. In future, the data are to be calculated on a continuous basis.

The necessary processes are currently being prepared.

EN21 Total wastewater discharge (core indicator)	Unit	Comment	2010	2011	2012	2013
Frankfurt Airport						
Sewage water	million m ³	1, 2, 3	1.590	1.581	1.897	2.253
Sewage water	Liters per TU	1, 2, 4	21.1	20.2	24.3	28.6

¹ Sewage water from Fraport parent company and more than 500 other companies at Frankfurt Airport. The disposal of sewage water from Frankfurt Airport is done by Fraport AG, allocation to individual companies is not possible.

² Sewage water is treated in the fully biological water treatment plant at Fraport parent company and fully biological water treatment plants in Frankfurt Niederrad and Frankfurt Sindlingen. The separation of the precipitation water contaminated with deicing agent brings about an increase in the amount of sewage water. The water contaminated with deicing agent has been conducted to the water treatment plants through the sewage water drainage network since 2012.

³ Share of precipitation water containing deicing agent in the sewage water is high compared with the previous year due to the adverse winter conditions at the beginning of 2013 with ice and snow. In 2013, 259,000 m³ of precipitation water were included.

⁴ TU = A traffic unit is equivalent to one passenger with baggage or 100 kg of airfreight or airmail.

Aspect: Emissions, wastewater and waste						
EN22 Waste by type and disposal method (core indicator)	Unit	Comment	2010	2011	2012	2013
Fraport parent company						
Amount of waste	1,000 t	1, 2, 6	23.54	24.00	24.63	26.54
Amount of waste	kg per TU	3, 6	0.31	0.31	0.32	0.34
Hazardous waste	1,000 t	1, 2	1.78	1.33	1.36	2.73
Non-hazardous waste	1,000 t	1, 2	21.76	22.67	23.27	23.81
Total recoverability	1,000 t	1, 2	19.83	19.94	20.90	22.19
Total disposal	1,000 t	1, 2	3.71	4.06	3.73	4.35
Total recoverability rate	%	1, 2, 4	84.3	83.1	84.9	83.6
Waste from international flights	1,000 t		5.83	6.11	6.04	5.93
FCS						
Amount of waste	1,000 t	1	1.12	1.08	0.973	0.900
Hazardous waste	t	1	2.523	0.154	0.307	0.240
Non-hazardous waste	1,000 t	1	1.12	1.08	0.973	0.900
Total recoverability	1,000 t	1	1.07	1.03	0.937	0.862
Total disposal	t	1	53.93	44.40	37.0	38.5
Total recoverability rate	%	1, 4	95.4	95.9	96.2	95.7
N*ICE						
Amount of waste	1,000 t	1, 7	0.08	0.04	0.11	0.16
Hazardous waste	1,000 t	1	0	0	0	0
Non-hazardous waste	1,000 t	1, 7	0.08	0.04	0.11	0.16
Total recoverability	1,000 t	1, 5	0.08	0.04	0.11	0.16
Total disposal	1,000 t	1	0	0	0	0
Total recoverability rate	%	1, 4	100	100	100	100

¹ Without soil and building rubble.

² Including waste from third parties, primarily residual waste out of aircraft (no catering waste) and without soil and building rubble.

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

⁴ Change in definition on account of the new German Product Recycling Act (KrWG) coming into force in June 2012.

⁵ Aircraft deicing agents.

⁶ In 2012, additional approximately 2,000 tons of organic sludge from nitrate treatment plant, because the Fraport parent company operates this plant.

⁷ Much snow and cold first half of winter with significantly increased sampling, liquids exchange and workshop tests. The total amount is a mixture of water, Type I and Type IV fluid.

EN23 Significant spills (core indicator)	Unit	Comment	2010	2011	2012	2013
Fraport parent company						
1						
Total number and volume of significant spills						
Number of spills	Number		482	640	674	637
Volume of spills	m ³		10.33	11.79	12.28	12.37
Frequency of spills	Number per 1,000 aircraft movements		1.04	1.31	1.40	1.35
Effects		2	none	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 not surfaced areas are very rare exceptions, and are cleaned up immediately.

Groundwater improvement	Unit	Comment	2010	2011	2012	2013
Frankfurt Airport						
Nitrate content at reference measuring station well FB5	mg/l	1	56	51	44	37

¹ Yearly average value

Aspect: Emissions, wastewater and waste

AO5 Air quality (core indicator)	Unit	Comment	2010	2011	2012	2013
Frankfurt Airport						
NO ₂	µg/m ³	1, 2, 3	45	46	46	46.6
SO ₂	µg/m ³	1, 2, 4	3	4	4	2.4
PM10 (fine dust < 10 µm)	µg/m ³	1, 2, 5	26	23	19	19.8
Benzene	µg/m ³	1, 2, 6	0.8	0.8	0.8	0.8

¹ Annual average of the measured values at the SOMMI1 Station. These values presented 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, house 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%.

² Limit values annual average (not applicable at the airport, since no whole-year presentation for people).

³ NO₂ assessment value according to EU Directive 2008/50/EC, 39. Federal Emission Control Act (BlmSchV): 40 µg/m³

⁴ SO₂ assessment according to Technical Instructions for Air Quality Control (TA Luft) 2002 (otherwise no annual average defined): 50 µg/m³

⁵ Fine dust, PM10 in accordance with EU Directive 2008/50/EC, 39. Federal Emission Control Act (BlmSchV): 40 µg/m³

⁶ Benzene assessment value in accordance with EU Directive 2008/50/EC, 39. Federal Emission Control Act (BlmSchV): 5 mg/m³

AO6 Airfield surfaces and aircraft

deicing agents (core indicator)	Unit	Comment	2010	2011	2012	2013
Fraport parent company						
Operating materials and supplies		1				
Airfield surfaces deicing agents						
Potassium formate (fluid – approx. 50% agent) on the aircraft movement areas	m ³	2, 3	3,307	4,246	2,233	2,452
Airfield surfaces deicing agent sodium formate (granulate – approx. 100% agent)			–	–	–	241
N*ICE						
Aircraft deicing agents propylene glycol (N*ICE)	m ³ active ingredient	4	4,479	892	1,519	2,901
Aircraft deicing agents						
propylene glycol per deiced aircraft (N*ICE)	m ³ substance per aircraft	5, 6	0.270	0.192	0.238	0.313

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 airfreight or air mail. Other materials used are found under "Direct energy consumption" and "water".

² The values are specified for the respective winter. The winters are assigned to a calendar year, e.g. 2010/2011 to the year 2011.

From 2012, the values are from January 1 to December 31 of each year indicated.

³ No dangerous goods.

⁴ Annual values 2012 and 2013 weather-dependent, the periods December 9 to 15, 2012, and the period January to March, 2013, had much snowfall.

⁵ Rise in 2012 and 2013 weather-dependent, heavier snowfall requires more deicing agents per aircraft (repeated deicing).

⁶ active agent 2013 vs. 2012 (in parentheses):

Aircraft deicing agent, type I (aircraft deicing/anti-icing fluid with 80% propylene glycol share): 1,515 m³ (756 m³)

Aircraft deicing agent type IV (aircraft deicing/anti-icing fluid with 50% propylene glycol share): 3,379 m³ (1,827 m³)

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 (core indicator)	Unit	Comment	2010	2011	2012	2013
Fraport parent company						
Employee traffic						
Travel to and from work by public transportation	Share of employees in %	1, 2	31.0	31.8	41.2	34.2
Travel to and from work by carpooling	Share of employees in %	1	15.5	15.4	14.6	15.0
Passenger traffic at Frankfurt Airport (FRA)						
Travel of originating passengers to and from the airport by public transportation	Share of employees in %	1	39.2	40.9	41.6	40.8
therein arrival/departure by ICE trains (Intercity Express)	Share of employees in %	1	19.9	19.5	19.7	19.3

¹ The values are based on a survey.

² Deviation between 2012 and 2013, because a random sample survey was mainly conducted the administrative area, while a full survey was taken in 2013.

Aspect: Aircraft noise						
AO7 Number and percentage of people* residing in areas affected by noise (core indicator)	Unit	Comment	2010	2011	2012	2013
Frankfurt Airport						
Number of people residing in the contour						
Ldn = 60 dB(A)	Number	1, 2, 7	25,182	24,632	12,094	9,395
Relative change compared with the previous year	Percent		8	-2	-51	-22
Number of people residing in the contour Leq, day = 60 dB(A) (Criterion similar Act for Protection against Aircraft Noise)	Number	1, 3, 7	7,535	6,980	3,920	2,722
Relative change compared with the previous year	Percent		27	-7	-44	-31
Number of people residing in the contour Leq, day = 55 dB(A) (Criterion similar Act for Protection against Aircraft Noise)	Number	1, 4, 5, 7	97,954	103,001	98,014	95,062
Relative change compared with the previous year	Percent		5	5	-5	-3
Number of people residing in the contour of the "envelope" from NAT, night = 6 x 68 dB(A) and Leq, night = 50 dB(A) (Criterion similar Act for Protection against Aircraft Noise)	Number	1, 6, 7	116,715	107,189	86,315	72,532
Relative change compared with the previous year	Percent		8	-8	-19	-16

* Population database DDS. Survey status of these data for all evaluations 2008.

¹ The aircraft noise contours were calculated on the basis of the regulations introduced in Germany "Introduction to Calculation of Noise Abatement Areas (AzB)" and "Introduction to Data Collection on Flight Operations (AzD, 2008)". All scenarios were standardized on the basis of the long-term average operating direction distribution for the ten years 2000 to 2009. The Sigma supplement developed for the projected protection zone calculation in accordance with the Noise Abatement Act and described in AzB and AzD was not applied.

² The evaluation quantity Ldn (Level day/night) is a 24h equivalent continuous sound level in dB(A), where a supplement of 10 dB is applied for noise events occurring during nighttime. The Ldn permits impact changes from year to year to be documented on the basis of a single criterion.

³ The criterion Leq, day = 60 dB(A) is based on the definition of day protection zone 1 in accordance with the Aircraft Noise Abatement Act.

⁴ The criterion Leq, day = 55 dB(A) is based on the definition of day protection zone 2 in accordance with the Aircraft Noise Abatement Act.

⁵ The data on Leq, day = 55 dB(A) is the total number within this contour, the number specified under Leq, day = 60 dB(A) is therefore a sub-quantity.

⁶ The criterion "envelope" from NAT, night = 6 x 68 dB(A) and Leq, night = 50 dB(A) is based on the definition of night protection zone according to the Aircraft Noise Abatement Act.

⁷ The decline of indicators for 2013 compared to 2012 is due to changed traffic distribution on runways and airline routes, and at night also to lower figures for aircraft movements

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 (core indicator)	Unit	Comment	2010	2011	2012	2013
Surrounding area of Frankfurt Airport						
Approach		1				
Monitoring station 01 Offenbach Lauterborn, day	Leq(3) in dB(A)	2, 3	60	60	58	58
Monitoring station 01 Offenbach Lauterborn, night	Leq(3) in dB(A)	2, 4	54	54	51	51
Monitoring station 06 Raunheim, day	Leq(3) in dB(A)	2, 3	61	61	60	61
Monitoring station 06 Raunheim, night	Leq(3) in dB(A)	2, 4	55	55	54	54
Take off		1				
Monitoring station 12 Bad Weilbach, day	Leq(3) in dB(A)	2, 3	60	60	57	55
Monitoring station 12 Bad Weilbach, night	Leq(3) in dB(A)	2, 4	49	48	42	45
Monitoring station 51 Worfelden, day	Leq(3) in dB(A)	2, 3	56	56	58	58
Monitoring station 51 Worfelden, night	Leq(3) in dB(A)	2, 4	53	53	54	54

Frequency of the exceedance of the maximum level of 68 dB(A) per night						
		1, 4				
Monitoring station 01 Offenbach Lauterborn	Number of exceedance cases	5	32.5	28.0	15.2	14.7
Monitoring station 06 Raunheim	Number of exceedance cases	5	17.7	20.2	8.0	8.8
Monitoring station 12 Bad Weilbach	Number of exceedance cases	5	9.7	7.8	1.3	2.8
Monitoring station 51 Worfelden	Number of exceedance cases	5	16.0	12.1	17.0	16.4
Share of western operations day	Share in %	3, 6, 7	75	73	75	68
Share of western operations night	Share in %	4, 6, 7	79	76	76	69

¹ Selected representative noise monitoring station from a monitoring network with 26 stationary stations. In September 2011 the monitoring network was expanded to 28, which are close to the approach baseline of the new Runway Northwest. The new Runway Northwest is in operation since October 21, 2011. Therefore, the first analysis of the six busy months will be carried out for the year 2012.

² 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 in 2009, 2010 and 2012 based on the German Aircraft Noise Act, segmented in day and night. Exception was the year 2011, with the six busiest months of March, May, July and October. 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.

³ Daytime: 6 a.m. until 10 p.m.

⁴ Nighttime: 10 p.m. until 6 a.m.

⁵ During the six busiest months (2009, 2010, 2012: May until October, 2011: March, May, July until October).

⁶ From the parallel runway system with takeoff toward the west, approach from the east.

⁷ Share of eastern operations: difference from share of western operations in % to 100%.

Aspect: Health and safety of the customers						
AO9 Total number of wildlife strikes per 10,000 movements	Unit	Comment	2010	2011	2012	2013
Frankfurt Airport	Number per 10,000 aircraft movements	1, 2	3.11	1.96	2.42	2.48

¹ Bird strike rate (number of bird strikes per 10,000 aircraft movements): All incidents with birds at Frankfurt Airport and in the adjacent surrounding environment for aircraft with German registrations. The bird strike rate is transferred to the total flight movements at Frankfurt Airport. The registration of a relevant bird strike is made by the pilot to the German Committee for Prevention of Bird Strikes in Air Traffic (DAVVL e.V.). The DAVVL forwards an annual list of all bird strikes to the relevant airport operator. The airport operator calculates the bird strike rate, in this case Fraport AG.

² Tentatively scheduled for 2013, final data for 2013 submitted to the DAVVL eV in October 2014.

Compliance with environmental laws

There are no breaches of statutory regulations which have been subject to fines or nonmonetary sanctions imposed by the authorities.

Glossary

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.

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 Navigation Services (DFS). 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 airsafety 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 parameter $q = 3$. 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 $L_{eq}(3)$ 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 (Umweltauditgesetz) 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 has 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 of 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 State 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 transportation, particularly high-speed rail transport as a feeder shuttle for air transport.

IPCC Intergovernmental Panel on Climate Change – The intergovernmental UN panel of experts was set up to conduct research for 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 expired 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 transportation systems. Frankfurt Airport has a second station under Terminal 1 – the regional station – for the rapid-transit railway (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 card, i.e. west wind) and 07 (east wind). Because winds in a westerly direction occur 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.

Site – According to EMAS "a specific geographical location which is under the control of an organization and where activities are conducted, products 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 undersignedDr. Burkhard Kühnemann,
with EMAS environmental auditor registration number DE-V-0103
.....
accredited or licensed for the scopeNACE 52.23
declares to have verified whether the site or the whole organization as indicated in the updated
environmental statement of the organizationFraport AG*
with registration numberDE-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 executed 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.

Executed at Frankfurt on July 11, 2014

The official German version of the Environmental Statement 2014 has been validated by:
Dr. Burkhard Kühnemann
Certified Environmental Expert DE-V-0103

The authorized independent environmental auditor is from the environmental organization:

Dr. Kühnemann Institut
und Partner für
Umwelt
technik

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

Schedule

The next Environmental Statement, scheduled for July 2015, will be subject to validation by an environmental auditor before being released for publication.

* Named as Fraport parent company.

Dr. Kühnemann
und Partner

Institut
für
Umwelt
technik

Certificate

The Institut für Umwelttechnik Dr. Kühnemann und Partner GmbH hereby certifies that the companies

Fraport AG
Frankfurt Airport
Services Worldwide
60547 Frankfurt

Energy Air GmbH
60547 Frankfurt

FCS GmbH
Fraport Cargo
Services GmbH
60547 Frankfurt

N*ICE
Aircraft Services &
Support GmbH
60547 Frankfurt

has implemented and maintains an environmental management system for the scopes

Providing Infrastructure, facilities including all appropriate services for aviation, cargo-handling and de-anti-icing of aircraft on ground

An audit from 07th to 11th July of 2014 has determined, that this environmental system fulfills the requirements of the standard

DIN EN ISO 14 001 : 2009

This certificate is valid until

01st August 2017

Certificate-registration-no.:

14 - 14297 - 03- 04

Hannover, 31st July 2014

Dr. Burkhard Kühnemann
Dr. Burkhard Kühnemann
Umweltgutachter

Institut für Umwelttechnik
Dr. Kühnemann und Partner GmbH
Prinzenstr. 10 A
30159 Hannover
Zulassungs-Nr.: DE-V-0133

Verification

Fraport AG

Frankfurt Airport Services Worldwide
FCS Fraport Cargo Services GmbH

N*ICE Aircraft Services & Support GmbH

Energy Air GmbH

Site: Frankfurt am Main



EMAS

Verified
environmental
management

These companies maintain an environmental management system according to the regulation (EC) 1221/2009. The public is informed about the environmental performance of the organisations in agreement with the EU Eco-Management and Audit Scheme (EMAS III).

Registered at Industrie- und Handelskammer
Frankfurt am Main

Register-No. D-125-00032

First validation on 05th of June 1999

Hannover, 31st July of 2014 Dr. Burkhard Kühnemann
environmental verifier

Institut für Umwelttechnik
Dr. Kühnemann und Partner GmbH
Prinzenstr. 10 A
30159 Hannover

Certificate of Registration



EMAS
VERIFIED
ENVIRONMENTAL
MANAGEMENT

Fraport AG
Frankfurt Airport Services Worldwide
Service delivery for the transport sector

Location
Fraport AG
FCS Fraport Cargo Service GmbH
N*ICE Aircraft Services Support GmbH
Energy Air GmbH
Frankfurt Airport
60547 Frankfurt am Main

Registration-No.: DE-125-00032

Date of fifth revalidation: 25th July 2014

This certificate is valid until: 06th July 2017

This organization has established an environmental management system according to EU-Regulation No. 1221/2009 and EN ISO 14001:2004 section 4 to promote the continual improvement of environmental performance, publishes an environmental statement, has the environmental management system verified and the environmental statement validated by a verifier, is registered under EMAS and therefore is entitled to use the EMAS-Logo.



Industrie- und Handelskammer
Frankfurt am Main

Frankfurt am Main, 06th August 2014

Prof. Dr. Matthias Müller
Prof. Dr. Matthias Müller
President

Matthias Müller
Matthias Müller
Director General

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As of July 11, 2014

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** to the issues of aircraft noise and airport expansion, in Germany exempt from charges

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