## Thinking Green LSG Sky Chefs' 2013 Environmental Report



We deliver the taste of the world



**Company Information** 

LSG Sky Chefs is the world's largest provider of in-flight services. These include catering, onboard retail, in-flight equipment and logistics, consulting and lounge services.

The company's expertise in culinary excellence and logistics has led to its successful entry into adjacent markets, such as train services and retail. LSG Sky Chefs delivers 532 million meals a year, primarily for more than 300 airlines at 213 airports in 54 countries.

## Environmental Management System

A systematic approach for continuous improvement.

Over the past 20 years, LSG Sky Chefs has developed what is today considered the in-flight service industry's most structured and expansive approach to Environmental Care. This approach permeates everything we do to ensure wide-scale awareness and continuous improvement throughout our worldwide organization. It is also designed to meet our customer and shareholders' environmental expectations.

#### The LSG Sky Chefs' approach to environmental responsibility

In brief, our whole Environmental Management System is based on the Plan-Do-Check-Act principles related to the core elements of ISO 14001. At LSG Sky Chefs, the Plan-Do-Check-Act cycle lasts three years, after which it is evaluated and adjusted according to present requirements. they need to abide by our policy, such as clear definitions of the KPIs and the standard procedure for an environmental assessment. In addition, it serves as a useful tool to adjust regional activities and ensure their optimal environmental performance. The manual is also proof of LSG Sky Chefs' commitment to the protection of our natural resources.

#### **Environmental Policy**

The policy is the basis of our environmental activities and contains the mission, guidelines and key elements of our Environmental Management System. Signed in 2008 by the Executive Board, it clearly states our commitment to preventing pollution, reducing our environmental footprint, improving our environmental performance and complying with any related regulations. This policy is prominently displayed in all of our Customer Service Centers (CSCs) around the globe and can be easily accessed by employees, customers and visitors alike.

#### NEW Environmental System Manual

Our whole system is documented in the new LSG Sky Chefs Environmental System Manual, which provides our operational units with the information





#### **Regional Managers and Programs**

We have appointed an individual within each of our six regions, who is responsible for the environmental program in that particular area. This Regional Environmental Manager (REM) works with his or her Regional Management Team and our Corporate Environmental Manager to establish and monitor regional environmental programs. These are customized according to local requirements, and have the full commitment of the Regional Chief Operating Officer. Taken together, the six regional programs form the company's global environmental program. Our aim is to have dedicated environmental managers across our different business areas in order to also promote more collaboration with other strategic corporate functions.

#### **Best-Practice Examples**

Learning from others always has a positive effect. Our best-practices intranet site fosters the exchange of knowledge between the regions and promotes continuous improvement throughout the LSG Sky Chefs Group.

#### Key Performance Indicators (KPIs)

Clearly defined Key Performance Indicator

(KPIs) allow us to measure our performance over time. The Executive Board and our International Management Team set specific targets for 2013 across all of our wholly-owned facilities. The results are expected by mid-2014.

#### Annual Report

We communicate our progress to our customers and the market on a yearly basis.

#### Management Review

Our Executive Board fully supports the environmental responsibility program and carries out regular reviews to develop it further.

## Sustainability makes sense

Corporate Responsibility is a journey that needs a clear destination ... and a plan to get there. As the environment in which we do business evolves and changes constantly, we also have to adjust our policies and procedures. But one thing will never change: Corporate Responsibility being an imperative in our business. Sustainability does not only refer to caring for the environment, of course. It also entails meeting our social responsibilities. This includes how we treat our employees and how our business is managed, so that we can remain a stable and successful corporate citizen.

From a purely business standpoint, acting responsible as a company helps contain risks, enhance employee satisfaction, strengthen customer loyalty and can directly affect the bottom line with initiatives geared toward saving energy and water and reducing waste. The better job we do at acting responsible today, the better our business will be in the future.

## Caring about the Environment: Measuring Performance

In order to measure our progress, we have defined a set of stringent Key Performance Indicators (KPIs) for energy, water and waste. All wholly-owned LSG Sky Chefs CSCs worldwide collate this information on an annual basis. Our Corporate Environmental Manager, who is responsible for steering this global initiative, works closely with these figures in order to design and implement the measures necessary to meet the targets set.

In 2010, our International Management Team issued two KPI targets per region for energy and water consumption. All six regions uniformly committed themselves to reduce their KPIs by 6 percent within three years, based on their individual regional reference lines of the 2008 baseline year. By the end of 2012, after the first three-year program, the targets were far exceeded (see chart below).

Even more impressive, our water consumption decreased in absolute numbers by more than 20 percent (m<sup>3</sup>) and energy consumption decreased by approximately 10 percent (MWh), despite the fact that the total number of meals went up by 9 percent. Based on these excellent results, the environmental KPIs for the regions were increased from two to four for the next three-year cycle, with targets set through the end of 2015. The focus areas will remain energy, water and waste.

## After investing five years in this effort, we are now able to publish an overview of our remarkable achievements:

Location-related data	2008	2009	2010	2011	2012	
Locations included	124	112	114	122	121	
Meals prepared	348m	308m	335m	293m	381m	
Energy per meal (kWh/meal)	2.1	1.9	1.7	1.8	1.5	<b>-19.1%</b> *
Water per meal (liters/meal)	10.7	10.8	9.9	8.9	7.9	-26.2%*
Waste per meal (grams/meal)	553.3	575.1	514.7	554.7	519.3	

\*based on baseline year 2008



## Our Commitment

We were the first in-flight services provider to publish a comprehensive policy. And our commitment to it remains strong and focused.



## The LSG Sky Chefs Environmental Policy

#### Our Mission

LSG Sky Chefs is a worldwide airline catering company and provider of complete above-the-wing solutions. This policy complements quidelines and principles to our global strategy designed to keep a healthy balance between business and the environment.

### Our Environmental Guidelines

Based on the Lufthansa Group Environmental Guidelines we strive for the following:

- 1.We are a caretaker of our customer's environmental issues.
- That means that we support our customers with an exchange of relevant information and know-how. We assist them in creating eco-friendly service and product concepts.
- 2.We strive to continuously optimize our energy, water and materials consumption.

From design to procurement, from production to customer use and disposal, from building new facilities to vacating sites, all of our business units will consider their impact on the environment in every process area of their activities and recycle - wherever possible.

3.We aim for environmental co-operation with our business partners.

Beginning with key suppliers and customers, we want to identify bilateral possibilities for environmental improvement. We prefer business partners that act accordingly and integrate customer requirements in our objectives. This requires partnership and mutual confidence.

Neu-Isenburg, Germany, May 15, 2008

Roman Nyel Thomas Nagel Chief Operating Officer

Lufthansa Group Environmental Guidelines

- Environmental protection is a high-priority corporate goal. Cur guiding principle as inforce of sustainable economic activity, we sinve for contrucuus improvemental impact of our activities. We record and available the environment father we make a decision.



#### Key Elements of our **Environmental Management**

We regard the following as essential for our environmental management:

- Availability of an internal organization to manage our environmental system.
- Divisional and regional environmental programs based on this policy to reflect organizational, cultural and legal diversity.
- The setting of targets to analyse our environmental performance to be measured by key performance indicators such as energy per m<sup>2</sup> and water per meal.
- Appropriate communication and annual environmental reporting to inform our customers, employees and the public about our environmental performance.

### Our Commitment

In implementing these guidelines we pursue the following objectives:

- The prevention of pollution and reduction of our environmental footprint.
- Continuous improvement of our environmental performance.
- Compliance with the environmental legislation.

The Global Board is committed to this policy. It will

- give full support to all those authorized to carry it out.
- inform management, staff and interested public about it.
- periodically review it to ensure adequacy and effectiveness.



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## Caring about the Environment on a Global and Local Level

Based on our Environmental Policy, we have implemented a structured methodology that allows us to continuously measure our performance and exchange best practices around the globe. These cover a wide array of areas, including energy, water and waste reduction, plus product innovation. On a local level, our top 25 CSCs have named dedicated Environmental Managers (CEMs) in order to help drive the units' performance in this area.

In close collaboration with our Regional Environmental Managers, the CEMs will also oversee the creation of their CSC's environmental vision, the implementation of related projects and exchange of best practices within their region and corporate.

# Caring about the Environment our Way (Best Practice)

Browsing our best-practice database, one can find a wealth of ideas that are ready to be shared and transferred around the globe.

#### ENERGY

#### Combined Heat and Power Unit in Frankfurt

Produce the energy you require with less expensive natural gas. That was the target set for our CSC in Frankfurt. In a nutshell: Save costs and protect the environment. This resulted in the installation of a combined heat and power unit (CHP). With the CHP in place, the CSC uses the co-generation principle and produces both electrical and thermal energy with natural gas. Natural gas is less expensive and more eco-friendly than other fossil fuels (coal and oil, for example). The thermal energy produced as a by-product in the generation of electrical power is recovered and used productively for the heating of the building, as well as for heating water in the dishwashing area of the unit. Since the energy does not have to be transported and is consumed right where it is being produced, energy usage is highly efficient. At the same time, the CHP produces a higher output with less input from primary energy sources. The utilization ratio (output vs. input) of a CHP unit is up to approximately 80 percent, while average electricity plants reach only about 45 percent. As a result, the CSC calculates an overall reduction in the emission of carbon dioxide of 3.000 tons per year, contributing significantly to the protection of the environment and climate.

In Germany, one of the most environmentallyconscious countries in the world, the government sponsors investing in CHPs in several ways. Depending on local regulations, the government could fund CHPs with tax reimbursements or other subsidies, therefore supporting the faster amortization of this investment. This type of power plant could become a model for the rest of the LSG Sky Chefs network, so we are currently evaluating the implementation of this new technology in other units in Germany and around the globe.



The principle applied in a Combined Heat and Power unit (CHP). Electricity and remote heat from the grid are used as backup sources during maintenance or peak usage periods.

#### The Zero-to-Landfill Project in the U.S.

In 2013, the North America region kicked off a major environmental initiative. The aim was to divert 100-percent of recyclable waste from previously designated landfills at all of our 41 U.S. locations by 2015. Since launching the "Zero Waste to Landfill" (ZLF) program some 6,545 tons of available waste have already been recycled.

The ZLF program is the first of its kind in the region, enabling LSG Sky Chefs to substantially reduce our environmental impact through the implementation of new recycling methods, state-of-the-art equipment and comprehensive employee training. Its impact in 2013 is particularly noteworthy, including a reduction in greenhouse gases of nearly 21,000 metric tons, annual energy savings equaling the average usage level of 927 households, or the equivalent of 3,813 passenger cars not being driven for a year.

The results were achieved, in part, through the use of new equipment which can separate, clean and compact metal, plastic, cardboard, paper and selected food waste in preparation for recycling. Additionally, we are encouraging suppliers to use products made of materials that do not turn into waste, as well as employing further reuse, composting and waste-to-energy processes.

Since its initial launch in February 2013, our locations in Boston, Denver, Detroit, Las Vegas,

Minneapolis-St. Paul, Portland (OR), San Francisco, Seattle and Washington Dulles have already implemented 100-percent waste management and recycling processes - with more locations scheduled to follow.



#### Development of an electric drive system for highloader trucks

As a part of the Lufthansa "E-Port on" group-wide project at Frankfurt airport, an LSG Sky Chefs team worked on the development of an electricpower catering highloader truck with three partners (Doll Fahrzeugbau, Technical University of Berlin and Euro Engineering). The concept truck, called "eLift," will not only have an electric (e-)drive system, but also integrated components like an elifting mechanism for the truck's cargo area, which required splitting the chassis from the mounting in order to ensure that both systems are independent from each other.

These new eLift trucks could reduce fuel consumption as well as  $CO_2$  and noise emissions significantly. This project is further proof that economic efficiency and environmental protection don't have to be exclusive from each other. In addition, the eLift has become an essential component of the "green dispatch" electro-mobility concept introduced at Frankfurt airport, which has received the coveted "lighthouse" recognition from the state government for its outstanding innovative aspects. The partners in this initiative are – in addition to the Lufthansa Group – the State of Hessen, airport operator Fraport AG and the Rhine-Main region. The electric mobility project is promoted by the State Ministry of Traffic, Construction and Urban Development, and is supported by the Darmstadt Technological University in Germany. The project was kicked-off in January 2013 and runs through May 2016.



#### WATER / ENERGY / CHEMICALS

#### Further roll-out and development of SIMBA software

SIMBA can be considered a model of best-practice sharing. And we are not talking about a fictional animated character, but about a custom-designed software tool that measures a dishwasher's energy, water, chemical use and temperature. The software is able to capture data at 16 different points throughout the dishwashing cycle and sends the information in real-time to an Intranet. If defined target values are exceeded, the system alerts the designated operator or technician who can then react immediately to the deviation.

After the tool was first used, there were immediate reductions in energy and water. Today, SIMBA is being used at 65 LSG Sky Chefs facilities around the world. In 2012, it was honored with the Fraport Energy Award in the "Highest Savings" category.

The system also got an upgrade in the form of a special device to measure the efficiency of the belt loading online. Hence, the capacity utilization of the machines can be monitored and adjusted if necessary. In addition, the Corporate Engineering department (in cooperation with Hobart) developed a dishwashing process under lower water temperature conditions, which lead to less energy costs at a stable dishwashing quality. This new process solely requires the online SIMBA monitoring tool that has already been in use for years.

Over time, the system has been expanded with additional applications: UNIT, another in-house innovation, now also monitors the air condition and heating systems of our CSCs.







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