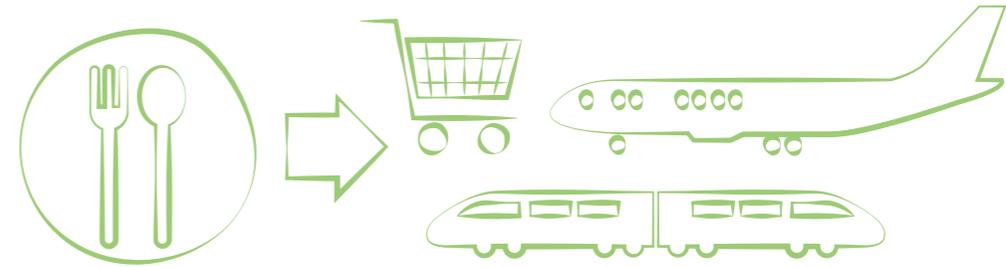


A large circular graphic with a green background. The top half of the circle is a darker teal color, and the bottom half is a lighter green. The background is filled with numerous water droplets of various sizes, some in sharp focus and others blurred, creating a bokeh effect. The text 'THINKING GREEN' is centered in the circle in a white, thin, sans-serif font.

# THINKING GREEN

**LSG GROUP  
2015 ENVIRONMENTAL REPORT**



# COMPANY INFORMATION

**The LSG Group** is the world's largest provider of onboard services – catering, onboard retail and entertainment, onboard equipment and logistics, consulting and lounge services.

The company's dedication to culinary excellence and expertise in logistics has led to its successful entry into adjacent markets like train services and convenience retail.

LSG Sky Chefs delivers 591 million meals a year, mainly for over 300 airlines at 211 airports in 50 countries.

For more information, please visit our website at [www.lsg-group.com](http://www.lsg-group.com)

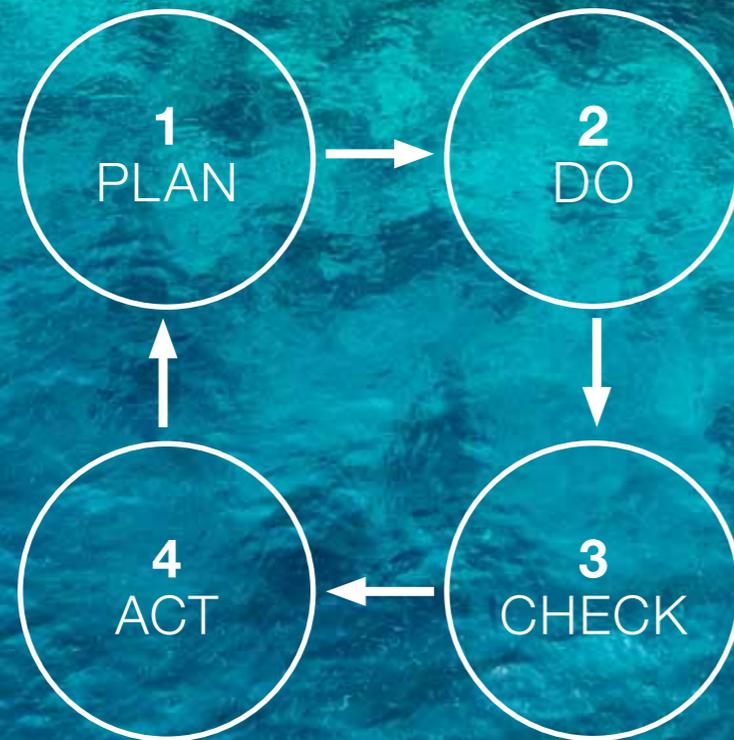
# ENVIRONMENTAL MANAGEMENT SYSTEM

## **A SYSTEMATIC APPROACH FOR CONTINUOUS IMPROVEMENT**

Over the past 20 years, LSG Group 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 environmental awareness and continuous improvement throughout our worldwide organization, and is designed to meet customers' and shareholders' environmental expectations.

# SYSTEMATIC APPROACH



## THE LSG GROUP'S APPROACH TO ENVIRONMENTAL RESPONSIBILITY

Our whole Environmental Management System is based on the Plan-Do-Check-Act principles of ISO 14001.

At LSG Group, the Plan-Do-Check-Act cycle lasts three years, after which it is evaluated and adjusted to meet any changing requirements.

# ENVIRONMENTAL POLICY

OUR POLICY

## **OUR 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.

# ENVIRONMENTAL SYSTEM MANUAL

**OUR WHOLE SYSTEM IS DOCUMENTED** in the new LSG Group Environmental System Manual that provides our operational units with the information they need to abide by our policy, such as clear definitions of the key performance indicators (KPIs) and the standard procedures for an environmental assessment.

It serves as an important tool for optimizing regional environmental activities and demonstrates our commitment to protecting natural resources.

# REGIONAL ENVIRONMENTAL MANAGERS AND PROGRAMS

## **WE HAVE APPOINTED A REGIONAL ENVIRONMENTAL MANAGER (REM)**

within each of our five regions to take charge of the environmental program. The REM works with his or her Regional Management Team and our Corporate Environmental Manager to set up and monitor regional environmental programs. These programs are customized according to local requirements and have the full commitment of the Regional Chief Operating Officer. Taken together, the five regional programs form the company's global environmental program.

Our aim is to have dedicated environmental managers across our different business areas to promote greater collaboration with other strategic corporate functions.

# BEST-PRACTICE EXAMPLES

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# KEY PERFORMANCE INDICATORS

## **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 Group.

## **KEY PERFORMANCE INDICATORS (KPIs)**

Clearly defined Key Performance Indicators (KPIs) allow us to measure our performance over time. The Executive Board and our Senior Leadership Team set specific targets for every business year across all our wholly-owned facilities. The results are closely monitored.

# ANNUAL REVIEW

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# MANAGEMENT REVIEW

## ANNUAL REVIEW

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

DOWNLOAD  
OUR LATEST  
ANNUAL  
REVIEW

## MANAGEMENT REVIEW

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

GET TO  
KNOW OUR  
EXECUTIVE  
BOARD



# SUSTAINABILITY

## **SUSTAINABILITY IS NOT SIMPLY EFFICIENCY**

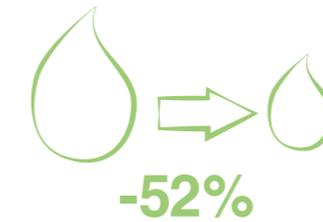
The common perception of sustainability is that if you want to act in a sustainable way, you simply have to do more with less, but this perception is too simplistic when it comes to managing sustainable enterprises. Sustainability is not just about efficiency – it is about developing mechanisms to encourage competition, diversity, innovation and long-term planning while considering environmental issues.

**“SUSTAINABILITY IS WHEN WHAT IS GOOD  
FOR A COMPANY IS ALSO GOOD  
FOR THE PLANET AND VICE-VERSA.”**

Toby Heaps, editor-in-chief of Corporate Knights

The LSG Group regards itself as part of the community and takes a responsible approach towards its 34,300 employees around the globe, its more than 300 valued customers, neighbors, as well as the environment and society at large. We promote diversity within a safe and fair workplace and emphasize ethics and transparency in all of our business activities.

# 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 Customer Service Centers (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 KPIs to design and implement the measures necessary to meet the targets.

Over the past five years, our water consumption per meal has decreased by more than 52 percent (liters/meal), our energy consumption per meal has fallen by 21 percent (kWh/meal), despite the fact that the total number of meals produced went up by 33 percent.

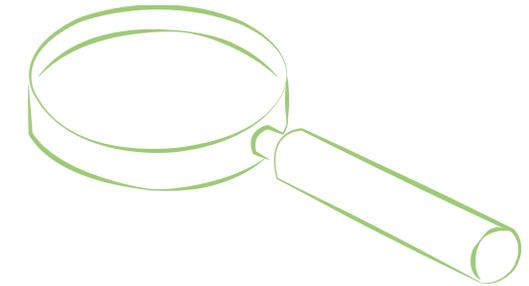
# MEASURING OUR PERFORMANCE

## OVERVIEW OF OUR IMPRESSIVE PROGRESS

Location-related data	2009	2010	2011	2012	2013	2014
Locations included	112	114	122	121	104	107
Meals prepared	308 m	335 m	293 m	381 m	409 m	432 m
Energy per meal (kWh/meal)	1.9	1.7	1.8	1.7	1.4	1.5
						<b>-21%*</b>
Water per meal (liters/meal)	10.8	9.9	8.9	7.9	5.9	5.2
						<b>-52%*</b>
Waste per meal (grams/meal)	575.1	514.7	554.7	519.3	430.9	411

\*compared to 2009 figures

# AUDITING



## AUDITING IS PART OF OUR DNA

In the airline catering business, audits are a part of day-to-day business.

Every year since 2010, selected Customer Service Centers (CSCs) from each management region are annually inspected for compliance with local environmental legislation and good management practices for resource management, water quality, atmospheric emissions and noise pollution.

We share the observations and findings of these audits on our global e-platform as examples of best practice and to educate our other locations around the world.



# AUDITING

## EXTERNAL LOCAL EXPERTS AUDIT COMPLIANCE WITH LOCAL REGULATIONS

Taking account of local legal regulations is crucial. The LSG Group is present in 50 countries and therefore needs a partner with international experience to ensure that all requested measures are fulfilled.

Our environmental audits are conducted with the support of [Environmental Resources Management \(ERM\)](#), one of the world's leading sustainability consultancies. ERM is tasked with auditing our facilities for compliance with local regulations. The inspections are initiated by the Corporate Environmental Manager together with the General Manager of the selected facility and the Regional Environmental Manager.



# CARING ABOUT THE ENVIRONMENT

## OUR COMMITMENT

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





# CARING ABOUT THE ENVIRONMENT AT 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 as well as product innovation.

At a local level, our top 25 CSCs have appointed dedicated CSC Environmental Managers (CEMs) to help drive 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.

# CARING ABOUT THE ENVIRONMENT OUR WAY



## ENVIRONMENTALLY FRIENDLY CONSTRUCTION: LSG SKY CHEFS IN CHICAGO

Our new LSG Sky Chefs facility in Chicago has been certified as a model of green construction. The almost 14,000-square-meter facility, packed with unique features, demonstrates how important environmental protection and the responsible use of resources are to the LSG Group. The building was opened in 2015 and promptly received the **LEED (“Leadership in Energy and Environmental Design”) seal of quality for green construction**. LSG Sky Chefs is the first catering company in the world to earn this internationally renowned certificate – thanks to our clever energy and water management.

The American LEED system has been supporting environmentally friendly constructions for 18 years, and there are now LEED-certified buildings in more than 135 countries. However, as far as environmental friendliness is concerned, a lot still needs to be done in most buildings around the world. Almost 40 percent of the primary energy demand worldwide is currently the result of the construction and usage of buildings. Our LSG Sky Chefs Chicago facility is an example of how the future could look like.



### TRANSFORMED WASTE

The modern “Enviropure” system uses voracious bacteria to transform organic waste into harmless and reusable products, such as wastewater, fertilizers.

- Organic waste is disposed of at the very place where it is created.
- Almost all types of organic waste are decomposed within 24 to 48 hours. These include fruit and vegetables, along with their skin and seeds, plus meat, fish, poultry and all bones, as well as dairy products.



### ENERGY-SAVING COOKING AND REFRIGERATION

The facility in Chicago uses equipment that is particularly energy-efficient:

- Energy-saving extractor hoods switch off automatically with a reduction of the temperature and steam above the cooking area.
- Water-based refrigeration systems with cooling towers can be easily switched to the desired refrigeration temperature.
- Insulated ramp gates with gate seals keep the temperature as constant as possible.

- The bacteria present in food waste are fed with the micronutrients they require for accelerated decomposition. The secret weapon is called EP-BioMix®.
- What remains after this process is a harmless liquid that meets or even falls below the legal limits for safe disposal in the urban wastewater system.



### PRIORITY FOR GREEN

Where it comes to mobility at the Chicago facility, carbon dioxide is out:

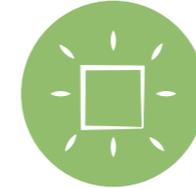
- Very easy to reach by various forms of public transport.
- Preferential parking for low-emission vehicles.



### CLEVER WATER MANAGEMENT

The range is broad – from utilization of rainwater to quantity control:

- Rainwater and meltwater collection facility: Precipitation is used for toilets.
- Online money-saver: The internally developed online tool SIMBA monitors the dishwashers and ensures they consume no more water, energy or detergent than necessary.



### SPOT ON – LOTS OF LIGHT, LITTLE ENERGY

The Chicago facility ensures good lighting without power-guzzlers.

- Energy-saving LED lights with sensors throughout the facility. This entailed installing 1004 LED bulbs.
- Natural lighting in production areas through numerous windows and 54b skylights.



### PAPERLESS PRODUCTION

Usually, tons of papers full of information are needed during our production processes. But now our IT department has found a way to make those processes smarter. They are developing apps in-house that can digitize individual steps and do away with the unbelievable amount of paper.

The most successful one, which is already being used in several of our operations, is the **Items List App**, which deals with product specifications.

Every production employee must have the latest product specifications at hand with detailed information about each menu component. This information changes monthly, weekly or even daily depending on the airline's requests. Printing them requires a lot of paper. But with the app, the information can be downloaded to a tablet and stay constantly updated.

### **BUT HOW DOES IT EXACTLY WORK?**

Presently, each employee prints out the product lists. With the help of the specification number, he or she can look up additional information about a particular product on the accompanying documents. So it is not only about the impact paper usage can have on the environment, but about carrying that stack!

In the operations where the app is already being used, the production lists look a bit different: a barcode is printed behind each product and the employee simply has to scan it to open the Item List App and find out more information. Besides eliminating the paper, the biggest advantage of the app is the timeliness of data. It's always the latest version available, even if the customer makes a change within hours.

Our Hong Kong unit has even gone a step further. There, the complete product process is paperless: At the beginning of each shift, employees log into the app, open their production plan and get all the information they need instantly.



### USING SOLAR ENERGY IN OUR DAILY OPERATIONS

Regenerative energy sources can save money, time and the environment. That's the idea behind using solar energy to power a key component in our high-loader trucks. Since the spring of 2015, the deep freezer in one of our trucks in Frankfurt, Germany, has been working with what is one of the cleanest sources of energy – with impressive savings in terms of waste and labor.

Typically, we have to use huge amounts of dry ice to keep frozen meals at their optimal temperature in the truck and dispose of any left after the ice is gone.

But solar panels attached to the top of a truck can provide enough continuous energy for the deep freezer to stay at  $-20^{\circ}\text{C}$ . With this invention, meals can be stored overnight in the truck without producing more waste while saving labor. Excess energy produced by the solar panels is saved in an external battery on the truck. With the energy saved in this battery the power supply is guaranteed around-the-clock, even when the sun is not shining.

And it not only powers the deep freezer: the interior lighting also works with the collected energy. Plus, this external battery can also give a jump start to any other vehicle that needs it, something that happens quite a lot during the winter. This eliminates having to use expensive and time-consuming services with extra trucks. Additionally, the external battery can be used as a charging station for electric vehicles.

The entire system can be controlled and monitored with an app on a smartphone or tablet. With it, the deep-freezer temperature can be checked at any time, as well as the current status of the battery and if the solar panels are working properly. At the moment this invention is only being used in just one truck in Frankfurt, but the plan is to deploy it to other vehicles and units.





### REDUCING CO<sup>2</sup>:

#### SÃO PAULO IS WELL ON ITS WAY

The fight against climate change is one of the most important issues worldwide. Our operation in São Paulo (GRU), Brazil, demonstrated their special commitment to that cause by adding their signature to a climate protocol issued by the government of the state of São Paulo during the global UN climate conference in Paris in December 2015.



The climate protocol is linked to an energy-saving program that should help reduce CO<sup>2</sup> emissions and other greenhouse gases. The companies that co-signed were encouraged to develop and implement strategies and plans for reducing greenhouse gases emissions from electricity, oil and gas. The program is not limited in time and is designed to help achieve the long-term goals set for Brazil at the climate conference. LSG Sky Chefs is one of the 28 companies operating in Brazil that are taking part in this project voluntarily.

A few energy-saving measures have already been implemented at the GRU unit, such as switching conventional light bulbs for LED lights and replacing walls with special heat-insulating panels. These measures have already produced **a reduction of 96 tons in CO<sup>2</sup> emissions.**

But the team at GRU is not new to environmental initiatives. In 2015, for example, they worked with Diversey on a showcase project for storing chemicals used in the operations.

They are planning to expand the climate protocol to the Rio de Janeiro unit in the future.



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**LEARN MORE  
ON OUR BLOG**

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