

A large circular graphic with a blurred background of green leaves. The text "THINKING GREEN" is overlaid in white, outlined letters.

THINKING GREEN

**LSG GROUP
2014 ENVIRONMENTAL REPORT**



COMPANY INFORMATION

THE LSG GROUP is the world's largest provider of in-flight services – catering, onboard retail, in-flight equipment and logistics, consulting and lounge services.

The company's extensive culinary excellence and logistics know-how has enabled it to move successfully into adjacent markets, such as train services and retail.

LSG Sky Chefs delivers 578 million meals a year, mainly for over 300 airlines at 214 airports in 51 countries.

For more information, please visit our website at www.lsgskycheffs.com.

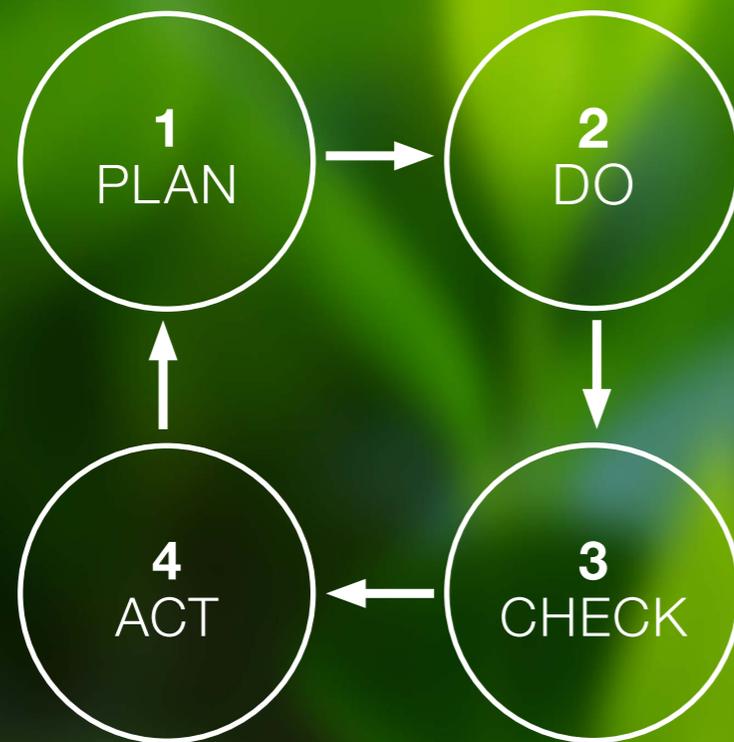
ENVIRONMENTAL MANAGEMENT SYSTEM

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 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.

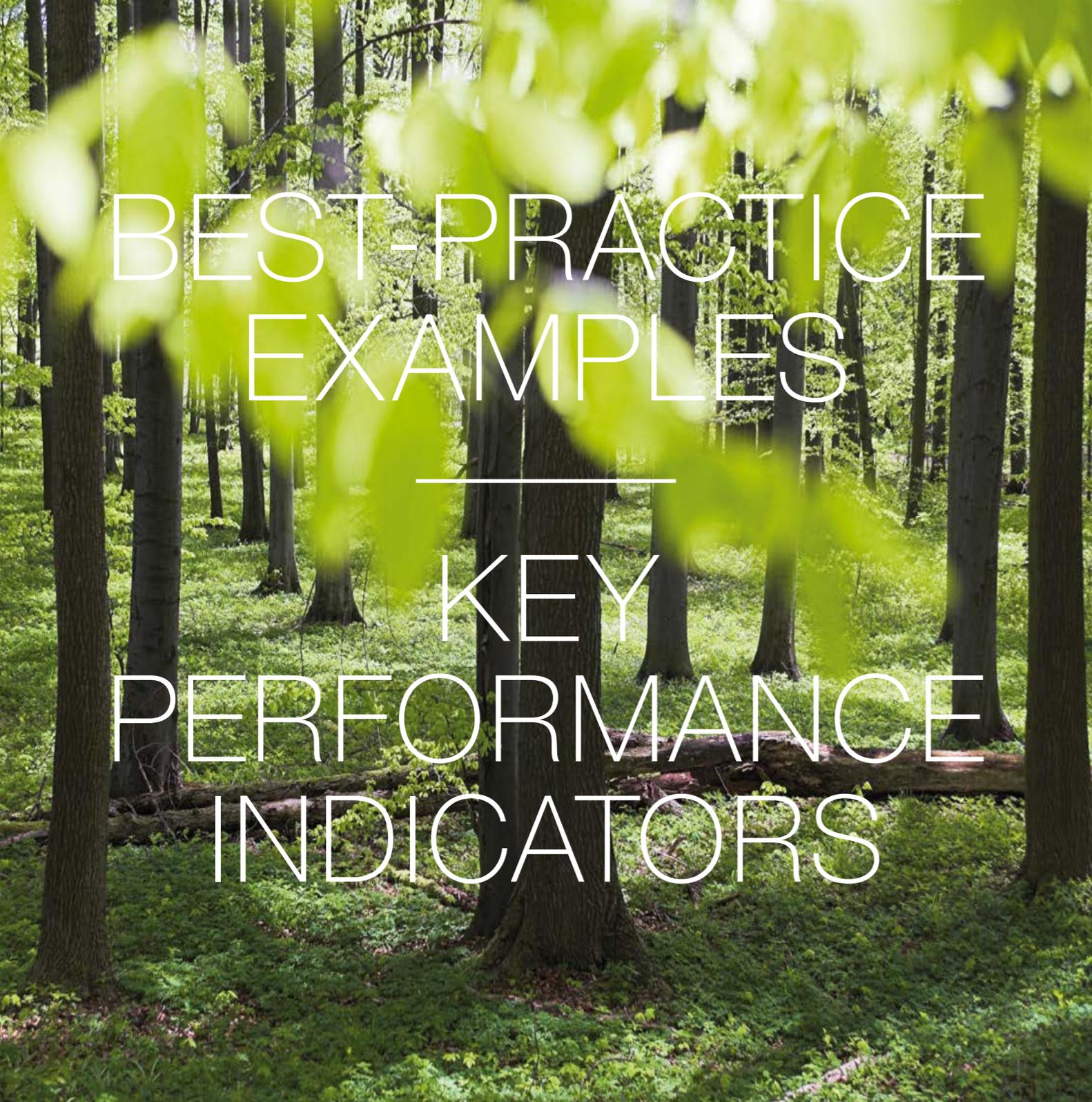
It serves as an important tool for optimizing regional environmental activities and demonstrates our commitment to protecting natural resources.

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

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

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

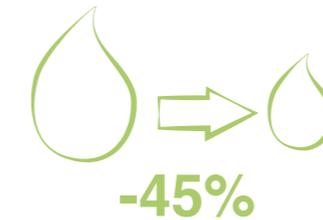
The common perception of sustainability is that if you want to act in a sustainable way, you simply have to do more with less, but this perception is too simplistic when it comes to managing sustainable enterprises. Sustainability is not just about efficiency – it is about developing mechanisms to encourage 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 32,800 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 45 percent (liters/meal), our energy consumption per meal has fallen by 33 percent (kWh/meal), despite the fact that the total number of meals produced went up by 17 percent.

MEASURING OUR PERFORMANCE

OVERVIEW OF OUR IMPRESSIVE PROGRESS

Location-related data	2008	2009	2010	2011	2012	2013
Locations included	124	112	114	122	121	104
Meals prepared	348 m	308 m	335 m	293 m	381 m	409 m
Energy per meal (kWh/meal)	2.1	1.9	1.7	1.8	1.7	1.4
						-33%*
Water per meal (liters/meal)	10.7	10.8	9.9	8.9	7.9	5.9
						-45%*
Waste per meal (grams/meal)	553.3	575.1	514.7	554.7	519.3	430.9

*compared to 2008 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 more than 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.

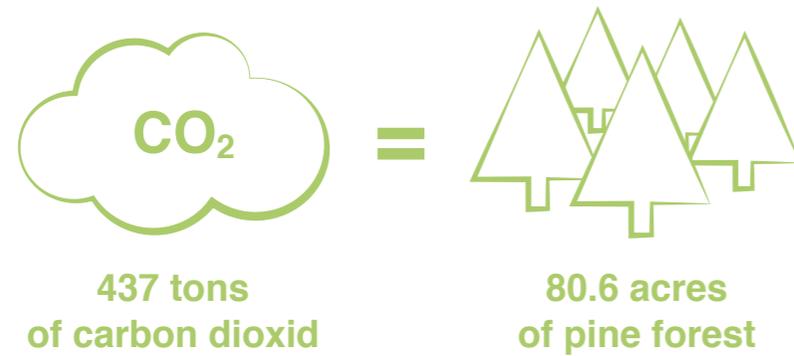
CARING ABOUT THE ENVIRONMENT OUR WAY



ENERGY – SENSORS REDUCE ELECTRICITY CONSUMPTION IN REFRIGERATION UNITS

Our North America region recently ran several pilot tests with eTemp[®], a thermostat that helps refrigeration units to operate more efficiently. The sensor won the environmental “Product of the Year” in 2014, awarded by “[Environmental Leader](#)” – a nationally recognized online resource, comprised of an environmental product review board of experts in energy and environmental management fields.

Unlike traditional thermostats, eTemp[®] does not respond to minor temperature fluctuations and only registers significant changes. Refrigeration units work in a series of cycles to maintain the required storage temperature, typically at least four per hour.



First-generation refrigeration systems monitor circulating air temperature to decide when to switch on and off. Circulating air temperature, however, tends to rise far more quickly than food temperature and, as a result, the refrigeration unit works harder than necessary to maintain stored products at the right temperature, which in turn leads to excessive electricity consumption and undue wear and tear on.

With eTemp® in place, the number of cycles can be reduced significantly, leading to lower energy consumption.

In April 2014, our LSG Sky Chefs unit in Dallas (DFW) ran two separate measurement studies, spanning six weeks in total.

The first results showed a reduction of 21.4% in electricity consumption, which led to a further roll-out of the sensors in 17 more customer service centers (CSCs) across the region in late 2014 and an additional 21 CSCs in early 2015. The installation included one data logger per site to confirm the results.

Current data collection and analyses show impressive results – with eTemp® installed, the participating CSCs have already saved **547,558 kWh and reduced carbon dioxide emissions by 437 tons**. According to the EPA (US Environmental Protection Agency), these energy savings are the equivalent of planting **80.6 acres of pine forest** every year.

Learn more about how eTemp® helps saving energy:





WASTE – STARTING THE RECYCLING PROCESS ON BOARD WITH “FLY GREENER”

Flight attendants can do a great deal to contribute towards protecting the environment on board an aircraft – such as correctly separating waste.

Lufthansa Group has started promoting environmental awareness on board through their “Fly Greener” initiative, part of which is dedicated to recycling. As a part of “Fly Greener”, the crew receives demonstrations on how to recycle correctly, which further simplifies waste separation at the catering unit, saving costs at the same time. LSG Sky Chefs has teamed up with Lufthansa on this project, since paying attention to little details can make a big difference to successful waste separation.

For example, empty glass or PET bottles should always be collected and returned separately instead of being disposed in rubbish bags.

Lufthansa went one step further and sent a group of volunteers to the LSG Sky Chefs unit in Frankfurt to sort waste properly that came in from a Lufthansa flight.

“Learning by doing” was the motto of the day, when 105 waste trolleys with 1,078 kilograms of smelly garbage were emptied right onto the floor and flight attendants, together with LSG Sky Chefs, started sorting the items together.

This exercise was a true eye-opener for all participants – six dustbins were filled with glass bottles, PET bottles and paper, all of which could have been recycled instead of being incinerated together with the residual waste.

Another important aspect in managing waste is load optimization.

For example, the crew could get rid of all old surplus reading material (waste paper) before departure. The weight reduction of just one kilogram per aircraft results in savings in kerosene consumption of around 26,000 kilograms per year.





WASTE – TURNING ORGANIC WASTE INTO WATER

Organic waste still represents a large part of our garbage that ends up in landfill where it produces harmful methane gas.

Our North America region implemented new technology in our Detroit (DTW) and Los Angeles (LAX) facilities in January 2014 and May 2015 that converts organic waste into water.

The technology, developed by EnviroPure, is a self-contained, aerobic food waste decomposition system that eliminates waste on-site. The EnviroPure Organic Waste Digester maintains organic waste at the optimal temperature and oxygen levels to accelerate natural aerobic decomposition.

The secret lies in EnviroPure's proprietary all-natural, biodegradable EP-BioMix® medium that provides the natural bacteria already present in food with the critical micronutrients required for rapid break down. The organic waste is quickly reduced to a harmless liquid, meeting or exceeding regulatory standards for safe disposal into municipal waste water.

Learn more about EnviroPure:

ENVIROPURE

424.000 kg



The EnviroPure system handles virtually any kind of food waste, including vegetables, fruit, meat, fish, poultry, dairy products, bones, shells and pits, with decomposition within 24 to 48 hours. The technology also eliminates odors and does not require sanitation, vermin or insect-control measures.

The carbon dioxide generated from the system is biogenic – i.e. it does not contribute to greenhouse gases and global warming. Between January 2014 and July 2015, **the system diverted 424 tons of organic waste from landfill** at the two participating CSCs.

Learn more about how waste can be converted into water:

FROM
WASTE TO
WATER



EMISSIONS – LEEN 100: SHARING IDEAS FOR MORE ENERGY-EFFICIENCY AND LESS EMISSIONS

Our Frankfurt facility is a member of the Learning Energy Efficiency Network (LEEN 100) in the Rhine-Main area.

This network of around eight companies from various industries creates a platform for the exchange of best practices in efficient energy management.

The common goal of the participants is to contribute to the reduction of CO₂ emissions in the Frankfurt area and to increase the proportion of renewable energy. Frankfurt aims to lower CO₂ emissions by 50% by 2025 and to use 100% renewable energy by 2050.

Over the next four years, all network participants will first conduct an energy audit (including reporting and summaries) followed by network meetings, site inspections and annual monitoring. Participation is well worth the effort – based on the experience of the first 30 LEEN pilot networks, participants on average have **doubled their energy efficiency** compared to non-participants.

In July 2015, the LSG Sky Chefs facility in Frankfurt hosted the first LEEN 100 site inspection and energy-efficiency roundtable with the focus on energy-saving for ventilation and air-conditioning systems.



This was an important topic for our Frankfurt facility since it has 5,000 m² of refrigerated warehouse space, 12 large dishwashing lines, three beverage-cooling tunnels and its own electric monorail (1.6 km long).

About 20 participants from companies such as Adam Opel (automotive), Abbott (pharmaceutical), Hassia (mineral water) and Infracore (industrial site services) exchanged their experiences based on their implemented energy-reduction measures.

These ranged from the installation of intelligent, energy-efficient control technologies to optimization of ventilation currents and runtimes for air-conditioning systems. Lessons learnt from our participation with LEEN 100 will be shared with all other LSG Sky Chefs units around the globe on our e-platform.



CHEMICALS – CHEMICAL STORAGE IN SAO PAULO – A GLOBAL SHOWCASE

Our global Green Assessment in 2013 and 2014 revealed that chemical product storage in many units needed improvement.

Together with [Diversey](#), our worldwide partner for chemical supplies, our corporate environmental manager and Latin American regional environmental manager developed an action plan for a chemical products storage showcase for our Sao Paulo unit, the largest in the region.

The showcase not only included adherence to safety regulations, but also best practices for training in hygiene and cleaning.

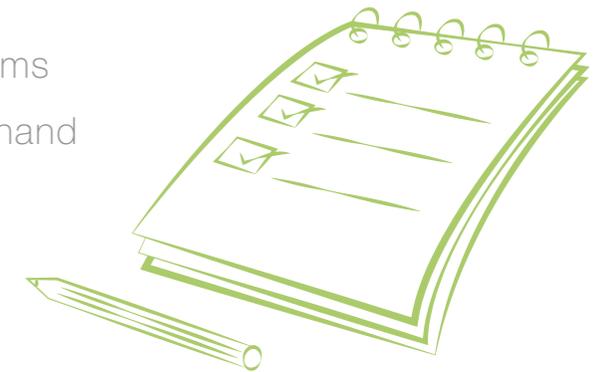
The complete project was implemented in just one month and produced five clear rules for the safe storage and disposal of chemicals (see following page).

Follow-up audits will be held every six months and the showcase will be rolled-out throughout the region, starting with Brazil, Venezuela and Panama.

The overall target is to implement the showcase principles in all LSG Sky Chefs units worldwide.

FIVE SHOWCASE RULES FOR SAFE CHEMICAL STORAGE

1. Follow storage instructions on Safety Data Sheet
2. Always store chemicals safely in the following way:
 - A) Store in a specific separated area or storage room
 - B) Acids must be separated from alkalis and any detergents containing chlorine
 - C) Store organic peroxides in a separate storage room
 - D) Store flammables separately
 - E) Use individual drip-trays for specific chemical groups (acids, alkalis, chlorine-containing detergents, flammables and organic peroxides)
3. Ensure adequate ventilation of storage rooms
4. Keep Safety Data Sheets updated and at hand
5. Dispose of any chemicals safely





**LEARN MORE
ON OUR BLOG**

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