



4XNG TOWARDS LOWER EMISSIONS

Maintaining our responsibility

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SAS is convinced that financially sustainable operations require social and environmental responsibility, and that, in various ways, work on sustainability issues contributes to value growth and competitiveness.

This is SAS 17th sustainability report, which has been reviewed by third party since 1997. This sustainability report begins with a brief summary of SAS' sustainability work, followed by a detailed description of how SAS works with sustainable development, meaning its environmental responsibility, its social responsibility and its financial responsibility. In addition, the main aspects of SAS' sustainability programs are described in the Annual Report for 2012.

About the SAS Group Sustainability Report 2012

The Sustainability Report 2012 describes the most essential environmental and societal aspects impacted by the Group's operations. The focus is on all the main bases, but comprises all destinations in Scandinavia and Finland. Other destinations are handled through checks and follow-ups of contracted sub-suppliers. It reports what is identified, after continuous dialog, to be of interest to its main target groups: financial analysts, customers, suppliers, employees, authorities, policymakers and shareholders. The SAS Group has self-declared the Annual- and Sustainability Report 2012 to be Application Level A+, in accordance with the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines version 3.0. Deloitte AB has reviewed the Sustainability Report 2012 and has confirmed it to be Application Level A+. The UN Global Compact, ISO 14001 and the Carbon Disclosure Project have been taken into consideration in the preparation of this sustainability report.

Accounting Principles for Sustainability Reporting 2012 are available on **pages 42–43**.

The SAS Group Sustainability Report 2012 was approved by SAS Group Management in February 2013. The SAS Group Board of Directors submitted the Annual Report in February 2013, and was informed of the Sustainability Report at the same time. SAS Group Management is responsible for organizing and integrating sustainability work with the operations of the Group. The SAS Group Annual Report and Sustainability Report 2011 were published in March 2012.

New financial year

The SAS Group has changed financial year. This means that the SAS Group Sustainability Report in 2012 disclose sustainability-related data for the 10 month period January, 1 through October, 31 2012 described in this report as "fiscal year 2012". If possible and applicable, sustainability-related data have been recalculated in 2011 to cover the corresponding 10 months. Some calculations have also been made in order to create "comparable" 12-month data covering November 2011 to October 2012. These can be compared to 2011 which covers the period January to December 2011. Please note that November and December 2011 are disclosed twice in these cases.

External review

Material sustainability information

All material sustainability information in the Annual- and Sustainability Reports for 2012 has been reviewed by Deloitte. The Auditor's review of sustainability report can be found on **page 41**.

EU-ETS

External auditors have verified systems and reports regarding the EU trading scheme for emission allowances. PwC for Scandinavian Airlines, Blue1 and Widerøe.

Contact information

Lars Andersen Resare
Head of Environment and CSR
+46 709 97 23 46
lars.andersen@sas.se

Sustainability work in brief

- The SAS Group's total CO₂ emissions increased 1.4% during November 2011–October 2012, while the total number of passenger kilometers increased 4.0% compared with full year 2011. This means that the relative CO₂ emissions decreased during the period to 119 grams (122) per passenger kilometer compared with the same period.
- The SAS Group reduced its total CO₂ emissions from flight operations by 14.3% in the November 2011–October 2012 period compared with the full-year 2005. One of the Group's main targets in 4Excellence is to reduce its total emissions by 20% by 2015 compared with 2005.
- Energy consumption in the SAS Group facilities fell 14.8% in November 2011–October 2012 compared with the base year of 2010.
- Fossil fuel consumption by ground vehicles at the SAS Group's major airports in Scandinavia decreased by 26% in November 2011–October 2012 compared with the base year of 2010.
- The SAS Group met its commitment to comply with national legislation regarding the inclusion of aviation in emissions trading on January 1, 2012.
- All of the SAS Group's airlines retained their certifications according to ISO 14001.
- All of the Group's airlines complied with the regulations regarding EU-ETS.
- Job satisfaction at SAS decreased. The index decreased by three units to 63.
- Sick leave rose to 7.1% (7.0) in Scandinavian Airlines, remained stable at 4.7% (4.7) in Blue1 and declined to 5.7% (5.8) in Widerøe.

Sustainability-related KPIs¹

	Nov 2011–Oct 2012	2011	2010
Revenue, MSEK	35,986 ²	41,412	41,070
EBT before nonrecurring items, MSEK	23 ²	94	-444
EBIT margin, %	-0.8 ²	0.2	-1.1
Number of passengers, millions	24.0 ²	29.0	27.1
Average number of employees ⁶ , of whom women, %	14,897 ²	15,142	15,559
Sick leave, % ³	38 ²	38	38
Total number of occupational injuries	7.1 ²	7.0	7.1
Climate index	257 ²	272	327
CO ₂ emissions, 000s tonnes	98	100 ⁴	90
NO _x emissions, 000s tonnes	3,919	3,863	3,654
CO ₂ gram/passenger kilometer	15.9	15.6	14.8
Fuel consumption airline operations, 000s tonnes	119	122	121
Fuel consumption ground operations, 000s liters	1,244	1,226	1,160
Water consumption, 000s m ³	2,396	3,160 ⁵	3,252 ⁵
Energy consumption, ground, GWh	155	161 ⁵	159
Unsorted waste, 000s tonnes	182	194 ⁵	213 ⁵
Hazardous waste, 000s tonnes	0.7	0.8	0.9
External environment-related costs, MSEK	0.2	0.2	0.3
	275 ²	407	356

1) Accounting Policies under Sustainability at www.sasgroup.net.

2) Pertains to fiscal year 2012.

3) Pertains only to Scandinavian Airlines.

4) Full-year 2011 new base year.

5) Historic value changed.

6) Source: Note 3 on page 54 in SAS Group Annual Report with sustainability overview January–October 2012.

2%

Commercial air transport's account of global CO₂ emissions.

5

Newer aircraft phased into Scandinavian Airlines fleet.

119

SAS Group CO₂ emissions per passenger kilometer November 2011–October 2012 vs. full-year 2011.

SAS Group climate index

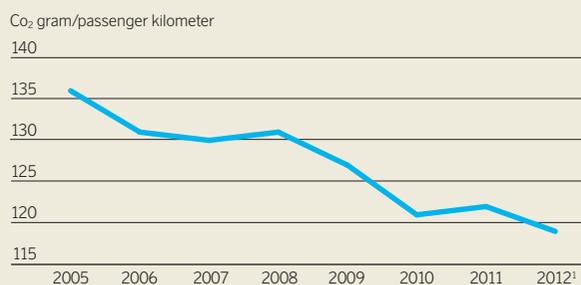


— Climate index with 2005 as base year.

— Climate index with full-year 2011 as base year.

As of fiscal year 2012, the climate index has base year 2011. The result for 2012 reflects 12 months (November 2011–October 2012).

SAS Group CO₂ gram/passenger kilometer



1) The result for 2012 reflects 12 months (November 2011–October 2012).

This is the SAS Group

The SAS Group consists of six organizational function/units.

Scandinavian Airlines

Scandinavian Airlines is the largest airline in the Nordic region in terms of revenue, passengers and flights. The network is mainly dimensioned according to business travelers' needs, but leisure travel is a growing segment and represents a growing share of revenue.

The main bases are Copenhagen–Kastrup, Oslo–Gardermoen and Stockholm–Arlanda. The head office is located at Stockholm–Arlanda Airport. Scandinavian Airlines had 15,583 employees in October 2012.

Aircraft fleet

Scandinavian Airlines has a network of destinations with varied passenger volumes and distances, which requires an aircraft fleet with aircraft of varying size and range to make the offering attractive to business and leisure travelers. Scandinavian Airlines had 136 aircraft in operation at year-end and the fleet comprised 11 long-haul aircraft, 113 short-haul aircraft, and 12 regional jets. There are also four CRJ-200s on wet lease. The average age of the aircraft fleet was 12.6 years. Scandinavian Airlines renewed the fleet by introducing five B737NG and phasing out seven MD80 aircraft.

Widerøe

Widerøe is a wholly owned Norwegian subsidiary in the SAS Group that conducts regional, domestic and international traffic, and is based in Norway. The head office is located in Bodø and the company comprises flight operations, technical, ground and cargo operations, Network & Pricing, Sales & Marketing and administration. Widerøe had 1,407 employees in October 2012. Commercial routes currently comprise 60%, while the procured routes on the short-runway network represent 40% of the business. When the strategy plan, 4XNG was launched in November 2012, Widerøe was put on sale as part of the plan to divest assets. This means that Widerøe will only be reported in SAS Group sustainability report until the divestment is completed.

Aircraft fleet

In October 2012, Widerøe's aircraft fleet comprised 39 Q100/Q200/Q300/Q400/Q400NGs. The average age of the aircraft fleet was 14.9 years. The smaller Q100, Q200 and Q300 aircraft fly mainly on the contracted short-haul routes, while the larger Q400/Q400NG aircraft serve the large airports.

Blue1

Blue1 is a wholly owned Finnish subsidiary in the SAS Group. In July 2012 Blue1 changed their strategy and as of November 1, 2012 became a production company within Scandinavian Airlines. Consequently Blue1 will fly with "SK flight numbers". At the same time Blue1's administration was integrated into SAS. As of next sustainability report Blue1 will be reported as Scandinavian Airlines. All operations issues and follow-up will be on SAS operations. Blue1 comprises Technical Operation and some administration. Blue1 had 354 employees in October 2012.

Aircraft fleet

Since the end of 2011, Blue1's aircraft fleet comprised nine Boeing 717s. The average age of the fleet is 12.2 years. Blue1 has also wet-leased two ATR 72s and four SAAB 2000s for production on short regional routes in Finland and Sweden.

SAS Ground Handling (SGH)

SGH operates at airports in Norway, Sweden and Denmark and under contract abroad. SGH with its 6,974 employees is part of Scandinavian Airlines. Customers include airlines other than those of the SAS Group and SAS' partners. SGH include, for example, passenger and lounge service, loading and unloading, de-icing and towing of aircraft. In November 2012, SGH was put on sale as part of the plan to divest assets in the 4XNG.

SAS Technical Operations

SAS Technical Operations is part of Scandinavian Airlines and with its 1,525 employees in Sweden, Denmark and Norway, conduct parts of the technical maintenance. The largest customers comprise the Group's airlines and operations are mainly located in Scandinavia. SAS Technical Operations also sells its services to external airlines.

SAS Cargo Group A/S (SCG)

SCG provides freight and mail services within the framework of the operations in Scandinavian Airlines and other partners. The company is managed from Copenhagen and includes an independent full-service provider of freight forwarding services, Trust Forwarding. In 2012, there were 207 employees in SCG. The actual handling of freight and mail is carried out by Ground Handling Agents (GHA). SCG's subsidiary, Trust Forwarding, is 100% owned by SCG and its environmental data and results are included in SCG's data and results.

From the President's comments, SAS Group Annual report January–October 2012

2012 was a year of continued exacting conditions for the European aviation industry. Even if performance in the Nordic region, our home market, was relatively stable, the surrounding macroeconomic turbulence continued for the fifth consecutive year. Above all, the trend in the euro zone created a generally unsettled operating environment for all companies to navigate – not least for the airline industry, which is extremely sensitive to business cycles.

For the 2012 fiscal year (January–October), we see a positive trend in the underlying result. The number of passengers, including charter passengers, increased by about one million to about 26 million customers, which matched well with our increased capacity. During the period, the load factor increased by 1.2 percentage points and passenger revenue after currency adjustments and nonrecurring items was up 5.6%. In parallel, we worked successfully on streamlining measures and reduced unit cost by 4% (after currency and fuel adjustment), entailing a substantial increase in productivity. All of the above serves to demonstrate that 4Excellence, which was launched during 2011, has delivered on our promises.

Nevertheless, the results are far from satisfactory and it has become increasingly clear that major structural changes are necessary to create a functional and sustainable business model.

During the year, we therefore prepared and launched the next generation of our change agenda – 4Excellence Next Generation (4XNG). The plan addresses the fundamental challenges facing SAS and creates the first network airline company in Europe with a cost base enabling it to compete fully with low-cost carriers in the regional market. The plan comprises an aggressive initiative by SAS that builds on the positive trend we experienced in 2012. SAS aims to rapidly become profitable through a number of structural measures and thus continue to grow through defending its leading position in the business travel segment and, in parallel, moving forward its position in the growing leisure travel market.

On November 19, we took the first crucial step in our change process through the signing of new collective agreements with our flight crew unions. The preceding week was extremely dramatic and challenging for SAS personnel, customers, suppliers and shareholders. We made no secret of the fact that the company's very existence was on the line. Our unions showed and took great responsibility and our employees kept services running with sustained quality and service levels despite these extraordinary circumstances. This was admirable and commendable at every level. The new agreements laid the foundation for us to secure our funding until 2015 and thus the possibility of driving forward operations and the change process.

However, much work remains and the entire organization is now fully focused on delivering the other initiatives in the plan at a high pace in 2013. Unfortunately, these changes mean that many talented employees will have to leave SAS or will have new employers. While this is an extremely unpleasant and painful process, it is necessary if we are to create a sustainable future for our business.

Work on our sustainability program continues. Our target is to reduce emissions by 20% in 2015 compared with 2005 through such measures as the renewal of the aircraft fleet, optimization of the traffic schedule and flying with enhanced efficiency with the means at our disposal. We are pioneers in many areas. The "green approaches" and our efforts to work with increased fuel efficiency are two good examples. The essence is to reduce our fuel consumption and accompanying climate-impacting emissions while reducing costs. Plain and simple business sense.

Rickard Gustafson
President and CEO



Scandinavian Airlines newest Boeing 737-800 was taken into service on April 25, 2012. As per October 31, 2012, the aircraft had made about 900 flights with average CO₂ emissions per passenger of 78 grams.

Responsibility for sustainable development

The sustainability work is based on SAS policies and the Group's commitment to adhere to the principles in the UN Global Compact, SAS Code of Conduct, SAS priorities and promise, Care.



Sustainable development creates value

SAS' stakeholders generally place the greatest importance on environmental responsibility, especially relating to how SAS handles the demand to reduce greenhouse emissions. Therefore, environmental responsibility is the largest part of SAS' reported sustainability work. For SAS, social responsibility on a wide scale is just as important, but is not given the same amount of space in this report.

Despite the turbulent market for the airline industry in recent years, SAS has chosen to maintain its commitment to sustainability-related issues. Its work adapt capacity and take emission-reducing actions has decreased emissions per passenger kilometer over time.

SAS Sustainability policy and strategy

Sustainability (CSR) policy

For SAS, sustainable development means a simultaneous focus on financial, environmental and social responsibility. The objective is to contribute to the creation of long-term growth in shareholder value.

SAS aims to follow strong sustainable practices and to encourage its stakeholders to do the same.

- Sustainable development is an integrated part of SAS' business activities and is closely linked to our ability to fulfill and develop the priority program, Care,
- To contribute to sustainable development, everybody, in their daily work, must take financial as well as environmental and social considerations into account.

Sustainable development strategies

SAS aims to:

- create a culture among its employees based on strategic decisions and a commitment to environmental work
- use documented sustainability appraisals as a basis for all decisions
- engage in strategic sustainability communication with relevant stakeholders
- promote tomorrow's solutions through alliances and proactive demand of better sustainability performance from our suppliers and stakeholders.

Materiality analysis

SAS stakeholders primarily asks for knowledge about SAS environmental impact and activities to reduce it from a sustainability perspective. That is why the Sustainability Report 2012 focuses on SAS environmental responsibility. Social responsibility is important but being an airline with the vast majority of its employees in northern Europe these aspects are well covered. The aspects of supply chain management are increasing in importance. Read more on [page 12](#).

SAS Corporate Manual

The Corporate Manual describes SAS' organization, corporate form and all of the policies, which, combined, govern the Group's sustainability work and operations in general.

The SAS Group's role models for executives and employees comprise the basis for the Group's sustainability programs.

Code of Conduct

To summarize and clarify the Group's stated priorities, promises, policies, and other regulations, the SAS Board of Directors has issued a Code of Conduct that applies for all employees within SAS Group. To underscore the Code's importance, there are clear rules and structures for reporting and addressing suspected violations.

Supervisors and other managers play a key role in the implementation and follow-up of the Code. An extensive training program supports the Code and the goal is for all personnel to participate in the program. At the end of October 2012, 79% of the employees had done so.

The Code's whistleblower function was used in two cases. One case was dismissed without further action and one was dismissed after investigation.

Business relations

Anti-trust issues are always in focus for the airline industry. The SAS Competition Law Compliance Program encompasses all employees concerned and is designed to ensure that SAS complies with laws, regulations and practices in the area. Regulations relating to bribery and other improper actions are especially strict.

UN's Global Compact, GRI and CDP

The SAS Group joined the Global Compact in 2003 and participates in the Global Compact's Nordic Network. One criterion for publishing company information on the Global Compact website is an annual update of the material, the Communication On Progress (COP). The most recent update of SAS' information was completed in April, 2012.

The UN Global Compact is a pivotal component of the SAS Code of Conduct and the requirements imposed on the company's suppliers.

SAS' sustainability reporting observes the guidelines of the Global Reporting Initiative (GRI) and is reviewed by an external auditor. GRI is a framework designed for sustainability-related information and performance. [Pages 31–40](#) presents specified GRI cross references.

SAS reports to CDP (Carbon Disclosure Project). For 2012, SAS was awarded 69 points.

Sustainability-related business opportunities and risks

Management of sustainability-related risks is integrated with the SAS Group's comprehensive risk management. This is described in the Annual Report on [pages 23–25](#). In general, we can conclude that risks are reduced – and, indeed, certain opportunities offer tangible business potential – by having proactive and effective sustainability programs. Proactively working with its environmental impact in a structured environmental management system offers a company control and the capacity to deal rapidly with changing requirements in the business environment and those demanded by certain customer groups. Another example is the ability to impose demands on product and service suppliers, where, thanks to favorable insight and monitoring, there is the potential to contribute to exerting positive influence on developments at individual suppliers.

Managing sustainability-related data

The various operations in the SAS Group report once a year on measures for the purpose of improving the Group's sustainability work through internal self-assessment. Reporting covers such areas as community involvement, supplier contacts, cooperation with internal and external stakeholders, work environment, training, conflicts and efforts involving the Code of Conduct and the UN Global Compact. Although the heads of the particular companies and units are responsible for reporting, in practice, the coordinators in the Sustainability Network undertake this work.

Environmental data are reported monthly, quarterly or annually, while data concerning employees are followed up at a local level on an ongoing basis. Data are compiled by the Group department for Environment & CSR, checked by internal auditors and reported once a year to Group Management. Read more on [page 12 and 46](#).

Stakeholder dialog and collaboration

During fiscal year 2012, SAS has been engaged in dialog and cooperation with stakeholders regarding terms and conditions for aviation from a sustainability perspective. The focus has been within areas such as improving fuel efficiency in SAS aircraft operations through adjustments in external and internal operational prerequisites or accelerating the development of alternative jet fuels. SAS also participates in national industry or employee organizations in an effort to create greater understanding for the terms and conditions for the aviation industry.

Together with other Nordic companies that are a part of the UN Global Compact, SAS participates in the UN Global Compact Nordic Network. SAS is also a member of national or Nordic corporate networks whose primary task is to make social responsibility and social engagement a natural part of the companies' daily work and to also encourage the reporting of these issues.

Relations and cooperation with parties responsible for airports and air traffic control are of great importance. For many years, SAS has participated in their adaptation and development programs. Fiscal year

2012 saw continuing proactive cooperation with Swedavia (Airport Agency) and LFV (Air Navigation Agency) in Sweden, and in Denmark with CPH A/S (Copenhagen Airports). Environmental impact is reduced as a result of logistical improvements at the airports – such as higher passenger and baggage flows and reduced waiting times. Also, during fiscal year 2012, cooperation with suppliers of air traffic control management proved instrumental in SAS' efforts to reduce environmental impact in connection with incoming and outgoing flights.

Cooperation with central players in aviation, components, equipment and catering is essential in promoting sustainable development in all areas. Scandinavian Airlines plans to renew a large share of its aircraft fleet, with fuel consumption and environmental impact as key parameters in the decision-making process. SAS has discussions with potential aircraft suppliers or -lessors to ensure that the SAS fleet plan can be realized.

Sustainability issues have gained greater importance for public administration and the business sector, and SAS has discussions in progress.

SAS has long traditions of a developed and fruitful cooperation with a wide range of stakeholders and involvement in community-related issues. Close collaboration with customers, authorities, suppliers and airports is absolutely key. Major priority is assigned to being a company that wants renewal and future-oriented solutions, which often takes place in collaboration with employees, partners, designers, experts, NGOs, organizations, researchers, etc.

Stakeholder cooperation on biofuel

An area that has also been a high priority in fiscal year 2012 efforts to promote access to alternative and sustainable fuels. Around the world there has been progress. Some companies have gained access to limited quantities and used them in commercial flights. However, only very limited quantities are involved and therefore the industry is pushing to increase research and development. As an important forward-looking initiative, SAS has taken steps to bring together aviation players in the Nordic region. Many supply and logistical conditions indicates that a comprehensive sector that cooperates has greater power to promote its interests in alternative fuels.

Nordic aviation stakeholders with a direct or indirect interest in ensuring sustainable aviation have joined the initiative. Starring actors and dialogue partners are a number of airlines in the Nordic region as well as the largest airport owners in Denmark, Finland, Norway and Sweden. Aviation industry organizations in those countries, the respective aviation authorities and IATA, Boeing and Airbus are also active participants in the initiative.

Background for a Nordic Initiative

It is an explicit goal for the airline industry to reduce environmental impact. One of the key assumptions for achieving this goal is to gain access to alternative sustainable fuels. Nevertheless it seems to be a challenge to secure a continuous supply for aviation. In addition to the limited availability of biofuel resources, there are many and complex elements to be put in place and there is also a considerable need for coordinated action, sharing information and cross-border dialogues and collaboration.

Despite the fact that aviation is an important part of the infrastructure in the Nordic countries there has been no plan to secure biofuel supply. A wide range of interdisciplinary cooperation initiatives is established elsewhere in the world. A similar Nordic cluster network should work to promote the framework and conditions for access to new fuels and should also contribute to innovation and new green jobs, attracting solid investments and contributing to the region's position as a leader in global green growth.

Objective

The partners strive to establish a regional body with the aim of facilitating and strengthening the conditions for commercial and continuous access to sustainable jet fuels.

It's essential to coordinate with initiatives and activities set up by industry organizations e.g. IATA and ATAG, UN bodies like ICAO, EU initiatives as Flight Path 2020 and of course, other cluster initiatives.

SAS is pursuing ongoing dialog with various groups in a bid to advance and adapt products and, indeed, the company itself to the ever-changing market demands. All stakeholders seeking contact with SAS will be offered the opportunity of a dialog with the company.

The requirements imposed by SAS' customers confirm that sustainability issues are gaining greater significance. An increasing number of companies are imposing demands in respect of environmental management systems and continuous accounting for climate-impacting emissions. Also, issues regarding how SAS manages its social responsibility are tending to increase. As a natural component in this development, SAS itself is presenting an increasing number of questions to its suppliers in this area.

SAS pursues active talks with various NGOs, researchers and the media regarding current short- or long-term issues on the sustainability agenda. Examples of issues may include aviation's impact as an enabler for globalization or different views on SAS sustainability performance.

Employee attitudes towards the company and its ability to meet their demands in terms of the work environment and other significant factors that affect commitment and loyalty are gauged continuously. Considerable emphasis is placed on ethical questions and the development of the corporate culture and value base.

Systematic approach offers benefits

For some time now, SAS has worked with systematizing, strengthening and further developing relations with external, primary stakeholders, meaning customers, politicians, financial analysts/investors and the general public. This contributes to creating the premises for the conditions underlying SAS' competitiveness and operational framework.

Talks are held with stakeholder organizations, the media and universities. The considerable media focus on aviation's negative environmental impact is a challenge for the entire airline industry. SAS has chosen to take a leading role in the debate as a feature of its efforts to link the brand with responsible management of both climate and social issues.

Part of the work is to identify the level of the sustainability aspects and other goals that may be expected to be achieved over the different pathways and timeframes in light of national legislations, EU Sustainability Criteria and internationally sustainability guidelines.

Specific activities and important milestones

The intention is to work with the following specific activities on national, Nordic and international level in the coming years:

- Systematic overview of ongoing initiatives (feedstocks, technologies, R&D, production etc)
- Overview of relevant actors: key stakeholders in the Nordics, supplemented with global inputs
- Coordination and facilitation of initiatives and activities across countries, companies, researchers etc
- Establishment of relevant partnerships
- Customer requirements for biofuels in the Nordics
- Logistics, transport and storage overview and recommendations
- Regional focus for innovation in advanced sustainable biofuels for the aviation industry
- Strategic input to decision makers at airports, industry and governments on alternative pathways that may be pursued to promote the development of competitive sustainable fuel
- Economics and pricing
- Assessment on barriers to advancing sustainable fuels in the Nordics

Accelerating commercial access to sustainable jet fuel will lead to reduced emissions. The outcome is aimed primarily at airlines in the Nordic countries, and of course other off-takers. This will benefit society as a whole to a great extent since the developments described also generates jobs and further development of advanced new technology.

Cooperation on the restriction of ultrafine particles

Along with its main users, Copenhagen Airport launched a process in 2011, to analyze and reduce the amounts of emissions containing particles. Previous studies have shown that the concentration of ultrafine particles is high, especially in working situations where one is exposed to the exhaust from combustion engines. Primary sources of particles are aircraft engines, APUs, vehicles and equipment vehicles with diesel engines on the apron.

There are no adequate studies or documentation to show how harmful particles are. There are no rules or limits on how much people may be exposed to ultrafine particles. But based on measurements showing high concentrations and the suspicion of harm, the range of participants, SAS, Novia, CPH and Naviar, union representatives and an external NGO, agreed to make an effort to reduce volumes.

Accordingly, efforts to test new start positions and procedures for aircraft have been made.

Cooperating partners at the airport recommends all arriving aircraft to taxi using only one engine (or two engines on four-engine aircraft). SAS has practiced this for a long time.

The companies in the airport have jointly set targets for replacement of old polluting equipment and vehicles. Solutions using particulate filters and the possibilities of using alternative fuel will be examined and in parallel all employees are encouraged to apply and use the particle-polluting equipment with the utmost care.

All airport installations are reviewed and action plans for replacing fuel-based Ground Power Units with electrical devices are launched. Communication with all other airlines, contractors and other companies is a priority. The same applies to communication with other airports and international players, the issue of ultrafine particles being topical at all airports.

Environmental responsibility

SAS' operations comprise airline operations and ground activities. The major environmental impact results from flight operations, but ground operations and customer service onboard also affect the environment.



Aviation industry moving towards zero emissions

The industry's environmental work primarily focuses on four areas, or what are referred to as the pillars: New Technology, Infrastructure, Operational Measures and Economic Instruments. The airline industry's commitment to reducing environmental impact requires long-term investments that take time to complete and are capital intensive.

Aviation is a relatively young industry but there is significant potential for environmental improvements, provided that they are economically justifiable and technically feasible. In the past 40 years, developments have obviously changed the conditions underlying air transport, with CO₂ emissions per produced passenger kilometer decreasing by 70% according to IATA.

In 2007, IATA formulated a vision that, by 2050, it will be possible to fly commercially without climate impact. This vision is to be realized through a combination of new technology, more efficient air traffic management, new fuels and coordinated actions to improve the infrastructure and the conditions under which air transport operates. Achieving zero emissions requires the total replacement of existing aircraft fleets with a new generation of aircraft and engines not yet on the market. The lead-time for such a changeover is 20–30 years, which is why the vision of zero emissions should be interpreted as meaning that the necessary technology must be commercially available.

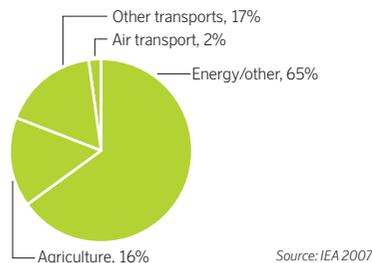
To achieve this vision, IATA and other areas of the airline industry have agreed on a joint target, which will subsequently be adopted by the entire airline industry and will now be further developed by ICAO:

- Improving fuel efficiency by an average of 1.5% annually until 2020
- Carbon-neutral growth from 2020
- 50% reduction in greenhouse CO₂ emissions by 2050, compared with 2005 levels

Source: www.enviro.aero

Impact of air transport

Today, commercial air transport accounts for about 2% of global CO₂ emissions, which corresponds to 12% of the transport sector's global emissions. CO₂ emissions account for about two-thirds of air transport's total impact on climate, while nitrogen oxides (NO_x), water vapor and particles are assumed to account for most of the balance. (Source: IATA & ATAG)



Biodiversity

Biological diversity is affected by airline operations in different ways. The actual flight affects the biological diversity to a limited extent through emissions, primarily of nitrogen oxides. Other aspects include facilities and the use of airports, which, depending on geographic location and by utilizing large areas, can affect water, flora, fauna and nearby residents.

Airlines purchase services from airports with private or public investors. Every new construction or other change in ground use requires authorization from local authorities. Biological diversity is normally an approval aspect. Biodiversity, airport concessions and other environmental aspects regarding airport operations are reported in respective airport's own sustainability reports.

CO₂ vs. nitrogen oxides

To date, the climate impact of air transport has focused on CO₂ emissions. However the focus is shifting to also include other climate effects, primarily nitrogen oxides and water vapor. SAS and the airline industry recommend ECAC's model of differentiated landing fees based on nitrogen oxide emissions.

SAS' main markets and its impact

SAS' main market is the Nordic region. Scandinavian Airlines' (incl. Blue1) share of total traffic in its home market was 36% and Widerøe's share was 18% in fiscal year 2012. Norwegian domestic air traffic accounts for just over 2% of total national CO₂ emissions. The corresponding figures for Danish, Swedish and Finnish domestic traffic are 0.2%, just over 1%, and 1.3%, respectively. (Sources: National statistics).

Market trend

Fiscal year 2012 was hallmarked by turbulent macroeconomic conditions that affected aviation.

The market is characterized by continuously increasing competition and rising price pressure, affecting margins and profitability for the entire industry. Although there are varying perceptions about the future performance of air transport, according to AEA, the Middle East and Asia appear to show the fastest growth – especially China and India – while mature markets in the industrialized West will show lower growth figures. In addition, the primary growth is expected to be on longer routes that offer no other real alternative to air transport.

Air transport is a key part of the infrastructure of a globalized world and a prerequisite for economic and social progress.

Industry and IPCC estimates indicate a possible reduction in emissions by an annual average of 2% as a result of enhanced technology and short-term efficiency gains. This trend – combined with expected long-term growth – means that air transport's environmental impact will increase in the absence of action programs.

Accordingly, the airline industry as a whole has agreed to ambitious, long-term environmental targets.

Polluter pays principle

SAS fully endorses the "polluter pays principle" and is prepared to take responsibility for its share. This assumes that any charges imposed on it are based on scientific findings and that the total climate impact of competing transport modes is taken into consideration. Read more about SAS' environmentally related costs on [pages 29–30](#).

The framework for aviation

Emissions trading

On January 1, 2012, aviation became the first transport sector to be included in the EU Emissions Trading Scheme regulations (EU-ETS and in this chapter described as “the system”) covering emissions from flights inside the Union and international flights departing or entering the EU. The final year of the second trading period, which included a number of industry sectors, is 2012. The third trading period covers 2013–2020, while plans are in progress for a fourth trading period starting in 2021.

The system has been criticized by several states, airlines – mostly based outside the EU/EEA, and IATA – for including emissions that occur outside the EU. There have been several initiatives and political decisions during the last year aimed at stopping the system from being implemented. The EU Commission has suggested to “stop the clock” on implementing the system for flights to and from Europe for a year in order to give the foundation of the UN aviation organization ICAO the possibility to agree on a global solution for airline emissions.

SAS supports the concept of a global solution for airline emissions rather than regional or local programs. Different task forces within AEA and IATA, in which SAS has participated, have formulated a proposal for a global system that does not distort competition and incorporates the UN’s CBDR principles (Common But Differentiated Responsibility), in order to support the ongoing process in ICAO. It is SAS opinion that a global solution for aviation must come through political processes.

During 2012 all relevant parameters were continuously monitored on a flight-by-flight basis, and the required annual emissions report are verified by the third party accredited verification company PwC. These reports are handed over to the relevant national authorities within the set deadline. These reports are also used as a basis for SAS emissions statistics in the annual sustainability report.

In 2011, SAS received notification of the number of allowances granted for 2012 and the third trading period 2013–2020. For full-year 2012, compared with 2010, allowances will cover 74% for Scandinavian Airlines, 44% for Widerøe and 52% for Blue1. Emissions reports for 2012 for the three airlines are currently being produced and verified, and will be delivered to national authorities within the set deadline of April 30, 2013.

During January–October 2012 Scandinavian Airlines and Blue1 applied for the required monitoring plans for emissions in the third trading period. Blue1 received approval in October 2012 and Scandinavian Airlines in December 2012. Widerøe applied in November 2012 and expect approval within shortly. The schedule is later in EEA countries.

SAS has started to trade allowances to cover estimated needs beyond the allocation of permits. An emission reporting system (EMIR) gives an overview of monthly emissions. Permits are traded as required and SAS hedges about 60% of the required permits. As in the case of several airlines, cost is recovered through add-on fuel surcharges.

Environmental compliance

Airline operations are subject to environmental policies set by each airport. These usually involve noise, rules for using deicing fluids and limits on emissions into the air, soil and water.

Stockholm-Arlanda Airport submitted an application to the authorities in charge for a totally new environmental permit in May 2011.

The established noise limit of 80dB(A) for night traffic at Copenhagen–Kastrup did result in one complaint from the authorities regarding SAS’ operations in fiscal year 2012.

Measuring the air quality at the airport is also a part of environmental policies. Copenhagen–Kastrup was the first airport in Europe to measure air quality on the ramp in 2010, with a special focus on ultra-fine particles. Read more on **pages 7 and 22**.

The new noise regulation that was implemented at Oslo–Gardermoen during 2011 unfortunately led to higher emissions due to longer approaches and inefficient flight paths. SAS is working together with Avinor to reduce the inefficiencies that occurred. As of October 2012, the majority of the inefficiencies were identified.

In general, there is a trend towards introducing tougher restrictions regarding permitted approach and takeoff paths. Deviations generally result in fines for the airline. In general, the trend is towards a greater use of environment-related surcharge systems and operational limits. The twofold purpose is to reduce local environmental impact and create incentives for airlines to use aircraft with the best available technology from an environmental perspective. Read more in the Report by the Board of Directors the SAS Group Annual Report with sustainability overview January–October 2012 **pages 36–41**.

Environmental permits

Airline operations have no separate licenses or environmental permits for operation; instead, they depend on permits held by the airport owner, such as for glycol handling, noise and emission thresholds.

However, environmental approval is part of the process to certify aircraft in the three Scandinavian countries, as well as in the terms of technical aircraft maintenance. Airline operations have a legal dispensation for the use of halogen and submit annual reports to the authorities on consumption, including leakage and storage. The reason for the dispensation is that there is no certified alternative to halon for extinguishing fires in aircraft engines, cabins and aircraft toilets. SAS estimates that around 12 kilograms of halons were emitted during January–December 2012.

SAS Oil is a jet fuel purchasing company for the SAS Group at Copenhagen, Oslo and Stockholm airports. Through SAS Oil, SAS is a minority owner of a number of smaller companies that deliver jet fuel. The Group has ensured that these companies have the necessary permits, contingency plans and insurance.

No severe incidents breaching any environmental permits were reported in fiscal year 2012.

A detailed description of SAS’ licenses and environment-related permits is presented in the Report by the Board of Directors in the SAS Group Annual Report with sustainability overview January–October 2012 **pages 36–41**.

SAS environmental vision, policy and targets

Environmental vision

SAS intends to be a part of the future long-term sustainable society and support IATA's vision to make it possible to fly without greenhouse gas emissions by around 2050.

Eco-political vision

SAS' eco-political vision is for all four transport sectors – road, rail, sea and air – to pay for investments and infrastructure, other social costs (such as accidents) and environmental impact according to the polluter pays principle. Subsequently, all four sectors should compete in a competitively neutral transport system, based on a holistic approach.

Environmental policy

SAS will have an environmental program on par with leading industry competitors that attracts employees, customers, and investors and is perceived as positive by other stakeholders.

SAS will contribute to sustainable development by optimizing resource

use, seeking the use of renewable energy and minimizing its environmental impact throughout its operations.

SAS' environmental programs and activities are based on continuous improvement, with reference to SAS' overall environmental goals. Each company and unit is responsible for setting specific targets and working to reach them.

The activities within SAS' environmental programs will be coordinated and integrated with production, quality and financial activities and will comply with applicable legislation and other requirements.

The overall goal for SAS' sustainability programs is to create long-term value growth for its owners and contribute to the Group meeting its goals.

Environmental target

SAS aims to create responsible and sustainable traffic growth, while reducing environmental impact.

• 50% lower emissions per unit by 2020 compared with 2005



Environmental goals ► 2015

During 2012, SAS' environment programs continued at an intense pace in the Group, which was in line with the action plans drawn up in 2011 to reach their targets no later than by 2015. The deterioration in market conditions has not affected SAS' goals and schedules.

The environment goals up to 2015 will lay the basis for ensuring that SAS operations will be sustainable in the long-term.

SAS will:

- ▶ reduce flight emissions by 20% in 2015 compared with 2005.
- ▶ reduce total ground-related energy consumption by 15% in 2015 compared with 2010.
- ▶ reduce ground-vehicle consumption of fossil fuels by 10% at SAS' major airports in Scandinavia by 2015 compared with 2010.
- ▶ improve one index point annually for the Customer Satisfaction Index question involving being an environmental-aware company (2011: Index 64)
- ▶ secure a regular, large-scale supply of a commercially available and sustainable jet fuel by 2015.



SAS environmental work fiscal year 2012

SAS environmental focus

During the year SAS work with its environmental responsibility has been focused on the determined and ongoing activities within 4Excellence and the environmental management system.

All environmental activities and goals have been transferred to 4XNG and SAS will continue to be certified according to ISO 14001. The objective in 4XNG is also to accelerate goal attainment if possible. At the same time 4XNG means that fewer administrative resources will be available. The solution is to further prioritize the work with SAS' environmental goals and activities. SAS management has full commitment to achieve its environmental goals.

Environmental & CSR

The SAS has a central department for Environment & CSR that reports to senior management through Quality Assurance. Annual, internal sustainability self-assessments are conducted throughout the SAS Group.

The task of Environment & CSR is to support SAS Group management in environmental or other CSR-related matters, both internally and externally. In addition to the supporting role, Environment & CSR have the responsibility for ETS/MRV, the ISO14001 certification, and coordination of alternative fuel activities. The Environment & CSR also includes a resource called Green Flight & Fuel Efficiency, which works with the enhancement of SAS' fuel efficiency, thereby reducing climate-impacting emissions. This function concentrates primarily on the fuel-savings activities, which involve a focus on procedures, behavior, and cooperation centered on "greener" flights with air traffic control and the European project, SESAR.

The department channels and collects information through a network in the SAS Group called "the Sustainability Network". The focus in fiscal year 2012 was ETS/MRV, supporting fuel save, ISO14001 follow-up, energy plans and campaigning, biofuel, supplier evaluation and fleet renewal.

Emissions calculation and carbon offset

The SAS Group emissions calculator, which is available on the SAS website has been approved by a third-party review. The calculator provides information about all SAS' flights, with greenhouse gas emissions presented separately. The calculator is updated regularly from the system that is also used to report to EU-ETS. Most calculators on the market calculate the emissions based on average fleet performance and a CO₂-equivalent based on different greenhouse gas emissions. SAS has chosen not to do so because there is no consensus regarding how to calculate NO_x, particles and water vapor emissions to CO₂ among scientists and expertise.

SAS offers the possibility to offset carbon emissions from a specific flight in connection with the emissions calculator. Less than 1% of the customers who book their travel via Scandinavian Airlines websites use the possibility. The offer is also available for SAS Corporate Customers and SAS offsets its own business travel.

Product & Services

During the fiscal year, there was increased focus on sustainability issues in the product development. For example, a large number of weight-reducing measures were evaluated for the products offered on board. Examples of weight-saving activities are substituting old seats on two 737-800 aircraft to Recaro BL3520 light weight seats, saving approximately two kilos per seat, amounting to 362 kilos saved on each flight for these aircraft. The work continues with all "old generation seats" over a period of four to five years, depending on traffic plan, fleet expansion, etc. Other examples vary from smaller efforts like thinner material

for cups and glasses to new trolleys for the ATLAS fleet. A total of 1,647 trolleys, well over a third of the ordered amount, are already in use saving between four and five kilos per trolley per flight.

Other activities in focus are meal serving, ecology/food close to market and PET bottles. During fiscal year 2012 Scandinavian Airlines replaced 100 % of its small wine glass bottles to PET bottles.

Although sorting and waste disposal from service and products on board is a focus area, this is a challenge. The challenge lies in the fact that there is a limited space on board. There is also a restriction in disposing of meal service waste at airports because different national legislation is involved, making solutions complicated and, in some instances, impossible. In some cases, we are forced to fly waste back to Scandinavia (e.g. USA). Despite this, waste is an area in which efforts are being made to find the best possible solutions. For example, the recycling of newspapers is on the agenda with newspaper suppliers. Newspapers from most domestic flights are recycled. Despite the focus on waste – the introduction of free coffee and tea in February 2012 increased the total volume of paper cup waste.

Purchasing & Contracts

In fiscal year 2012, SAS' central purchasing function started the review of some contracts with suppliers and/or products that could be considered to have considerable effect on the environment and society. A method was developed to find environmental and social risk and a tool developed in order to send a self-assessment to selected suppliers. The aim was to use dialog and cooperation to create a greater awareness of the suppliers' actual environmental and social impact and to create the best possible conditions to reduce the negative effects. During fiscal year 2012, the method was refined and retroactively tested on about 100 suppliers. After going through the suppliers using the method – 68 questionnaires were sent. The response rate was 38%. The most important decision from this exercise was to include the CSR part in future supplier checks. The tool is built upon UN principles in the UN Global Compact and the SAS Group Code of Conduct. Naturally, the extent to which suppliers meet SAS environmental requirements is also assured in new contracts.

Network

Network & Partners is responsible for designing traffic program which determines, e.g. fuel consumption, noise and turnaround times. This means Network has an indirect impact on fuel consumption, noise and towing of aircraft. Therefore, this department plays an important role in supporting Fleet Management and Operations in fleet assignment, fleet forums, fleet renewal activities and flight operation improvement projects, such as fuel save activities.

Facility management

SAS' Facility Service supplier, Coor, has the day-to-day operation and maintenance of all of SAS' buildings and premises in Scandinavia, including follow-up of energy, waste management, purification plants, environmental regulations and reporting to the authorities. This is governed in agreements between SAS Group Facility Management and Coor. Coor is contractually obligated to initiate improvement measures and, along with SAS Group Facility Management, follow up on a continuing basis when potentials for improvements and any unforeseen incidents are evaluated. SAS Group Facility Management has primary responsibility for all facility-related requirements being met, which also includes environmental responsibility. Coor is ISO 14001-certified in all of the Nordic countries.

Results in 2012 and measures to be undertaken in 2013 to attain SAS environmental goals in 2015

SAS will reduce flight emissions by 20% in 2015 compared with 2005

Results 2012

The SAS Group's total CO₂ emissions had been reduced by 14.3% in November 2011–October 2012 compared to full year 2005.

Measures in 2013

During fiscal year 2013, Scandinavian Airlines plans to phase in about 21 aircraft to the fleet, thereby replacing a similar number of older generation models. This measure – combined with fuel-savings activities, a new route planning system, more efficient procedures and culture, plus continuing modification of the existing fleet, with more efficient engines, lighter seating and so forth, will contribute positively to realizing the goal for 2015.

SAS will reduce total ground-related energy consumption by 15% in 2015 compared with 2010

Results 2012

The energy consumption was reduced by 14.4% in November 2011–October 2012 compared with full-year 2010.

Measures in 2013

Structured energy-efficiency programs are progressing as planned. Examples of activities include the adjustment of the existing installation, continuing reporting from users and fault-searching, etc., as well as the continuous follow-up and environmental management system audits.

SAS will reduce ground-vehicle consumption of fossil fuels by 10% at SAS' major airports in Scandinavia by 2015 compared with 2010

Results 2012

The fuel consumption is reduced by 26% November 2011–October 2012 compared to full year 2010.

Measures in 2013

The planned replacement of vehicles continued during the year. The switch involved more fuel-efficient vehicles, as well as vehicles driven by alternative energy sources, such as electricity. Also, during the year activities will continue that are aimed at increasing fuel-efficiency in daily operations, as well as fuel-savings programs addressed in the ongoing LEAN project.

SAS will improve one index point annually regarding the Customer Satisfaction Index question of: "being an environmentally-aware company" (2011: Index 64)

Results 2012

No Customer Satisfaction Index with these questions has been conducted during this period. SAS follow up this question in more regular questionnaires but the results are not comparable.

Measures in 2013

During fiscal year 2013, communication will continue of all the activities that SAS undertakes to realize its environmental goals. This is expressed, for example, in communications activities aimed at customers through social and traditional media, as well as onboard SAS aircraft.

SAS will secure a regular, large scale supply of a commercially available sustainable jet fuel by 2015

Results 2012

A number of activities have resulted in further steps towards securing an agreement with a possible supplier. But no firm agreements were made during the period.

Measures in 2013

SAS is continuing its cooperation with potential suppliers of alternative aviation fuel.

During fiscal year 2013, SAS will continue its involvement in the various international forums in which this issue is addressed.

SAS Environmental Program

The short-term goal of reaching the target of a 20% reduction in flight emissions by 2015 compared with 2005 is an important milestone in the SAS Environmental Program. The Environmental Program is a long-term commitment aiming to optimize resource use, make the transition to renewable energy and minimize environmental impact throughout its operations.

Examples of activities in the program where SAS has full control and own responsibility

More modern and efficient aircraft

By 2015, SAS plans to have replaced all remaining previous generation aircraft (MD-80s and Boeing 737 Classics) with new and more efficient aircraft (Boeing 737NGs and the Airbus A320 family). This will generate fuel savings of about 10–15% per seat compared with other same-sized aircraft. During this transformation period, SAS is endeavoring to minimize use of the older aircraft and these aircraft remain on the ground in off-peak periods. By the end of 2012, all MD-80s was phased out at the base in Stockholm. By 2016, SAS plans to introduce the Airbus A320neo that will have 15% lower fuel consumption and generate 50% less noise than the existing Airbus A320s.

SAS plans to take a decision on future long-haul aircraft in the years to come.

Efficient use of SAS different aircraft sizes

SAS currently operates with aircraft of varying sizes. The aim is to create conditions for flying as profitably and energy-efficiently as possible depending on the time of day and destination.

One example is the SAS Group's Boeing 737NGs with 120+, 141+ and 183+ seats. This entails great flexibility depending on demand, which guarantees the lowest possible total emissions at any given time. Flying aircraft that are too big generates unnecessary extra emissions even if it generates a better result per available seat kilometer.

Another example is that an aircraft that flies for 15 minutes between two islands along the Norwegian coast with an average demand of 20+ passengers is obviously not subject to the same conditions as an aircraft that flies more than ten hours with a demand of 240+ passengers. These two aircraft are a component in the SAS business model and have different energy efficiencies. These aspects are very important to consider when comparing different airlines environmental performance.

Culture and behavior

An important aspect of increasing the fuel efficiency is to make sure that all employees in SAS's airline operations have the prerequisites and knowledge to be fuel-efficient. This entails involvement of all employee groups affecting the fuel consumption.

Work is continuously ongoing with a large number of activities that focus primarily on established operational conditions, such as procedures and how they are implemented, and whether the available system support is sufficiently optimized for higher fuel efficiency. Naturally, all changes maintain a standard that meets the highest level of flight safety requirements.

Modification of existing aircraft

SAS modifies its aircraft continuously in order to modernize to better technology, improve aerodynamics or reduce weight.

An example of better technology is the ongoing engine upgrade program within the framework of the ordinary technical maintenance of most of the Boeing 737NG fleet. In practice, this entails that the engines are upgraded to the latest version ("Tech Inserts" or "Evolution"). More than half of the fleet's engines on the Boeing 737NG, which were delivered prior to 2006, have now been upgraded and are thus about 3% more fuel efficient than when they were originally delivered. Aircraft delivered after 2007 already have "Tech Inserts" and aircraft delivered after the summer of 2011 have "Evolution".

Examples of weight reduction include the replacement of the brakes on Boeing 737-800s with lighter versions in composite material or installing light-weight seats in a number of Boeing 737NGs and Airbus A320s.

Examples of improved aerodynamics include the installation of Winglets on Boeing 737NGs or Sharklets on Airbus A320s. This can potentially reduce the fuel consumption by 1–5% depending on the stage length for certain airlines. SAS has installed Winglets on a number of Boeing 737NGs where it is profitable from a sustainability perspective.

All in all, this means that the fuel efficiency of a Boeing 737NG delivered in 1998 is, by and large, comparable to a brand new Boeing 737NG.

Less weight on board

Apart from modifying the aircraft, work is also constantly ongoing to reduce the weight of all material and products included in SAS's service offering. Examples include optimizing the amount of water filled for toilet use, replacing glass wine bottles with a plastic alternative, optimizing the amount of products served and used based on analysis of the actual demand.

Examples of activities in the program where SAS can contribute and is an important stakeholder

Alternative and sustainable jet fuels

SAS has been working for many years with various activities designed to accelerate the development of alternative and sustainable jet fuels. In January–October 2012, SAS also conducted concrete discussions with a range of prospective stakeholders in connection with the production of alternative and sustainable jet fuels in Scandinavia. SAS took the initiative to start a sustainable-fuel user-group and the plan is to start work in 2013 to accelerate progress during the coming years.

SAS has indicated clearly to existing and prospective producers of jet fuels that we are prepared to purchase alternative jet fuels if the price is competitive and sustainability criteria are in place.

It is vital for SAS that the production of alternative sustainable jet fuels does not compete with food production or access to drinking water and that it has minimal impact on biodiversity.

Greener Flights

Since the early 2000s, SAS has been working with the parties responsible for air traffic control in Sweden, Norway and Denmark in an effort to identify more efficient methods for controlling air traffic in the airspace of these countries.

In Sweden, for example, this work has resulted in the Continuous Descent Approach from Top of Descent becoming standard during low and medium-peak traffic at Stockholm-Arlanda. SAS has also been deeply involved in the establishment of the S-curved approaches on runway 19R and the curved approach to runway 26 at Stockholm-Arlanda.

The Continuous Descent Approach from Top of Descent entails that air traffic control allows the aircraft to approach in a continuous gliding descent without using unnecessary engine power. This is common at small airports where there is no other air traffic close by, but still unusual at large airports where other air traffic must be handled in parallel.

In practice, the Curved Landing Approach entails using satellite based Required Navigation Performance (RNP AR) rather than the traditional ground-based ILS. At runway 19R approaches follow an S curve. This reduces noise close to the airport and minimizes exposure in sensitive areas. At runway 26 the approach is curved which reduces flying distance, thereby lowering emissions.

SAS is currently involved in a number of activities in Scandinavia which aim to demonstrate short-term potential environmental improvements within the framework of existing systems and methods on flights.

Single European Sky

SESAR (Single European Sky Air Traffic Management Research) is an EU initiative aimed at advancing tomorrow's airspace and the air traffic management system in Europe. SAS is involved in SESAR and participates in efforts to enhance efficiency, capacity and safety, and to reduce the environmental impact of flights.

The long-term objectives for SESAR are:

- A threefold increase in capacity.
- A tenfold increase in safety levels.
- A 10% reduction in carbon emissions.
- Half the air traffic control costs.

By 2020, this will lead to:

- Flight times that are 8–14 minutes shorter.
- A reduction in fuel consumption of between 300 and 500 kilograms per flight.
- A reduction in CO₂ emissions of between 948 and 1,575 kilograms on average, per flight, compared with 2010.



SAS Environmental Program

This is the symbol for the SAS environmental program, which comprises all the environmental measures contained in the SAS environmental management system. One of the areas where the symbol can be found is on the engines of the SAS Boeing 737NG fleet.

Scope and method, 20% reduction in flight emissions by 2015 compared with 2005

The goal includes Scandinavian Airlines, Widerøe and Blue1 flight operations. The emissions in this goal are defined as the absolute emissions of carbon dioxide (CO₂) and nitrogen oxides (NO_x).

In order to measure and follow-up progress SAS monitors the absolute CO₂ and calculated NO_x emissions.

To attain the goal in 2015, the absolute flight CO₂ emissions from Scandinavian Airlines, Widerøe and Blue1 should be less than 3,658 million tonnes. In November 2011–October 2012, absolute flight CO₂ emissions from the three airlines was 3,919 million tonnes. During the period to 2015, traffic growth is expected at the same time as the absolute flight CO₂ emissions are expected to decline.

Environmental Management System

SAS' environmental management system includes all activities in the SAS Group. The system focuses on activities around the main bases (Stockholm, Copenhagen, Oslo, Helsinki and Bodø), but also embraces all stations in Scandinavia, as well as international services and activities through follow-up programs and contracted services. See the scope list on; www.sasgroup.net/miljo

The system is based on shared environmental and sustainability policies, the SAS Group Code of Conduct, the UN Global Compact, airline operational standards and ISO 14001. It provides guidelines for a continuing cycle of planning, implementation and evaluation, as well as the improvement of processes and activities to meet operational and environmental targets. SAS has a review process that also

integrates environmental reports and the most important CSR aspects in existing quality/security inspections. This is part of our endeavor to achieve constant improvement.

The SAS Group received EMAS certification in 2010. This certification requires a renewal every year and it has been decided that as of December 31, 2012 the certification will be terminated when the current certification expires, but SAS Group will keep the ISO 14001 certifications. The decision was made after examining the value of such a certificate, and it was found that there is no demand for such a certification from neither stakeholders nor the market as such. However, SAS Group can see the value in scrutinizing the ISO 14001 environment management system and will continue reporting the main KPIs.

Administration of the Environment Management System:

- i General requirements:** through the SAS Corporate Manual: A guidance and control system at SAS, which consolidates many local control systems from each business area /unit. (www.sasgroup.net/miljo)
- ii Environmental Policy:** The SAS Group works in line with the SAS Environmental Policy.
- iii Environmental aspects:** Management groups are supported by an environmental group that works on proprietary aspects. These aspects are described in local control systems that incorporate goals and activities.
- iv Legal and other requirements:** A list of legal and other requirements that apply to all units and companies has been compiled for each of the four countries: Denmark, Finland, Norway and Sweden. The list comprises statutory and other requirements from national/municipal authorities, the EU, airline regulators, approvals and other applicable leases. SAS works on compliance with legal and other requirements, with observance controlled by functions/units designed to support SAS's operational management. Any breach of regulations or rules in respect of permits is described in the annual Sustainability Report.
- v Resources and responsibility:** Described in the control systems at all levels.

- vi Training and awareness:** All employees of the SAS Group receive essential environmental information or awareness training, while selected managers of processes that may effect the environment and selected key individuals receive training at a higher level. All operational training aimed at safeguarding processes is controlled and registered in line with official requirements. Environmental expertise is placed in Environment & CSR.
- vii Monitoring and follow-up:** All key aspects are measured, including regular follow-ups of key data and environmental improvement activities. Inspections/audits are conducted continually – internally and externally – by suppliers and certification bodies. An overall audit process has been established to ensure knowledge-sharing among companies/units/departments. A self-assessment and data collection on the management system for the whole organization is conducted yearly and signed by "Head of functions/Units" or CEO. The self-assessment is followed up by spot checks. Knowledge-sharing is conducted through four rounds of the SAS Group's Sustainability Network meetings.
- viii Reporting:** Each year, a thorough self-evaluation is conducted throughout the SAS Group and the results are used for control, improvements and goal setting, as well as for annual sustainability reporting. A monthly reporting of main KPIs from operations is part of the Management Reporting.
- ix SAS Sustainability Network** comprises a representative from each of the main areas/companies, while each of the smaller units/parts of the SAS Group is managed through other network members. The representatives support local management in the individual company/unit. Thanks to its fixed agenda, the sustainability network ensures that all ISO14001 components are discussed and followed up throughout the organization. The Network meets four times a year. All environmental work is governed through policies, key aspects, targets and control and follow-up of results.

SAS Group's most significant environmental aspects

To identify the most significant aspects in normal and abnormal situations, SAS Group's environmental aspects are identified using a proprietary method. The degree of significance of the environmental aspect is governed by:

- the scope of the environmental consequences
- emissions/wastewater volumes
- legal requirements
- the risk of incidents and deviations
- stakeholder groups' demands and expectations

All essential environmental aspects are measured and key indicators as well as improvement activities are continuously followed-up.

In the SAS Group environmental management system, a distinction is made between direct and indirect environmental aspects. Direct environmental aspects are the environmental impacts over which SAS Group has direct control, while the indirect features are those that can only be affected to a greater or smaller degree. This is of great significance for improvement programs where controllable impacts can be governed through guidelines and policies, while an indirect environmental aspect must be governed through purchases, contracts, cooperative agreement, dialogs and monitoring.

One example of a direct environmental aspect is jet fuel; the combustion of which emits greenhouse gases to the atmosphere. An indirect environmental aspect could be an agreement regarding hotel stays for SAS crews, etc., where the service creates emissions to air, soil and water.

For the airlines, the most significant environmental aspects derive from emissions from using fossil jet fuel and noise from aircraft. For ground-related activities, they derive from diesel and gasoline consumption, energy use, fuel & glycol spillages, waste, water and toilet liquids.

From the list of aspects found on www.sasgroup.net/miljo, the SAS Group has chosen to primarily work with six of the most significant environmental aspects:

- | | | |
|-------------------|----------------------------|-----------|
| 1) Jet fuel | 4) Deicing fluid | 6) Energy |
| 2) Aircraft noise | 5) Fuel used on the ground | |
| 3) Waste | | |

Numbers 2–4 have no target as such, but are monitored closely in order to detect undesirable developments/results. The numbers 1,5 and 6 have improvement targets and results are reported monthly in management reports.

What comes in and goes out – the most significant environmental aspects¹

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	<p>SAS' responsibility</p> <ul style="list-style-type: none"> Jet fuel Halons 	<p>In the air</p> 	<p>SAS' responsibility</p> <ul style="list-style-type: none"> Carbon dioxide (CO₂) Nitrogen oxides (NO_x) Noise Halons (CFC)² <p>Emissions to</p> <table border="1"> <thead> <tr> <th>Air</th> <th>Ground</th> <th>Water</th> </tr> </thead> <tbody> <tr> <td>●</td> <td>○</td> <td>○</td> </tr> </tbody> </table>	Air	Ground	Water	●	○	○	●	○	○	●	○	○	●	○	○						
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	<p>SAS' responsibility</p> <ul style="list-style-type: none"> Food and beverages Packaging Articles for sale Newspapers 	<p>Onboard</p> 	<p>SAS' responsibility</p> <ul style="list-style-type: none"> Organic waste Waste and recycling <p>Emissions to</p> <table border="1"> <thead> <tr> <th>Air</th> <th>Ground</th> <th>Water</th> </tr> </thead> <tbody> <tr> <td>○</td> <td>●</td> <td>○</td> </tr> <tr> <td>○</td> <td>●</td> <td>○</td> </tr> </tbody> </table>	Air	Ground	Water	○	●	○	○	●	○												
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	<p>SAS' responsibility</p> <ul style="list-style-type: none"> Glycols Water Energy Vehicle fuel Office supplies Chemicals Solvents 	<p>On the ground</p> 	<p>SAS' responsibility</p> <ul style="list-style-type: none"> Waste Hazardous waste Waste water, incl. flooded water Carbon dioxide (CO₂) Nitrogen oxides (NO_x) Particles <p>Airport-owner responsibility</p> <ul style="list-style-type: none"> Glycols (disposals) <p>Emissions to</p> <table border="1"> <thead> <tr> <th>Air</th> <th>Ground</th> <th>Water</th> </tr> </thead> <tbody> <tr> <td>○</td> <td>●</td> <td>○</td> </tr> <tr> <td>○</td> <td>●</td> <td>○</td> </tr> <tr> <td>○</td> <td>○</td> <td>●</td> </tr> <tr> <td>●</td> <td>○</td> <td>○</td> </tr> <tr> <td>●</td> <td>○</td> <td>○</td> </tr> <tr> <td>●</td> <td>○</td> <td>○</td> </tr> </tbody> </table>	Air	Ground	Water	○	●	○	○	●	○	○	○	●	●	○	○	●	○	○	●	○	○
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1. Definitions in the table showing what we emit are immediate emissions.
 2. Civil aircraft operation is allowed to use halon 1301 and 1211 for fire protection under critical use clauses, where no alternative substances are yet certified. Research on alternatives is ongoing.

A more comprehensive version of this illustration is available at www.sasgroup.net/miljo

Results, reporting and official requirements fiscal year 2012, Jet fuel

Include all flights flown with SK, KF and WF flight numbers.

The SAS Group used 1,244,000 tonnes of jet fuel November 2011–October 2012. This corresponds to 3,919,000 tonnes of carbon dioxide and 15,900 tonnes of nitrogen oxide emissions. Compared with full-year 2011, this is an increase of 56,000 tonnes of carbon dioxide and 332 tonnes of nitrogen oxide. Relative to the traffic growth it is a relative decrease of 2.5% and 1.8%.

During the period, the SAS Group's fuel efficiency improved and the relative CO₂ emission decreased to 119 grams (122) per passenger kilometer. The positive development was primarily due to fleet renewal, improved cabin factor and progress in the fuel efficiency activities.

In November 2011–October 2012 compared with full-year 2011, Scandinavian Airlines' relative emissions decreased to 116 grams (119) per passenger kilometer. Blue1's relative emissions decreased to 151 grams (155) and Widerøe's increased to 196 (191).

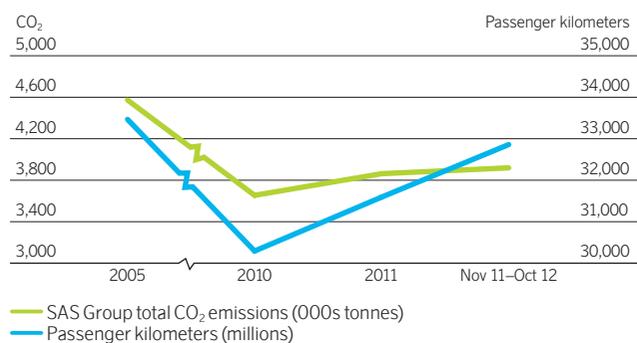
The decrease in Scandinavian Airlines and Blue1 is primarily due to fleet renewal, improved cabin factor and good progress in the fuel-efficiency activities. The increase in Widerøe is primarily due to lower cabin factor.

In fiscal year 2012, only occasional fuel leaks were reported in conjunction with refueling of Scandinavian Airlines' and Blue 1's aircraft. These were handled in accordance with established procedures. No fuel leaks were reported in conjunction with refueling of Widerøe's aircraft.

No fuel dumps were reported during the year.

When making comparisons with other airlines, it is important to compare airlines with similar traffic systems and use identical production measurements. SAS frequently flies shorter average flights – in order to satisfy business travelers' needs – than airlines that serve the leisure market. When comparing specific routes, the results are often identical. Relatively often, available seat kilometers is used as a production measurement, which generates lower emissions per unit, but does not reveal whether the emissions generate any social benefit. By using passenger kilometers as the production measurement, SAS put the emission in context of the value for society, i.e. passenger transportation.

SAS Group total CO₂ emissions



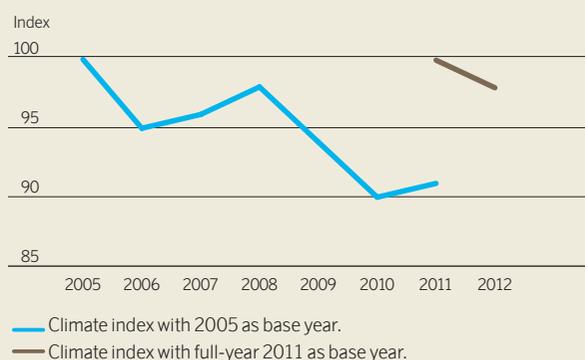
2005 source: 2007 Annual and Sustainability Report

Please see tables in **pages 48–50** for detailed key environmental figures for each unit or company.

As of fiscal year 2012, SAS will report its environmental efficiency based on climate index and environmental KPIs for each airline and SAS Group as a whole. Climate index consists of emissions of carbon dioxide (2/3) and nitrogen oxides (1/3) related to traffic measured in passenger kilometers with full-year 2011 set as Index 100.

	SK	Widerøe	Blue1	SAS Group
November 2011–October 2012	98	102	99	98

SAS Group climate index



As of fiscal year 2012, the climate index has base year 2011. The result for 2012 reflects 12 months (November 2011–October 2012).

SAS airline operations' CO₂ emission fiscal year 2012

	1,000 tonnes CO ₂
Denmark	
Domestic flights	25
Flights to EU/EEA	370
Flights to outside EU/EEA	399
Norway	
Domestic flights	510
Flights to EU/EEA	257
Flights to outside EU/EEA	56
Sweden	
Domestic flights	194
Flights to EU/EEA	230
Flights to outside EU/EEA	116
Finland	
Domestic flights	21
Flights to EU/EEA	62
Flights to outside EU/EEA	3.9
EU/EEA	
Departing EU/EEA ¹⁾ for Scandinavia and Finland	528
Flights within EU/EEA ¹⁾	0.3
Departing Europe for EU/EEA ¹⁾	0.5
Outside EU/EEA	
Departing from outside EU/EEA bound for Scandinavia/Finland	567
Departing from outside EU/EEA bound for EU/EEA	1.4
Total all operations	3,340

1. Excluding Denmark, Sweden, Norway, Finland that are reported separately.

Results, reporting and official requirements fiscal year 2012, Aircraft noise

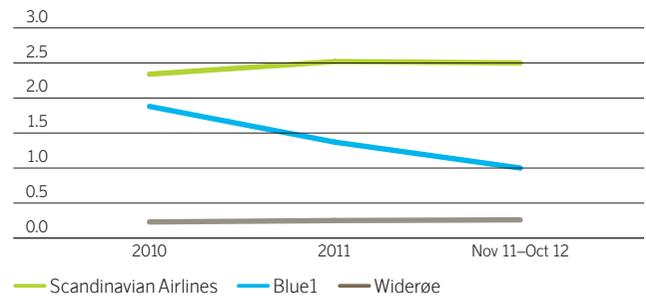
Include all flights flown with SK, KF and WF flight numbers.

The average noise per departure decreased for Blue1 and Scandinavian Airlines due to fleet renewal. The positive effects of Scandinavian Airlines fleet renewal was modest due to higher usage of larger aircraft. Widerøe had a small increase due to higher usage of larger aircraft.

Scandinavian Airlines breached noise regulations on a few occasions during fiscal year 2012. The number of breaches has declined considerably in recent years as a result of structured improvement activities, such as specific flight simulator training including scenarios flying to and from airports with strict noise regulations.

The difference between the airlines can be explained by the aircraft size and fleet composition. Scandinavian Airlines uses short and long-haul medium to large size jet aircraft, Blue1 uses short-haul medium-size jet aircraft and Widerøe uses short-haul turbo prop aircraft. The average size of a current generation Boeing 737-800 85dbA at departure is 3,2 km³.

Average aircraft Noise, 85db area in KM² per departure



Please see tables in **pages 48–50** for detailed key environmental figures for each unit or company.

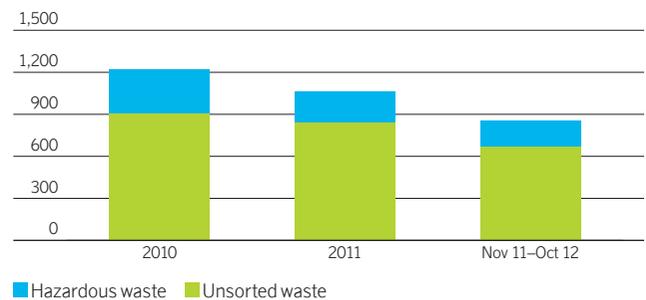
Results, reporting and official requirements November 2011–October 2012, Waste

All waste where data is available. Mostly own produced waste from ground facilities, including technical maintenance.

Waste is divided into unsorted waste and hazardous waste.

Since hazardous waste is strictly controlled by national authorities and, as a result of environmental impact and fees, is internally controlled and evaluated by both airlines and suppliers, this has an “automatic” focus throughout the year. Data from Scandinavian Airlines, SGH and SAS Technical Operations total waste quantities derives from a common data base with Coor. Although waste did not have the same attention levels as energy in November 2011–October 2012, SAS will continue working on improvement of sorting and recycling of newspapers and aluminum cans in 2013. No significant emissions or spillage were reported in conjunction with technical maintenance. Both waste reporting and waste sorting has improved in November 2011–October 2012. Even if SAS focuses on waste-sorting and waste handling, there is no target set for waste. The aspect is monitored, registered and followed up in order to detect undesirable or unexplainable trends.

SAS Group's total waste in tonnes



Please see tables in **pages 48–50** for detailed key environmental figures for each unit or company.

Results, reporting and official requirements November 2011–October 2012, Deicing fluid

SGH: All deicing fluids used by SGH directly on SAS Group aircraft and on SGH's customers aircraft in Scandinavia.

Widerøe: All deicing fluids used by Widerøe's own ground handling.

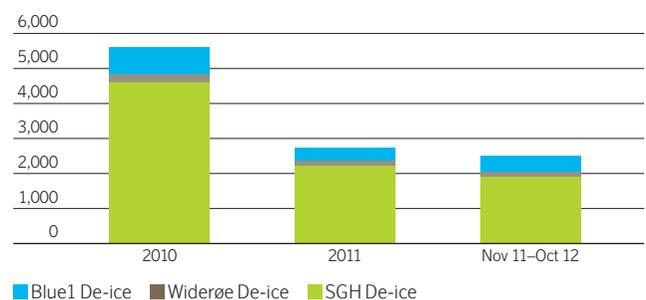
Blue1: All deicing fluids used by Blue1's ground handling supplier in Finland

Deicing is unavoidable from a safety perspective. Glycol is used for the pre-takeoff deicing of aircraft. As this represents an environmental burden, the search continues for alternative techniques. For example, trials are continuing on a system with electronic control of the glycol content and a preventive deicing method that leads to a significant reduction of glycol-usage without compromising internal or official safety requirements.

Consumption of glycol depends on the size of the airline, both in number of flights and size of the aircraft. The mix of glycol/water depends on the aircraft type, weather conditions, humidity, flight time, route/destination, etc. It is thus impossible to set a reduction target for glycol consumption. Nonetheless, follow-up of use to identify any undesirable deviations is conducted.

Even if the amount of glycol has been reduced over the years, the amounts depend on weather demands and can be considerable. Some spillage or leakage of glycol may occur in exceptional circumstances. On these occasions, there are specific measures to restrict or completely eliminate environmental impact. The remaining glycol is handled according to local regulations and/or reused, so that none or only a low amount is emitted to water. The aim is to reduce the number of glycol spills to zero. In November 2011–October 2012, SGH, Widerøe and Blue1 had zero reported glycol spills.

SAS Group glycol use in m³



Note: The general decrease is due to less need of deicing due to weather conditions and more efficient use of propylene glycol. Blue1 experienced a small increase November 2011–October 2012 due to fleet changes.

Please see tables in **pages 48–50** for detailed key environmental figures for each unit or company.

Results, reporting and official requirements November 2011–October 2012, Fuel used on the ground

SGH and SAS Technical Operations: All ground fuel used by SGH and SAS Technical Operations own vehicles for all customers.
 Widerøe: All ground fuel used by Widerøe's own vehicles.
 Blue1: All ground fuel used by Blue1 directly, included leased vehicles (supplier data included).

Just as the SAS overall objective, the focus for SGH included an intensive effort to improve punctuality, thereby reducing CO₂ and particle emissions. The focus is also on replacement of ground vehicles and equipment with greener alternatives to reduce environmental impact and enhance the work environment.

In all three Scandinavian countries, participates in voluntary cooperation with various players at the airports in several areas, such as working on ultra-fine particles, measurement of electricity consumption in buildings and the reduction of emissions from vehicles. This cooperation also includes compliance with individual legal requirements. Discussions with airport operators in the Scandinavian countries indicate that the demands on, for example, emissions in relation to vehicles and equipment will be intensified. Combined with SGH's own desire for environmental improvement, this has resulted in ground equipment being improved or replaced by more environmentally friendly units.

The aim for SGH in CPH (Copenhagen Airport's "Better Air Quality" project) is 75% equipment with lower emissions. For Sweden and Norway, the target is 65%. Diesel consumption has been reduced significantly per departure in recent years.

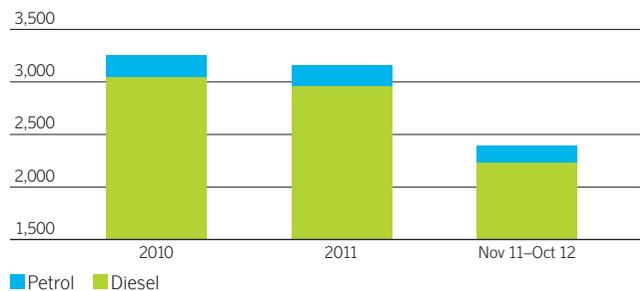
Three significant spillages of fuel used on the ground was reported in November 2011–October 2012. All were handled according to established procedures.

One of SCG's environmental focus areas November 2011–October 2012 were consumption of fossil fuel by trucks. Work on these aspects has also led to improved dialog on improvements with the suppliers. The fuel consumption has been followed up and registered from October 2011. The goal is to reduce gram CO₂ per tonne kilometer (CO₂ / TKM). SCG's road transports are conducted in a network system,

meaning that if demand and production decline, it is not always possible to adapt the number of transports to the same degree. This can result in reduced capacity utilization and thus a higher relative environmental impact.

SCG's new Revenue Management System will enhance the possibility of planning and estimating the amount of cargo per departure for flight and truck. Improved precision raises the possibility to optimize the amount of fuel, leading to reduced emissions. The focus on trucking will continue in 2013.

SAS Group ground fuel in liters



Note1: Petrol; Not registered in WF and Blue1 in 2010.
 Note2: Historic values changed.

Please see tables in **pages 48–50** for detailed key environmental figures for each unit or company.

Results, reporting and official requirements November 2011–October 2012, Energy

SAS Facility Management: All ground energy used in all owned or leased buildings used by Scandinavian Airlines, SGH, SAS Technical Operations or SCG.
 Widerøe: All ground energy used in Widerøe's buildings.
 Blue1: All ground energy used in Blue1's technical buildings.

SAS Facility Management, together with Environment & CSR, worked on comprehensive energy plans in November 2011–October 2012 for all buildings owned or leased.

The plans were carried out in cooperation with the facility management supplier Coor Service Management. The plans included audit of buildings to identify what immediate measures to be taken, medium-size investments and energy campaigning. The plans also include further improvement of registration procedures for energy consumption, follow-up and continuous reporting.

The energy plan is driven by a five-part strategy:

1. Facility service provider working with error-fixing and adjusting devices
2. Focus, error-fixing and reporting
3. Energy included in internal audits and inspections
4. Campaigns
5. Space utilization and optimization

Follow-up and reporting are conducted for all buildings, but the focus is on the main bases in Denmark, Finland, Norway and Sweden. The energy campaign, "Spara för att bevara" (energy campaign slogan), commenced in February 2011. An energy planning group measures, conducts a follow-up through environmental audits and inspections, and ensures that the focus is maintained on the areas of highest priorities.

All of the operations have developed energy plans to reduce energy consumption additionally by 4% to the 7% target in 2011. The savings

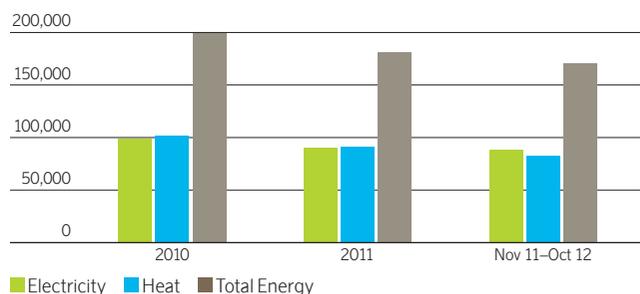
have resulted in 14.4% corresponding to approximately 28,000,000 kWh.

The target is broken down to 7% in 2011 (achieved), 4% in November 2011–October 2012 (achieved), 2% in 2013 and then 1% for the remaining two years. SAS Facility Management has "pinpointed" four to six buildings in each country. These buildings are identified as the largest energy consumers; hence they have become "focus" buildings. All focus buildings are monitored on a monthly basis.

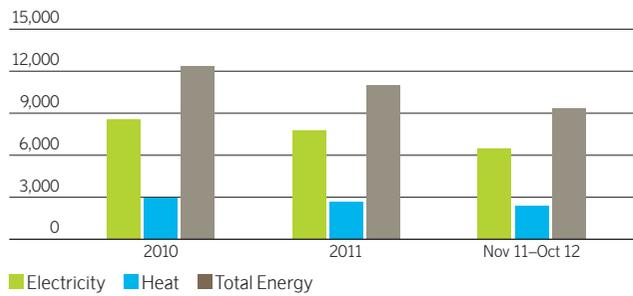
Widerøe had extra focus on energy in November 2011–October 2012.

Energy has also been one of the main environmental focus areas for Technical Operations and SCG. SCG managed a "focus-building" result of 22% energy reduction in November 2011–October 2012.

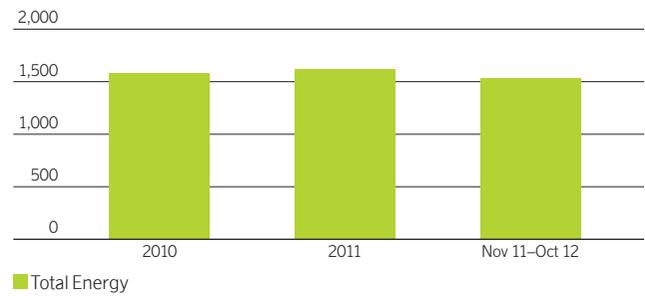
SAS Energy in MWh



Widerøe Energy in Mwh



Blue1 Energy in MWh



Please see tables in pages 48–50 for detailed key environmental figures for each unit or company.

Results, reporting and official requirements November 2011–October 2012, “Other, that is, chemicals and water”

Chemicals

SAS Technical Operations is the largest user of chemicals. The chemical products are required by the aircraft manufacturer and authorities and cannot be replaced by SAS alone. The list of products is broad, with many kinds of cleaners, paint, grease, oils, and glues for different commodities such as rubber, textile and metal. Technical operations generate SAS’ highest share of hazardous waste. The use of these products sometimes results in waste and emissions to air and these are handled by approved waste-management providers.

There are many devices in the hangars and documented activities in order to minimize the impact on the environment. These include active contact with the aircraft manufacturer to obtain approval for the substitution of certain products to more environmentally friendly products with less solvents and fewer toxic ingredients. Wastewater and air emissions along with the handling of hazardous waste are strictly controlled by national pollution control authorities and requires regular reporting and auditing. Wastewater is handled according to local regulations and in most cases; wastewater is treated in closed drainage and in-house treatment plants locally. There is an in-house treatment plant at SAS’ home bases and there are contracts made with qualified companies to collect and safely deliver the hazardous waste from all companies all places where hazardous waste applies.

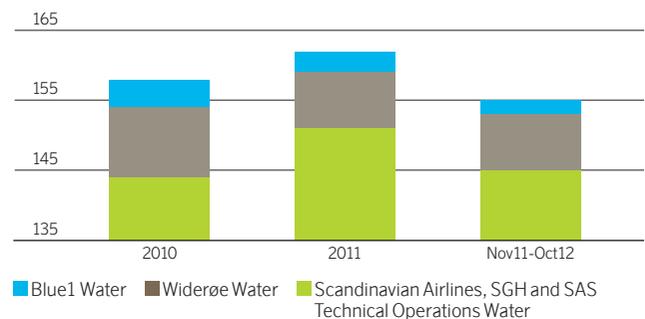
The aims of chemical purchasing activities include reduction in storage and the number of suppliers and reducing environmentally hazardous waste. This work has resulted in optimized inventories and less storage and transportation involved in deliveries from suppliers. The number of products purchased have dropped by one third in total and Technical’s own purchases has dropped by more than 90% since 2010. SAS Group has a Chemical Review Board in order to follow-up and ensure compliance with the environmental legislation in the Scandinavian Countries and EU. Examples of tasks in the group are to establish pro-

cesses to follow the applicable specifications for use on aircraft, ensure the environment aspect review, secure that hazardous products are substituted with less hazardous whenever possible, secure that the number of different products is kept as low as possible and establish processes where waste, spills and emissions are reduced as much as possible.

Water

Data for SAS’ total water quantities derives from a common data base with Coor. Although water did not have the same attention levels as energy and waste in November 2011–October 2012, SAS will continue working on reducing water consumption in its operations during the coming years.

Water in 1,000 m³



Please see tables in pages 48–50 for detailed key environmental figures for each unit or company.



More electricity on the ground

Although many aircraft are able to use its engines to reverse on the ground the air pressure from a jet engine or a propeller can cause damage to humans, equipment, terminal buildings etc.

That's why aircraft are pushed backwards away from gate with a special, low-profile vehicles called push-back tractors. Most of these vehicles used by SGH are powered by diesel engines with special particulate filters in order to reduce the particle emissions.

SGH has purchased three brand new plug-in tow-bar tractors operated 95% by electric power. The batteries are the latest generation of lithium-ion type and the tractor regenerates power from the brakes and hydraulics. The tractor can be used for a full eight-hour shift, without having to recharge due to the high-capacity batteries and low energy consumption. The developer of the tractor, Kalmar Motor, attracted EU funding for its development program for this brand new TBL50 tractor and SAS is participating in the introduction program.

SGH acquired the hybrids as a part of a long term plan to upgrade the ground handling equipment to hybrid or electrically powered vehicles in order to achieve SAS' environmental targets. The plan also addresses other vehicles such as staircase-vehicle, pallet-and container transporters, high loaders, etc.

SGH in Denmark is also currently testing electric cars as part of a replacement plan in which new vehicles are procured.

About Ultrafine particles

Particulate matter (PM), or simply particles, are solid matter in air. Further classification of particles can be done by size into coarse, fine, ultrafine and nanoparticles. Measured in micrometers the size of the coarse particles < 10 PM10, fine particles < 2.5 PM, ultrafine particles < 0.1 PM0.1 and nanoparticles < 0.03 PM.

An investigation into air quality at the ramp area at Kastrup-Copenhagen Airport was conducted by the Danish Centre for Environment and Energy (DCE) in 2010. DCE's report states that the majority of the studied compounds, including most particles, are below the limits. The exception is the ultrafine particles for which pollution is at a high level. Sources are identified as engines that use different types of fuel such as the engines and auxiliary power unit on aircraft or diesel engines on all kinds of vehicles at the airport.

It is not known how ultra-fine particles impact health in the absence of scientific studies or investigations, which means that there are no established national or international limits.

It is however known that exposure to larger particles can mean increased risk of serious diseases. Therefore, it is important to find ways to reduce the number of particles in daily operations.

Ground handling companies' including SAS, employee representatives and external expertise and the airport owner work together in a working group with the aim to reduce the amount of particles at the airport. During

fiscal year 2012, key activities have been to introduce more electrical vehicles and electrically powered equipment, introduce remote engine start-up of aircraft, increase the amount of one-engine taxiing and higher awareness among employees.

Ultra fine particles are naturally not only an issue for Copenhagen-Kastrup. The issue is addressed in such international forums as IATA, ACI (Airport Council International) and N-ALM. In the future, international cooperation will be important to identify how the occurrence of ultra-fine particles can be reduced in the further development of jet fuel's sulfur content and the extensive work that is in progress to commercialize sustainable alternative jet fuels.



Next generation aircraft

The development of the next generation of long-haul aircraft has been underway since 2004. In 2011, the Boeing 787 embarked on its first flight in commercial operations and, within a couple of years, the Airbus A350 will be launched into service. These aircraft are essentially built in lighter materials and more aerodynamically efficient constructions with more efficient engines, which results in a 15–20% reduction in emissions compared with an aircraft with the same amount of seats from the current generation. What is known as the noise abatement zone also generates a tangible reduction, which contributes to less noise around airports.

SAS is currently working on identifying potential replacements of today's long-haul fleet. As with the short-haul fleet, these efforts take an ambitious approach to sustainability related aspects for the entire lifecycle of the aircraft, included everything from construction to use, decommissioning and recycling.

In terms of the next generation of short-haul aircraft, Airbus and Boeing will be offering updated versions of their pre-existing aircraft families, the A320 (delivery 2015) and B737 (delivery 2017). Bombardier will be offering the C series as of 2013. All three offer completely new, more fuel-efficient engines, which are also considerably quieter. Bombardier will launch an entirely new construction, while Airbus and Boeing have incorporated aerodynamic improvements in the existing constructions. The estimated reduction in emissions is calculated at about 10–15% and the so-called noise abatement zone is anticipated to be half the size compared with an aircraft with the same amount of seats from current generation. Following a selection process in 2011, SAS decided to order 30 A320neo for use by Scandinavian Airlines, which will be delivered as of 2016.

The Christmas flight

Since 1986, have the Christmas flight spread Christmas spirit among people with needs in Eastern Europe.

This initiative started with a flight to Gdansk in Poland, and has been followed by flights to Bene in Latvia and Tallinn in Estonia. The flight in 2012 went to Kopli, a small subdistrict of the district of Põhja-Tallinn (Northern Tallinn).

The Christmas flight is an aid campaign operated by SAS employees, who cooperate with other volunteers throughout the year to collect goods and contributions from various cooperating companies and private individuals.

SAS provides an aircraft with full operational support, pilots and crew volunteer in their free time and the fuel is sponsored by a fuel supplier.

Visit www.juleflyet.com for more information.



Alternative sustainable jet fuel

The global perspective

To realize the airline industry's environmental objectives, the future of aviation is largely dependent on the development of alternative jet fuels based on one or more renewable sources. Unlike most types of transportation, aviation has no real alternative to the liquid fuels that are currently used. There is also a need to secure access to liquid fuels as the supply of fossil alternatives is expected to decline and/or become more expensive.

Developing alternatives that can reduce climate-impacting emissions while also fulfilling the established sustainability criteria is of the utmost importance. The principal sustainability criteria are that production shall be sustainable in the long-term and thus not compete with the production of foodstuffs or access to potable water, do not harm biodiversity as and use as small an area of land as possible. According to the IATA, phasing in alternative fuels over time could enable a reduction in the air travel industry's emissions by up to 80% throughout its lifecycle.

As of today, it is possible to use alternative jet fuels that are based on such renewable sources such as camelina, jathropha, algae, animal oils, fats and various types of coal-based sources such as waste from industry, households, agriculture, forestry, paper mills and so forth.

These two specifications allow up to a 50% blend with the traditional fossil fuels to ensure the high requirements related to engines, as well as fuel supply systems on aircraft and on the ground.

Initiatives are under way in a number of countries worldwide to evaluate the possibility of producing alternative sustainable jet fuels based on renewable sources. These initiatives often take the shape of partnership projects between private and public players. Unfortunately, we have not yet experienced the same commitment in Scandinavia.

As a result of the approved certifications, the technological prerequisites are in place and buyers are available, including SAS. It is now a matter of initiating large-scale production at competitive prices.

SAS would like to accelerate the development together with a number of players in the aviation industry, and is appealing to agencies and politicians worldwide to create framework agreements that reduce the risks of investment in this type of production, as well as giving airlines the incentive to use these alternative fuels.

The current market

There are currently a limited number of suppliers that can deliver minor quantities of a certified alternative jet fuel at a high price. These suppliers have provided a number of airlines with sufficient fuel to perform flight trial demonstrations. However, SAS has opted not to purchase these fuels because of very high prices. Furthermore, SAS' sustainability requirements must be fulfilled.

SAS commitment

For the past decade, SAS has worked on various activities aimed at accelerating the development of alternative jet fuels.

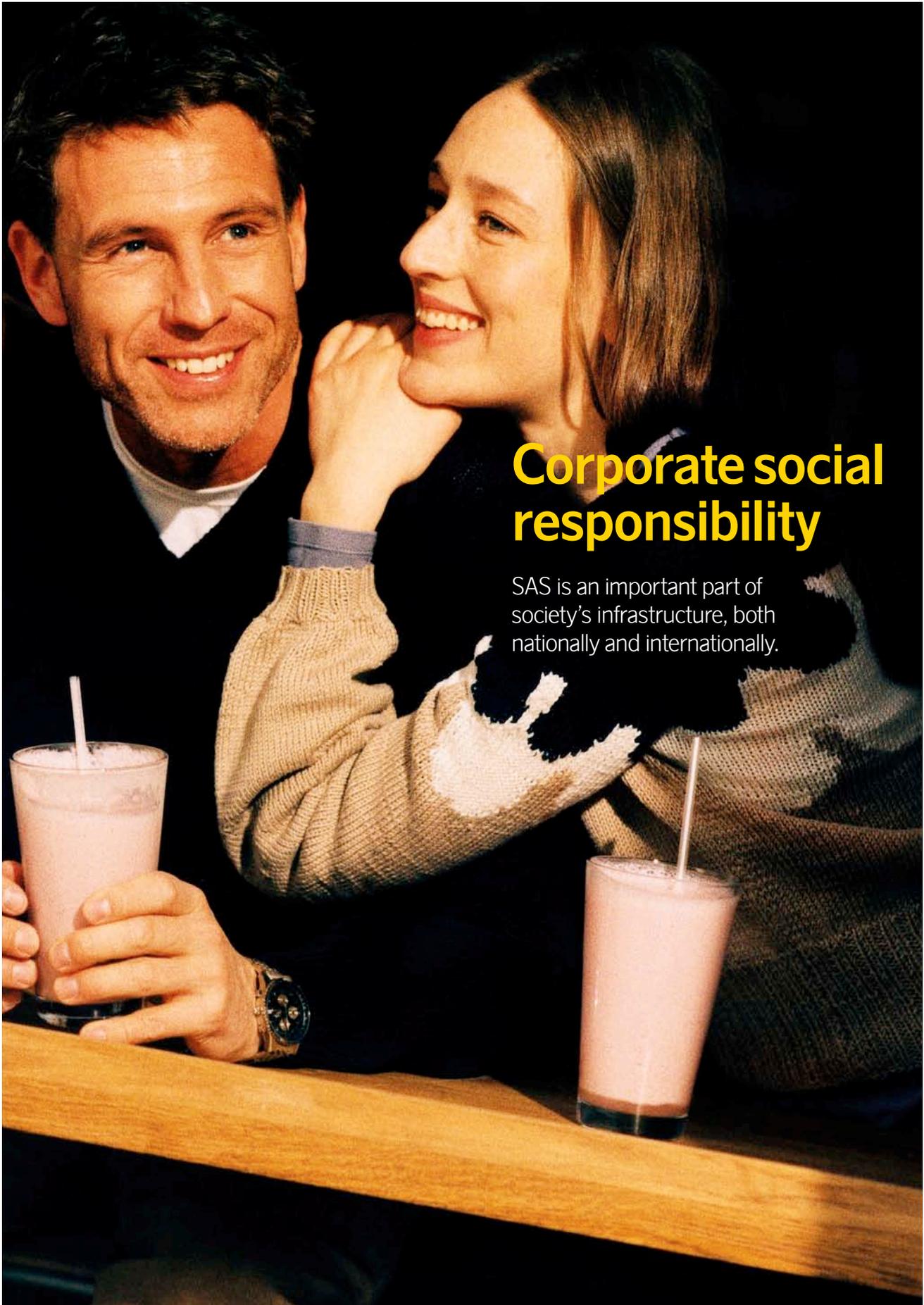
In 2008, SAS was involved in forming the Sustainable Aviation Fuel Users Group (SAFUG), which was charged with expediting the development of new jet fuels that are sustainable in the long-term from renewable sources. The Group comprises a number of major global airlines and represents about 32% of the global civil jet fuel consumption. SAFUG is carefully monitoring the activities that are currently under way in the aim of ensuring long-term sustainability in all phases of the development of alternative fuels. It is vital that the production of alternative fuels is sustainable in all aspects.

SAS is also involved in a number of national and international forums, such as the IATA/ATAG biofuel network, the Sustainable Biofuel Network in Copenhagen, Cleantech Cluster, Global Green Growth Fora (3GF), and various Scandinavian interest organizations working in the area. SAS also supports the EU's Biofuel Flight Path, which aims to create the preconditions to produce two million tonnes of biofuels by 2020.

During the fiscal year, SAS has engaged in specific talks with various potential stakeholders, such as Haldor Topsøe (DK) and Solena (US), regarding the possibility to produce alternative sustainable jet fuels in Denmark and Sweden. SAS is optimistic that one or more of these activities will lead to activities during 2013 regarding future deliveries.

In fiscal year 2012, the Norwegian airport and air navigations service provider, Avinor, continued the project aimed at assessing the preconditions for producing alternative jet fuels in Norway. SAS is participating in this effort.

SAS has clearly indicated to existing and potential future producers of jet fuels that it is prepared to purchase alternative jet fuels if the sustainability criteria are in place and the price is competitive.



Corporate social responsibility

SAS is an important part of society's infrastructure, both nationally and internationally.

The SAS Group's social responsibility primarily comprises its own employees and the environment that is dependent on and impacted by SAS operations in a number of countries, mainly in the Nordic region. Competition in the airline business in Europe is fierce. Employees play a key role when creating added value to the customer offering.

During the fiscal year SAS work with social responsibility focused on the ongoing activities within 4Excellence which were accelerated at the beginning of 2012. During the summer, intense efforts commenced on the next step after 4Excellence, the 4Excellence Next Generation (4XNG) which is described in more details on **pages 4–11** in SAS Group Annual Report with sustainability overview January–October 2012. The 4XNG strategy plan was launched in November 2012. The first important step was to reach an agreement with the unions representing the pilots and cabin crew on new collective agreements that are on a competitive level compared with the SAS Group's closest competitors. The process itself was challenging from a financial and social responsible perspective. With adjusted collective agreements in place after one week the necessary conditions were in place for SAS Group's banks and core shareholders to grant a credit facility which was a prerequisite for SAS Group's continued operation and efforts to create long-term competitiveness through implementation of 4XNG.

During the coming period, SAS Group will centralize its administration to Stockholm and at the same time, reduce or outsource it by approximately 45%. SAS is currently seeking possibilities to outsource its ground operations and sell assets such as Widerøe. All in all, this means that approximately over 5,000 employees out of the nearly 15,000 employed at SAS in October 2012 will be affected by redundancy or outsourcing.

From a social responsibility perspective, SAS is assessing all activities continuously. As always in these kinds of changes, employee representatives are involved and national legislation is followed. SAS is well aware of the increasing need for support of its employees in times of uncertainty and has targeted activities towards all employees in order to distribute updated information about the process as well as the possibility to get support. The employee survey, which scored lower during 2012 than 2011, is a clear signal that employees are affected by SAS current situation and the uncertainties in connection with the coming changes in 4XNG. As mentioned before SAS management is aware of this and all aspects of SAS' social responsibility are addressed in this work and are an important part of the future development of SAS.

Cultural development

Development of social responsibility builds on a number of focus areas as the basis for developing the SAS corporate culture. SAS' strategic cultural work is therefore focused on increasing employee satisfaction and commitment, as well as increasing understanding of the values that are the basis for how the business is run. The goal is to generate positive repercussions in the relationship to customers and strengthen SAS' competitiveness.

Organizational development

During fiscal year 2012 a new EVP, Commercial, and a new EVP, Marketing & Sales, started in their positions. Marketing & sales implemented a new organization with focus on actions that ensure clearly controlled, efficient processes that lead to better profitability. 4XNG will lead to substantial changes in the organization. In the plan, SAS will reduce its workforce by approximately 5,000 positions in the coming years through outsourcing, centralization or redundancies. Of these positions, 1,000 are in administration.

Adjustment and redundancy

At the beginning of 2012, additional steps in the organization development were taken when the 4Excellence strategy plan was accelerated. Redundancy among personnel has been handled through negotiations with labor unions that follow national laws and agreements.

Courses and training

To retain and develop employee skills, extensive training programs are carried out each year. During fiscal year 2012, SAS' employees attended an estimated 660,000 hours of training, of which the major part pertains to obligatory training. A growing share of SAS' training takes place through web-based courses, or e-learning. E-learning cannot always replace classroom instruction, but thanks to its greater flexibility and availability, more courses can be offered at a lower cost.

Geographical breakdown of employees, %	Jan–Oct 2012	2011	2010
Norway	36	35	35
Denmark	32	31	31
Sweden	27	27	26
Other	4	4	5
Finland	2	3	3

The SAS Group's operations are concentrated in the Scandinavian countries.

Cooperation with labor union organizations

Cooperation with labor unions is mainly carried out nationally, where dialog is conducted with the labor unions that have collective agreements with SAS. Cooperation takes place within the framework of national laws and agreements affecting the unit concerned.

Employee representatives from the Scandinavian countries sit on the SAS Group Board of Directors. The employees elect representatives from units in the Group's Scandinavian operations.

Group Management is engaged in an ongoing discussion with union representatives, above all on issues concerning the personnel and cost reductions, organization structure and the need for a more customer-oriented culture. During this period there has been a continuous focus on SAS current situation and the need for further activities in the 4XNG strategy that was launched in November 2012.

Leadership development

With regard to developing social responsibility, management is key in setting examples and interpreting and implementing SAS' strategies. SAS strives for clear leadership characterized by the watchwords consistent, honest and reliable. Managers must be self-aware and mature, and know how personal qualities are to be used to achieve a trustful working relationship with personnel.

In fiscal year 2012, SAS continued to develop a "role model" for all managers in the organization. It contains an assessment module that will show once a year whether managers live up to requirements and a leadership program for the requisite know-how. Both the assessment module and several parts of the SAS leadership program were conducted during fiscal year 2012. This work will continue in 2013.

Work environment and sick leave

SAS' goal is that the work environment be as good as possible and that sick leave and the number of injuries be continuously reduced.

During fiscal year 2012, total sick leave in Scandinavian Airlines amounted to 7.1%, in Blue1 to 4.7% and in Widerøe to 5.7%. Sick leave is relatively high and an area of constant focus for SAS. The results show that sick leave is especially high among flight personnel and within SGH. One explanation is that these personnel groups are in an environment with greater interaction with many people, a higher degree of changing work indoors and outdoors and more heavy tasks, while it is also not possible to work on board an aircraft with a mild cold, which might be manageable in an administrative environment.

Long-term sick leave, 15 days or more, represents nearly half of the total sick leave.

Occupational injuries

The number of occupational injuries in SAS was 238 during the period. The highest occupational injury frequency is present in SGH in Sweden and Denmark (incl. Cargo and Spirit). The extent of the occupational injuries means that SAS will continue to prioritize preventive efforts, in particular in the areas where the challenge is greatest.

Apart from sick leave and occupational injuries, each administrative unit works actively with issues pertaining to telecommuting where this is possible, flextime, health insurance, etc. It is each company's or unit's responsibility to ensure a well-functioning working environment.

This work takes place in collaboration with safety representatives, supervisors and labor-management joint safety committees that cover all employees in each country.

Company health services

Besides medical staff, the company health services or health, safety and environment (HSE) department that includes the whole Group, employs therapists, stress and rehabilitation experts, ergonomics and engineers. The department has also developed and offers special services, including aviation medicine, stress management, follow-up of sick leave, health profiles, ergonomics and advice in handling chemicals.

Within large parts of the Group, investments are made in different forms of health-promoting activities both in the workplace and during leisure time.

The SAS Group's work environment and sick leave KPIs¹⁾

Scandinavian Airlines' Flight Operations

	DK	NO	SE
No. of employees October 2012 (head count)	2,039	1,984	1,412
of which women, %	51	58.4	52.5
Total sick leave, %	9.5	12.2	8.7
Long-term sick leave (more than 14 days), %	4.7	8	5.2
Total number of occupational injuries with more than one day's sick leave	35	8	7
Occupational injury frequency lost time-to-injury rate (H-value)	16	3	4

SAS Technical Operations

	DK	NO	SE
No. of employees October 2012 (head count)	516	477	532
of which women, %	2.5	4.2	7.1
Total sick leave, %	3.3	4.6	3.7
Long-term sick leave (more than 14 days), %	0.8	2.7	1.9
Total number of occupational injuries with more than one day's sick leave	2	3	1
Occupational injury frequency lost time-to-injury rate (H-value)	3	2	1

SAS Ground Handling

	DK	NO	SE
No. of employees October 2012 (head count)	2,223	2,889	1,862
of which women, %	29.8	31.6	32.7
Total sick leave, %	4.6	9.5	6.8
Long-term sick leave (more than 14 days), %	2.8	6.7	3.6
Total number of occupational injuries with more than one day's sick leave	113	48	20
Occupational injury frequency lost time-to-injury rate (H-value)	36	15	8

SAS Group

	Total	Scandinavian Airlines	DK	NO	SE	Blue 1	Widerøe
No. of employees October 2012 (head count)	17,344	15,583	5,351	5,684	4,548	354	1,407
of which women, %		39	38	40	39	46	32
Total sick leave, %		7.1	5.7	9.6	6.1	4.7	5.7
Long-term sick leave (more than 14 days), %		4.3	2.9	6.5	3.4	1.5	3.8
Total number of occupational injuries with more than one day's sick leave		238	150	59	29	17	2
Occupational injury frequency lost time-to-injury rate (H-value)		12	21	9	5	29.5	1

SAS Administrative functions and others

	DK	NO	SE
No. of employees October 2012 (head count)	272	111	382
of which women, %	49	50	48
Total sick leave, %	1.4	7.6	1.7
Long-term sick leave (more than 14 days), %	0.4	6.3	1
Total number of occupational injuries with more than one day's sick leave	0	0	1
Occupational injury frequency lost time-to-injury rate (H-value)	0	0	1

SAS Commercial and Sales

	DK	NO	SE
No. of employees October 2012 (head count)	301	223	360
of which women, %	58	67	59
Total sick leave, %	2.7	6.9	4
Long-term sick leave (more than 14 days), %	1.6	5	2.7
Total number of occupational injuries with more than one day's sick leave	0	0	0
Occupational injury frequency lost time-to-injury rate (H-value)	0	0	0

Long-term sick leave is changed in fiscal year 2012 to, more than 14 days. The change reflects requirements in national legislation.

Diversity and equality

The SAS Group's diversity policy is based on equal treatment of all employees and job applicants. Work on equal treatment includes promotion of diversity and equality in all its forms.

Union membership is high within SAS in the Nordic region and labor organizations hold a strong position. Collective agreements define working hours, pay and other terms of employment in great detail. With the same conditions for the same tasks, there is complete equality between men and women in these issues as well.

In general, SAS is dominated by women in such professions as cabin crew, administrators, assistants and passenger service at the airports, while men dominate in the areas of pilots, technicians, aircraft maintenance, loading and unloading of baggage. Women also have more part-time positions than men.

Of the Scandinavian Airlines pilots, 96% are men, and among captains, the share is 96%. At the same time, the recruitment base for female pilots is small, since few opted for the profession. When it comes to cabin crew, 78% are women.

Senior management in the Group is dominated by men. SAS Group Management currently consists of one woman and six men. The figure for the management level directly reporting to Group Management is 29% women.

Each year, equal treatment plans are drawn up in Sweden based on analysis and surveys of a number of factors, ranging from sick leave to bullying and harassment. A reference group representing the parties provides support.

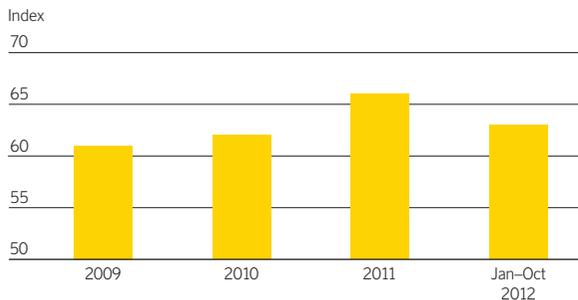
Employee surveys

PULS, SAS' annual employee survey, was conducted at the end of the year. The response rate was 68%. The result of the survey shows that job satisfaction at SAS decreased to 63 from 66 last year. In a longer perspective, the result is increasing thanks to a number of measures at all levels in the Group to create action plans and activities. However the result is affected by SAS' current situation and the uncertainties in connection with the coming changes in 4XNG. SAS management is aware of this and is focusing on long-term activities within the areas of Leadership, Communication & Collaboration and Profitability in order to improve the results.

Blue1 shows a good improvement in job satisfaction and Widerøe has the highest job satisfaction. The survey generally indicates a strong long-term commitment, as loyalty and motivation are high among employees in SAS.

Approximately 71% of SAS' employees replied that they had had performance reviews during the past 12 months.

Result in total index PULS regarding "Job satisfaction"



Human resource development

Human resources development is an important, ongoing activity in the entire SAS Group. Flight staff and operational ground staff are covered

by a number of license and competency requirements from EU-OPS and the IATA through the IOSA (IATA Operational Safety Audit). The mandatory training programs were carried out according to plan for different personnel groups regarding hazardous goods, passengers' rights, IT security and food safety, etc.

SAS has approximately 900 managers on different levels in the Group. More than half of the managers are located in operations with direct customer contact such as sales, airport services and onboard service. The managers' skills development is based and evaluated on SAS' role model for leadership. A systematic survey is continuously ongoing in the whole Group, of existing managers as well as to identify persons who may meet the need for managers in the slightly longer term. The aim is for all potential managers to have an individualized development plan. The manager process is based on the "role model", which reflects general personal attributes as well as SAS' business objectives. Evaluation focuses on the individual's performance, ability to change, leadership, potential and ambition.

Training in the Code of Conduct and SAS' environmental efforts is continuous. During the year, 79% of SAS' employees conducted e-learning on the Code of Conduct and 41% conducted e-learning in SAS' environmental work.

SAS' employees had access to more than 200 different web-based courses during the year. Within SAS, virtually all employees are involved in e-learning, both flight personnel and ground employees.

Contract negotiations and disputes

During January–October 2012 SAS' management and the labor union organizations had a continuous dialog about issues in connection with implementation of 4Excellence strategy and 4XNG.

No labor conflict occurred during the period.

All legal disputes of material importance are reported in the statutory Report of the Board of Directors **pages 36–41** in SAS Group Annual Report with sustainability overview January–October 2012.

Social involvement and humanitarian work

SAS has an agreement on a commercial basis with the Swedish government to make available two specially equipped Boeing 737s as air ambulances within the framework of the Swedish National Air Medevac (SNAM) in the case of an emergency.

A corresponding agreement exists with the Norwegian Defense which implies that within 24 hours, SAS must make available a remodeled ambulance service 737-700 for medical evacuation along the same principle as with SNAM. If needed, a second aircraft must be made available within 48 hours. Maintenance and development of the concept is conducted in collaboration between the Swedish Transport Agency, The National Board of Health and Welfare, Västernorrland County Council and SAS. In Norway, collaboration is conducted between the Armed Forces and SAS.

SAS' personnel participated in a number of fundraisers for Save the Children. In Norway, a decision was also taken to donate the proceeds from the collection of recyclable cans to Save the Children.

As in earlier years, Widerøe's employees and Widerøe together organized a trip for children with cancer to Copenhagen and Norrköping.

All parts of SAS have had varying degrees of contact with schools and universities and participated in a dialog about flight and its environmental impact.

ISO 26000

SAS has carefully followed the development of the new standard related to social responsibility, ISO 26000. SAS has not yet decided to go further with this standard but can conclude that the SAS Group has strategies, targets and activities in a number of the areas covered by ISO26001.

Financial responsibility

SAS is convinced that it is impossible to have economically sustainable operations in the long term without being socially and environmentally responsible. The connection between sustainable development and the bottom line is obvious to SAS.



An analysis of the SAS Group's statement of income reveals that major portions of revenue and expenses, and essential industry-specific earnings measurements are items relevant from an environmental and/or social perspective. In short, the highest possible financial return is generated by the best possible resource utilization and management of the company's assets, both human and financial.

Optimal resource utilization means flying fuel-efficiently and making the most of capacity for carrying passengers and freight. Lower fuel consumption leads to lower fuel costs and at the same time reduces the charges the SAS Group pays for CO₂ emissions. The same applies to all other activities that, in addition to environmental considerations, have strong financial incentives to reduce consumption of energy and other resources. One way to look after the company's assets is to have positive and improving relations with employees and in a responsible fashion ensure maintenance of aircraft and other plant and equipment. Conversely, long-term sustainable profitability and growth are essential for being able to meet and preferably surpass environmental standards and demands for social responsibility and for ethical conduct placed on SAS. If the financial resources are lacking for long-term investment and maintaining extensive sustainability work, progress in these areas will not be realized.

SAS aims to show how its strategic sustainability work helps to create long-term value. This means that the ability to work to improve SAS' long term environmental performance has a positive impact on the Group's earnings. The ability of the SAS Group to increase its revenues relies on the ability to retain current customers as well as attract new ones.

One of the aims of systematic and proactive sustainability work is to prevent or at least reduce the risk of being surprised by new and tougher government and market demands. This is crucial, in view of the fact that bad press and direct costs in the form of fines and civil damages can also result in indirect costs owing to a tarnished brand and poor market image. The ultimate consequence may then be that customers abandon SAS for other operators.

During fiscal year 2012 the airline industry continued to be characterized by intense competition, price pressure and high fuel costs. SAS has gradually implemented a number of measures in order to streamline operations and improve efficiency and strengthen competitiveness. The current strategy plan; 4Excellence was launched in 2011. It yielded positive results in fiscal year 2012 in terms of passenger growth and reduced costs.

Even though SAS has been focusing on cost cuts and improved revenues in a number of strategy plans it became obvious that there still were challenges to address in SAS historic "heritage" as a legacy carrier, the geographical location in three countries which has resulted in an expensive and inflexible cost base, and the fact that SAS is too dependent on external credit facilities in order to maintain an adequate level of financial preparedness.

With these challenges in mind SAS started to assess a number of options that evolved into the next phase of the current strategy plan, 4XNG which is described in more details on **pages 4–11** in the SAS Group Annual Report with sustainability overview January–October 2012.

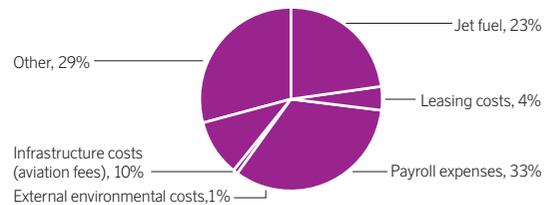
Financial aspects of environmental responsibility

SAS' environmental work has several overriding purposes: Besides making resource use more efficient and improving environmental performance, it includes ensuring that the Group's operations comply with environmental laws and regulations. Below is an account of some of the most important financial aspects of environmental work.

Infrastructure charges and security costs

Air transport pays the costs for the infrastructure it needs and uses to conduct flights, i.e., airports and air traffic control. During fiscal year 2012 these were MSEK 6,781. Correspondingly, the SAS Group also pays MSEK 1,229 in safety costs, which for most other modes of transportation are financed by taxes.

Breakdown of costs in fiscal year 2012



Environment-related costs

The SAS Group's external environment-related costs were MSEK 275 in fiscal year 2012. These costs consisted of environment-related taxes and charges that are often linked with the aircraft's environmental performance and are part of the landing fee.

Other environment-related costs, such as costs for waste management, purification plants and the costs for environmental staff, amounted to MSEK 30.

The SAS Group has no known major environment-related debts or contingent liabilities, for example in the form of contaminated soil.

Environmental-related savings

Scandinavian Airlines has an ambitious fuel-saving program. The program had achieved a fuel efficiency improvement of 4.5% or approximately MSEK 350 by year-end 2011 compared with the base period June 2005 to July 2006.

This work has continued within 4Excellence and achieved a fuel-efficiency improvement of 0.5% or approximately MSEK 44 in fiscal year 2012 compared with the same period in 2011.

Environment-related investment

The investment made by the SAS Group in accordance with the Group's policies shall be both environmentally and economically sound, thus contributing to the Group's value growth and helping to ensure that the Group can meet adopted future environmental standards. It should be noted that investment not emphasized in this section may also have a positive impact on the environment.

Investment that can clearly be linked to structured environmental work is disclosed in this section.

Investments in fiscal year 2012 totaled MSEK 1,273, of which MSEK 40.3 consisted of environment-related investments primarily in the form of replacement of diesel-run tractors with electric ones at SGH.

Scandinavian Airlines has an ongoing engine-upgrade program within the framework of the regular technical maintenance on the majority of the Boeing 737NG fleet. The engine-upgrade is not listed as an environmental-related investment since it is an integrated part of SAS' continuous aircraft maintenance plan. However, this does support SAS' environmental goals. In practice, this means that the engines were upgraded to the latest version, so-called "Tech Insert" through the summer of 2011 and "Evolution" thereafter. To date, approximately half of the fleet's engines in the Boeing 737NGs delivered before 2006 have been upgraded and are thereby approximately 3% more fuel-efficient than the engine with which the aircraft was delivered. Aircraft delivered after 2007 are already equipped with the "Tech Insert" and aircraft delivered after the summer of 2011 have "Evolution".

Research and development (R&D)

SAS contributes in many ways to the emergence of a sustainable society. Among them are the Group's commitment to and support of the development and dissemination of such green technologies as bio-based jet fuel and environmentally adapted flights. In fiscal year 2012, SAS was involved in the Sustainable Aviation Fuel User Group whose goal is to

hasten the development, certification and commercial use of environmentally and socially sustainable aviation fuel. SAS also cooperates with the Scandinavian suppliers of air traffic control for the purpose of speeding up the development of more efficient use of air space.

The SAS Group engages in technology development benefiting the entire industry. However, the Group conduct no proprietary research and development. The Group and its airlines also play a leading role internationally in drafting environment-related norms and standards for air transport. SAS is represented on a number of committees, projects and working groups related to the environment and corporate social responsibility in such bodies as IATA, ICAO, AEA, N-ALM and SESAR JU.

Financial aspects of social responsibility

SAS' first social responsibility is to its own employees and the communities dependent and affected by SAS' operations. For employees, this includes issues concerning human resources development, pay and work environment. In addition, the Group is to contribute to social progress wherever it operates and be a respected corporate citizen.

Air transport helps improve labor market conditions in rural areas in the Scandinavian countries and makes business travel easier in Europe and to other continents. Given increasing globalization, airlines facilitate business and other contact opportunities where efficient transportation to, from and within the countries is more or less a prerequisite for economic development and progress.

The airlines also contribute expertise and transfers of technology and make necessary investment in infrastructure.

SAS' contribution to the economy

SAS' airline operations are creating employment and value. According to the report "Civil Aviation in Scandinavia – value and importance" from 2004, each employee in SAS' airline operations generates approximately one more job opportunity in other industries and companies indirectly creating employment for many in the Scandinavian countries.

In fiscal year 2012, the SAS Group paid wages and salaries totaling MSEK 8,528, of which social security expenses were MSEK 1,345 and pensions MSEK 1,019. SAS endeavors to achieve market pay for all employee groups.

Costs of sick leave and accidents

Sick leave and occupational injuries constitute a large expense for the individual employee and the employer, as well as for society at large. Sick leave is affected by a number of factors such as risk of infection and accidents as well as physically and mentally stressful working environments.

The SAS Group's companies employ various methods to prevent short and long-term sick leave.

SAS' own calculation of costs for sick leave indicates a cost exceeding 500 MSEK for fiscal year 2012.

Sustainability-related charges, costs and investments

MSEK	Jan–Oct 2012	2011	2010
Infrastructure			
Infrastructure charges	6,781	7,384	7,210
Security costs	1,229	1,345	1,309
Environmental costs¹			
External environment-related costs	275	407	356
of which environment-related charges	62.1	78.8	66.3
of which environment-related taxes	213	328	289
Other environment-related costs	30.1	40.9	50.1
Environment-related investment			
Airline operations	0.0	0.0	7.0
Ground operations	40.3	3.6	3.9
Total	40.3	3.6	10.9
Share of SAS's total investment in %	3.2	0.2	0.4

¹ Environmental costs have been adjusted to reflect the changed Group structure.

GRI Sustainability Reporting

GRI's Sustainability Reporting Guidelines, version 3, stipulates that the SAS Group should determine which entities' performance will be reported in the Sustainability Report. The entities included in the SAS Group's Sustainability Report January–October 2012 are presented in the introduction of SAS Group's Accounting Principles for Sustainability Reporting on **pages 42–43**. The reporting boundary, including changes compared with previous reports, is disclosed in the SAS Group's Accounting Principles for Sustainability Reporting.

GRI's Sustainability Reporting Guidelines, version 3, prescribes disclosure of GRI Application Level Criteria for organizations using the Guidelines.

	C	C+	B	B+	A	A+
Self-declared						√
Third-party Checked						√

SAS Group has self-declared its reporting to be Application Level A+. Deloitte AB has checked the Group's reporting and has confirmed it to be Application Level A+.

Regarding disclosure of management approach, as required by GRI, the SAS Group has chosen to report on management approach as an integrated part of the SAS Group Annual Report with sustainability overview January–October 2012 and SAS Group's Sustainability Report January–October 2012. See below for further details regarding references to SAS' management approach:

All page references herein refer to the SAS Group Sustainability Report January–October 2012 unless otherwise specified.

Guideline on Management Approach

A general description of the SAS Group's approach to responsibility for sustainable development can be found on **pages 4–7, 8–11, 25 and 29** where the SAS Group defines social, environmental, and financial responsibility, including the SAS Group's comprehensive objectives governing the Group's operations. Strategies, values, and extracts from policies guiding the operations of the SAS Group can be found on **pages 5 and 11** (policies, with relevance for sustainability, can also be found on the SAS Group's homepage, www.sasgroup.net).

On **page 46**, a description of the organization and management of the SAS Group's sustainability work can be found. Relevant information concerning both positive and negative aspects of the SAS Group's performance is disclosed throughout the report, the most significant aspects are commented on in the Board of Directors' Report on **pages 36–41** in the SAS Group Annual Report with sustainability overview January–October 2012. Risks and opportunities are included in both the SAS Group Annual Report with sustainability overview January–October 2012, on **pages 23–25**, and on **page 3**.

Economic responsibility

Information regarding financial results can be found on **page 1** and on **page 36** and onward in SAS Group Annual Report with sustainability overview January–October 2012. Information concerning the SAS Group's economic responsibility is provided on **pages 42–44**, where the SAS Group's indirect economic impact is described. Information regarding market shares etc. is located on **pages 16–17**, in the SAS Group Annual Report with sustainability overview January–October 2012.

Environmental responsibility

The SAS Group's main environmental impact is related to the combustion of non-renewable fuels. Thus, the major disclosures regarding environmental aspects are consumption of non-renewable fuels, emissions of CO₂ and NO_x, and noise. This information can be found on **pages 1, and 48–50**. Targets and results of the SAS Group's environmental work are disclosed on **pages 11, 13, and 17–21**. On **page 46**, the organization and management of the SAS Group's sustainability work are described, together with processes for feedback and reporting of environmental data.

Social responsibility

Labor practices and decent work: Relevant information regarding the SAS Group's approach to labor practices and decent work is presented on **pages 5 and 24–27**. Policies regarding labor practices and decent work are disclosed on SAS Group's homepage (www.sasgroup.net). The process for handling questions regarding labor practices and managing feedback and reporting of labor data is described on **page 5**.

Human rights: Relevant information regarding the SAS Group's approach to human rights can be found on **page 5** and in the GRI Cross-reference list.

Society: Relevant information regarding the SAS Group's approach to communities, corruption, public policy, anti-competitive behavior, and compliance, can be found on **page 5** and in the SAS Group's Code of Conduct available on the SAS Group's webpage. For any significant case of non-compliance during the year information is disclosed in the Board of Director's Report on **pages 36–41** in the SAS Group Annual Report with sustainability overview January–October 2012.

Product responsibility: The SAS Group mainly offers services. Where relevant, information regarding service responsibility is disclosed as a part of the SAS Group's social responsibility on **pages 24–27** otherwise they are commented on in the GRI Cross-reference list.

Sustainability Report – GRI Cross Reference List

Core Indicator	Page reference	Reported	Comments
Profile			
Strategy & Analysis			
1.1 Statement from the most senior decision maker of the organization about the relevance of sustainability to the organization and its strategy	AR12 pages 2–3. SR12 page 3.		
1.2 Description of key impacts, risks, and opportunities.	AR12 pages 23–25. SR12 pages 8–10.		Description of major risks identified and corresponding actions are described on pages 23–25 (AR12). The impact of aviation and the SAS Group on the environment is described on pages 8–10 (SR12).
Organizational Profile			
2.1 Name of reporting organization	SR12 back cover.		
2.2 Primary brands, products, and/or services.	AR12 pages 20–22. SR11 page 2.		Primary brands are presented on pages 20–22 (AR12) and page 2 (SR12).
2.3 Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.	AR12 pages 14–15, 20–22 and 83. SR11 page 46.		Operational structure on pages 46 (SR12) and 83 (AR12), Joint Ventures and Partners on page 14 (AR12), Airlines and operating companies on pages 20–22 (AR12).
2.4 Location of organization's headquarters.	SR12 back cover.		SAS koncernen Kabinvägen 5, Arlanda, 195 87 Stockholm
2.5 Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.	AR12 pages 15–17 and 20–22. SR12 page 25.		The main markets for the SAS Group are described on page 15–17 (AR12). Each subsidiary provides a description of main markets on pages 20–22 (AR12). A map detailing all locations is to be found on page 15 (AR12). Geographical breakdown of employees is described on page 25 (SR12).
2.6 Nature of ownership and legal form.	AR12 pages 28–29, 90–91 and 96		Largest shareholders on pages 90–91 (AR12) and legal form on page 96 (AR12).
2.7 Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).	AR12 page 15-17 and 20–22.		The main markets for the SAS Group are described on pages 15–17 (AR12). Each subsidiary provides a description of main markets on pages 20–22 (AR12). A map detailing all locations is to be found on page 15 (AR12).
2.8 Scale of the reporting organization, including: • Number of employees; • Net sales (for private sector organizations) or net revenues (for public sector organizations); • Total capitalization broken down in terms of debt and equity (for private sector organizations); and • Quantity of products or services provided.	AR12 pages 20-22, 28–29, 42 and 54.		<ul style="list-style-type: none"> • Number of employees on pages 54 (AR12) (Note 3) • Net sales on page 42 (AR12) • Total capitalization broken down in terms of debt and equity on page 42 (AR12) • Passengers served on pages 20–22 (AR12).
2.9 Significant changes during the reporting period regarding size, structure, or ownership including: • The location of, or changes in operations, including facility openings, closings, and expansions; and • Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations)	AR12 pages 4–11.		
2.10 Awards received in the reporting period.	AR12 page 0.		
Report Parameter			
Report Profile			
3.1 Reporting period (e.g., fiscal/calendar year) for information provided.	SR 2012 front cover.		
3.2 Date of most recent previous report (if any).	SR12 inside front cover.		Previous reports can be obtained from the SAS Group webpage (www.sasgroup.net).
3.3 Reporting cycle (annual, biennial, etc.)	AR12 page 96.		
3.4 Contact point for questions regarding the report or its contents.	SR12 inside front cover.		Inquiries regarding the Annual Report are handled by Investor Relations and inquiries regarding the Sustainability Report are handled by the Director of Environment and Sustainability.
Report Scope and Boundary			
3.5 Process for defining report content, including: • Determining materiality; • Prioritizing topics within the report; and • Identifying stakeholders the organization expects to use the report.	SR12 pages 42–43 (Accounting Principles for Sustainability Reporting January–October 2012) and this report (Sustainability Report – GRI Content Index).		Accounting Principles for Sustainability Reporting January–October 2012 and Sustainability Report – GRI Content Index are available on the SAS Group webpage www.sasgroup.net under the headline "Sustainability".
3.6 Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers).	SR12 inside front cover and pages 42–43 (Accounting Principles for Sustainability Reporting January–October 2012).		

AR12 = SAS Group Annual Report with sustainability overview January–October 2012 SR12 = SAS Group Sustainability Report January–October 2012

■ Reported ■ Partially reported ■ Not reported

Core Indicator	Page reference	Reported	Comments
3.7 State any specific limitations on the scope or boundary of the report.	SR12 inside front cover and pages 42–43 (Accounting Principles for Sustainability Reporting January–October 2012).		
3.8 Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations.	AR12 pages 48–53. SR12 pages 42–43 (Accounting Principles for Sustainability Reporting January–October 2012).		The accounting principles of the SAS Group Annual Report are described on page 48–53 (AR12). If the Sustainability Report deviates from these principles that will be described in the Accounting Principles for Sustainability Reporting January–October 2012.
3.9 Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report.	AR12 pages 48–53. SR12 pages 42–43 (Accounting Principles for Sustainability Reporting January–October 2012).		The accounting principles of the SAS Group's Annual Report are described on page 48–53. If the Sustainability Report deviates from these principles that will be described in the Accounting Principles for Sustainability Reporting January–October 2012.
3.10 Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g., mergers/acquisitions, change of base years/periods, nature of business, measurement methods).	AR12 pages 36–41 and 48–53. SR11 pages 42–43 (Accounting Principles for Sustainability Reporting January–October 2012).		Any significant re-statements regarding the financial report is disclosed in the Board of Directors Report on pages 36–41 or in the accounting principles on pages 48–53 (AR12). Re-statements regarding the Sustainability Report is disclosed in Accounting Principles for Sustainability Reporting January–October 2012.
3.11 Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	SR12 pages 42–43 (Accounting Principles for Sustainability Reporting 2012).		
GRI Content Index			
3.12 Table identifying the location of the Standard Disclosures in the report. Identify the page numbers or web links where the following can be found: <ul style="list-style-type: none"> • Strategy and Analysis 1.1 – 1.2; • Organizational Profile 2.1 – 2.10; • Report Parameters 3.1 – 3.13; • Governance, Commitments, and Engagement 4.1 – 4.17; • Disclosure of Management Approach, per category; • Core Performance Indicators; • Any GRI Additional Indicators that were included; and • Any GRI Sector Supplement Indicators included in the report. 	SR12 pages 31–40.		
Assurance			
3.13 Policy and current practice with regard to seeking external assurance for the report. If not included in the assurance report accompanying the sustainability report, explain the scope and basis of any external assurance provided. Also explain the relationship between the reporting organization and the assurance provider(s).	AR12 page 89. SR12 page 41.		The Auditor's Report of the Annual Report can be found on page 89 (AR12). The auditor's review of sustainability report can be found on page 41 (SR12).
Governance			
Governance			
4.1 Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight.	AR12 pages 79–83. SR12 page 38.		The Corporate Governance report on pages 79–83 (AR12) discloses detailed information on governance structure. On page 38 (SR12) it is possible to find the Sustainable Development organization and management structure.
4.2 Indicate whether the Chair of the highest governance body is also an executive officer (and, if so, their function within the organization's management and the reasons for this arrangement).	AR12 pages 84–85.		Fritz H. Schur, the SAS Group Chairman, does not hold any executive position in the SAS Group.
4.3 For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members.	AR12 pages 84–85.		A majority of the members of the Board of Directors are defined as independent from major shareholders as described on pages 84–85 (AR12). All of the members of the Board of Directors are non-executive except for the union representatives whom are elected through the trade unions' own process.
4.4 Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.	AR12 pages 79–83. SR12 page 25.		The annual meeting is the main mechanism for shareholders to provide recommendations or direction to the board of directors which is described on pages 79–83 (AR12). The SAS Group have union representatives on the Board of Directors as described on page 25 (SR12).
4.5 Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance).	AR12 pages 54–56.		As stated on pages 54–56 (AR12) the executive compensation only consists of a fixed part as of 2012.

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Core Indicator	Page reference	Reported	Comments
4.6 Processes in place for the highest governance body to ensure conflicts of interest are avoided.	AR12 pages 79–81 and 84–85.		A majority of the members of the Board of Directors are defined as independent from major shareholders as described on pages 84–85 (AR12). The Nomination Committee evaluates the work, competence and composition of the Board of Directors on an ongoing basis as described on pages 79–81 (AR12).
4.7 Process for determining the qualifications and expertise of the members of the highest governance body for guiding the organization's strategy on economic, environmental, and social topics.	AR12 pages 79–83 and 84–85.		The Nomination Committee evaluates the work, competence and composition of the Board of Directors on an ongoing basis as described on pages 79–83 (AR12). The Board of Directors prior and current engagements are disclosed on pages 84–85 (AR12).
4.8 Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation.	AR12 page 4. SR12 pages 5 and 11.		
4.9 Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	AR12 page 80. SR12 pages 12 and 46.		The Board of Directors have sustainable development on their agenda as described on page 80 (AR12). The organization and structure of the SAS Group's sustainability work is described on pages 12 and 46 (SR12)
4.10 Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	AR12 pages 79–81.		The Nomination Committee evaluates the work, competence and composition of the Board of Directors on an ongoing basis as described on page 79 (AR12). The Annual Meeting is the main forum for all shareholders evaluation of the board of directors as described on pages 80–81 (AR12).
Commitments to External Initiatives			
4.11 Explanation of whether and how the precautionary approach or principle is addressed by the organization.	SR12 pages 5 and 20–21.		The SAS Group has joined the UN Global Compact, which prescribes the precautionary approach as one of their ten principles. The precautionary approach is also a principle of the Rio Declaration which is a part of both the SAS Group's Code of Conduct and the SAS Group's Purchasing Policy. The SAS Group's commitment to the UN Global Compact is described on page 5. Examples of how the precautionary approach has been applied is described on page 20 (SR12) regarding SGH's deicing activities and on 21 (SR12) regarding SAS Tech's activities for reduction and substitution of chemicals.
4.12 Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.	SR12 pages 4–7, 9 and 42–43 (Accounting Principles for Sustainability Reporting January–October 2012)		
4.13 Memberships in associations (such as industry associations) and/or national/international advocacy organizations in which the organization: <ul style="list-style-type: none"> • Has positions in governance bodies; • Participates in projects or committees; • Provides substantive funding beyond routine membership dues; or • Views membership as strategic. 	SR12 pages 5–7 and 29–30.		The SAS Group and its subsidiaries are members of several industry and business organizations. The memberships stated on pages 5–7 (SR12) and pages 29–30 (SR11) are considered the most important ones.
Stakeholder Engagement			
4.14 List of stakeholder groups engaged by the organization.	SR12 pages 47.		
4.15 Basis for identification and selection of stakeholders with whom to engage.	SR12 pages 6–7.		General selection criterions are not used due to the fact that the SAS Group never denies a stakeholder an opportunity for dialogue.
4.16 Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	SR12 pages 6–7 and 47.		The approach to stakeholder engagement is described on page 6–7 (SR12). In the table on page 47 (SR12) specific dialogues with stakeholders are described where the frequency varies depending on the nature of the dialogue.
4.17 Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting.	SR12 pages 6–7.		

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Performance Indicators	Page reference	Reported	Comments
Economic			
Economic Performance			
EC1 Economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	AR12 pages 42–43. SR12 pages 28–30.		Economic value generated and distributed is disclosed on pages 42–43 (AR12). Sustainability specific economic values are disclosed on pages 28–30 (SR12).
EC2 Financial implications and other risks and opportunities for the organization's activities due to climate change.	SR12 pages 8–17 and 28–30.		Perspectives on climate change, including risks and opportunities, are described on pages 8–17 (SR12). The SAS Group's activities to reduce the emissions and the effect on climate change are described throughout the sustainability report. The financial implications of environmental related costs are described on pages 28–30 (SR12).
EC3 Coverage of the organization's defined benefit plan obligations.	AR12 page 61.		The SAS Group's defined benefit pensions are disclosed in note 15 on pages 61 (AR12) in accordance with IAS 19.
EC4 Significant financial assistance received from government.	AR12 pages 90–91.		The SAS Group receives no significant subsidies. Within the airline industry, all operators can be eligible to a discount during the first months of operation on a new flight connection. Some connections to smaller airports, notably in Norway and in Sweden, are subject to a public bidding process where the winning bid gives the operator a fixed sum for operating a flight connection under given frequencies, airplane sizes and timeframes. Due to the open bidding process, SAS does not consider this to be a form of subsidy. The Scandinavian governments are major shareholders of the SAS Group as reported on pages 90–91 (AR12).
Market Presence			
EC6 Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.			The SAS Group promotes the consideration of locally based suppliers. Fuel is for example never sourced from only one supplier since the SAS Group's Purchasing Policy promotes using multiple suppliers for significant purchases. Catering and waste disposal is for example usually provided by locally-based suppliers. However, the SAS Group does not collect data on group level on this indicator.
EC7 Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation.	SR12 page 25.		More than 90% of SAS Group employees are based in the Nordic countries as described on page 25 (SR12). The SAS Group seek to attain as high as possible level of locally hired management due to both better knowledge of local markets and lower cost compared to expatriates. However, the SAS Group does not collect data on group level on this indicator.
Indirect Economic Impacts			
EC8 Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.	SR12 page 27.		The SAS Group's airline operations are an important part of the transportation infrastructure in all countries where it operates. All in-kind or pro-bono engagement regarding infrastructure, e.g. free or subsidized airline tickets, is performed by each subsidiary by themselves since they are the ones best suited to decide which engagements to support. However, the SAS Group does not collect data on group level on this indicator. Examples of humanitarian assistance and partnerships are described on page 27 (SR12).
EC9 Understanding and describing significant indirect economic impacts, including the extent of impacts.	SR12 pages 29–30.		Research and development is described on page 29 (SR12). The SAS Group's contribution to the economy is described on page 30 (SR12).
Environmental			
Materials			
EN1 Materials used by weight or volume.	SR12 pages 1 and 48–50.		Materials used are reported on the following pages: Jet Fuel – page 48 (SR12). Diesel/Petrol – page 48–50 (SR12). Glycol – pages 48–50 (SR12).
EN2 Percentage of materials used that are recycled input materials.			Since the main input for the SAS Group is fuel this indicator is not considered material.
Energy			
EN3 Direct energy consumption by primary energy source.	SR12 pages 1 and 48–50.		The jet fuel consumed by the Group's airlines is the completely dominant source of energy for the SAS Group. All certified jet fuels are fossil based. Direct energy consumption is reported on the following pages: Jet Fuel – page 48 (SR12). Diesel/Petrol – page 48–50 (SR12).

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Performance Indicators	Page reference	Reported	Comments
EN4 Indirect energy consumption by primary source.	SR12 pages 1 and 48–50.		The SAS group reports energy use in kWh or GWh, as applicable. The SAS Group does not convert these figures into joule. Reporting this indicator by primary source is not considered relevant due to the fact that jet fuel is the completely dominant source of energy for the SAS Group.
EN5 Energy saved due to conservation and efficiency improvements.	SR12 pages 12, 14, 18, 29 and 48.		The SAS Group's airlines reports on efficiency as fuel consumption relative to passenger kilometers on pages 48 (SR12). The fuelsave programs are described on pages 12, 14, 18 and 29 (SR12)
EN6 Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.	SR12 pages 12, 14, 18, 23, 29 and 48.		The SAS Group's airlines reports on efficiency as fuel consumption relative to passenger kilometers on pages 48 (SR12). The fuelsave program is described on pages 12, 14, 18 and 29 (SR12). The possibility for the customer to offset the CO2 emissions from their flight is described on page 12 (SR12). The research for a jet fuel partly based on renewable resources is described on page 23 (SR12).
EN7 Initiatives to reduce indirect energy consumption and reductions achieved.	SR12 page 12.		Indirect energy consumption (excluding purchased electricity) is not considered material for the SAS Group. In regards to employee business travel, a vast majority of all flights conducted by employees are accounted for in direct greenhouse gas emissions and all employee business travel is CO2-compensated.
Water			
EN8 Total water withdrawal by source.	SR12 pages 1 and 41–42.		Water withdrawal as a total figure is disclosed on pages 41–42 (SR12). Dividing it by source is not deemed material.
Biodiversity			
EN11 Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	SR12 pages 6–7 and 9.		<p>The SAS Group's impact on biodiversity is described on page 9 (SR12). The SAS Group does in general not own land. On locations where the SAS Group's operations can have an indirect significant impact on biodiversity the Group involves in dialogues with the airport operators as described on pages 6–7 (SR12).</p> <p>The SAS Group, through Star Alliance, has a partnership agreement – Biosphere Connections – with a group of international organizations such as UNESCO, IUCN and Convention of wetlands (Ramsar) as described on http://www.staralliance.com/en/about/initiatives/environment/</p>
EN12 Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	SR12 pages 6–7 and 9.		The SAS Group's impact on biodiversity is described on page 9 (SR12). The SAS Group does in general not own land. On locations where the SAS Group's operations can have an indirect significant impact on biodiversity the Group involves in dialogues with the airport operators as described on pages 6–7 (SR12).
Emissions, Effluents, and Waste			
EN16 Total direct and indirect greenhouse gas emissions by weight.	SR12 pages 1 and 48–50.		The SAS Group reports on direct greenhouse gas emissions for the airlines on pages 1 and 48–50 (SR12).
EN17 Other relevant indirect greenhouse gas emissions by weight.			The SAS Group does not consider other indirect greenhouse gas emissions to be material in comparison to the direct emissions which is the most significant environmental impact of the SAS Group's operations. In regards to employee business travel, a vast majority of all flights conducted by employees are accounted for in direct greenhouse gas emissions.
EN18 Initiatives to reduce greenhouse gas emissions and reductions achieved.	SR11 pages 12–15 and 22–23.		Greenhouse gas emissions are the most significant environmental impact of the SAS Group. Thus, initiatives to reduce greenhouse gas emissions are presented throughout the report. Reductions achieved, both absolute and relative, are presented on pages 12–15 and 22–23 (SR12).
EN19 Emissions of ozone-depleting substances by weight.	SR12 page 10.		SAS Group's airline operations have an exemption to use halons and submit annual reports to the authorities. The reason for the exemption is that there are no safe alternatives to halons as a fire extinguishant. The amount of halons used is disclosed on page 10 (SR12). Any emissions of halons will be disclosed in the Sustainability Report.

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Performance Indicators	Page reference	Reported	Comments
EN20 NO _x , HC and other significant air emissions by type and weight.	SR12 pages 1 and 48.	Reported	The SAS Group reports NO _x emissions. Other types of emissions are not considered material in relation to the emissions of CO ₂ and NO _x .
EN21 Total water discharge by quality and destination.		Not reported	The SAS Group does not report on discharges to water due to the fact that the Group's normal operations does not cause any material discharges.
EN22 Total weight of waste by type and disposal method.	SR12 pages 1 and 48–50.	Partially reported	Waste is separated into unsorted waste and hazardous waste.
EN23 Total number and volume of significant spills.	AR12 pages 40–41. SR12 pages 48–50.	Reported	All significant spills are disclosed in the Sustainability report and/or the Report by the Board of Directors.
Products and Services			
EN26 Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	SR12 pages 9 and 11–23.	Reported	The purposes of the SAS Group's environmental efforts are all focused on reducing the environmental impact of the services provided. Examples are SAS goal to reduce total flight emissions by 20% in 2015 compared with 2005 can be found on page 14-15 (SR12) and SAS work on alternative sustainable jet fuel can be found on page 23 (SR12).
EN27 Percentage of products sold and their packaging materials that are reclaimed by category.		Not reported	The products sold by the SAS Group are not considered material.
Compliance			
EN28 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	AR12 pages 40–41. SR12 pages 18–19.	Reported	The SAS Group discloses significant fines subsidiary by subsidiary and/or in the Report by the Board of Directors.
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.	SR12 pages 1 and 11–23.	Reported	The fuel consumption of SAS ground operations' vehicles contains transportation of goods on the airports where SAS ground operations operates. The transportation of workforce members is included in the figures for the environmental impact of the SAS Group.
Overall			
EN30 Total environmental protection expenditures and investments by type.	SR12 page 30.	Reported	SAS Group discloses sustainability-related charges, costs and investments on page 30 (SR12). Due to long history of reporting on internal definitions that are similar but not exactly as prescribed in the indicator protocol.
Social Performance: Labor Practices & Decent Work			
Employment			
LA1 Total workforce by employment type, employment contract, and region.	AR12 page 54. SR12 page 26.	Partially reported	The workforces, in terms of number of employees, are reported in accordance with the SAS Group's Accounting Principles for Sustainability Reporting January–October 2012. The SAS Group does only report total workforce by region, not by employment type and contract.
LA2 Total number and rate of employee turnover by age group, gender, and region.		Not reported	The SAS Group does not report detailed turnover figures. Employee turnover is not deemed an significant key performance indicator on aggregated group level.
Labor/Management Relations			
LA4 Percentage of employees covered by collective bargaining agreements.	SR12 page 25.	Partially reported	In general, all SAS Group employees are covered by collective bargaining agreements. The main exception is top management on group level.
LA5 Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements.	SR12 page 27.	Not reported	Information, consultation and negotiation procedures with employees over significant operational issues are regulated by national laws and regulations. Thus, minimum notice periods are not reported. Specific examples of negotiations are specified on page 27 (SR12).
Occupational Health and Safety			
LA6 Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs.	SR12 pages 25–26.	Reported	Joint management-worker health and safety committees cover all employees in the SAS Group.
LA7 Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region.	AR12 pages 1 and 20–22. SR12 pages 26 and 30.	Reported	
LA8 Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.	SR12 page 26.	Reported	The HMS- department described on page 26 (SR12) assists all SAS Group personnel regarding health issues, for example stress or HIV/AIDS.
Training and Education			
LA10 Average hours of training per year per employee by employee category.	SR12 page 25.	Partially reported	The SAS Group report total hours of training, not per employee or employee category.

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Performance Indicators	Page reference	Reported	Comments
LA11 Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	SR11 pages 25–27.		The SAS Group's efforts on skills management is described on pages 25–27 (SR12). Programs to support employees in career transitions is available through both the SAS Group's own effort and programs provided by local/regional/national governments. Sabbatical periods and severance pay is regulated through national laws and regulations. Since the Scandinavian countries have a long history of close cooperation between businesses, trade unions and government the solutions regarding restructuring etc. is handled in a dialogue with the parties concerned.
LA12 Percentage of employees receiving regular performance and career development reviews.	SR12 page 27.		All employees have the right to get annual performance and career development reviews. The percentage of employees receiving annual performance and career development reviews is provided on page 27 (SR12).
Diversity and Equal Opportunity			
LA13 Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity.	AR12 pages 54 and 84–87. SR12 page 26.		The board of directors and management is presented on pages 84–87 (AR12). Gender breakdown of employees is presented on pages 54 (AR12) and 26 (SR12). No further indicators of diversity are aggregated on group level.
LA14 Ratio of basic salary of men to women by employee category.	SR12 page 27.		A vast majority of all SAS Group employees are subject to collective bargaining agreements where the salary and other benefits are defined, equal for both women and men as described on page 27 (SR12). Thus, no indicator on salary ratio is reported.
Social Performance: Human Rights			
Investment and Procurement Practices			
HR1 Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening.	SR12 page 12.		The SAS General Terms & Conditions includes clauses regarding Global Compact's 10 principles. A specific review of the most significant supplier contracts has been initiated to evaluate how the suppliers are working with sustainability related issues as described on page 12 (SR12). It is the SAS Group's intention to report this indicator in more detail in coming years.
HR2 Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken.	SR12 page 12.		The SAS General Terms & Conditions includes clauses regarding Global Compact's 10 principles. A specific review of the most significant supplier contracts has been initiated to evaluate how the suppliers are working with sustainability related issues as described on page 12 (SR12). It is the SAS Group's intention to report this indicator in more detail in coming years.
HR3 Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	SR12 page 5.		The SAS Group provides an e-learning program regarding Code of Conduct. The percentage of employees that have completed the program is reported on page 5 (SR12).
Non-Discrimination			
HR4 Total number of incidents of discrimination and actions taken.	AR12 pages 82–83.		Incidents can be reported three ways. Through the whistleblower function which is described on pages 82–83 (AR12), through safety representatives and through management and HR representatives. Due to the potential confidentiality of the information incidents reported is not publicly reported.
Freedom of Association and Collective Bargaining			
HR5 Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights.	SR12 page 5.		The SAS Group endorses the UN Global Compact, whose ten principles are based on the UN Declaration on Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, the UN Rio Declaration on Environment and Development and the UN Convention against Corruption. The SAS Group endeavors to act responsibly in the countries and contexts where the Group operates. This means, among other things, that the Group is always to be associated with respect for human rights, acceptable labor standards, social considerations and sustained environmental work. A self assessment regarding the Global Compact principles (among them human rights) is done by each subsidiary every year as described on page 5 (SR12).

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Performance Indicators	Page reference	Reported	Comments
Child Labor			
HR6 Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor.	SR12 page 5.		The SAS Group endorses the UN Global Compact, whose ten principles are based on the UN Declaration on Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, the UN Rio Declaration on Environment and Development and the UN Convention against Corruption. The SAS Group endeavors to act responsibly in the countries and contexts where the Group operates. This means, among other things, that the Group is always to be associated with respect for human rights, acceptable labor standards, social considerations and sustained environmental work. A self assessment regarding the Global Compact principles (among them human rights) is done by each subsidiary every year as described on page 5 (SR12).
Forced and Compulsory Labor			
HR7 Operations identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of forced or compulsory labor.	SR12 page 5.		The SAS Group endorses the UN Global Compact, whose ten principles are based on the UN Declaration on Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, the UN Rio Declaration on Environment and Development and the UN Convention against Corruption. The SAS Group endeavors to act responsibly in the countries and contexts where the Group operates. This means, among other things, that the Group is always to be associated with respect for human rights, acceptable labor standards, social considerations and sustained environmental work. A self assessment regarding the Global Compact principles (among them human rights) is done by each subsidiary every year as described on page 5 (SR11).
Security Practices			
HR8 Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.			The SAS Group does not in its operations employ security personnel since it is the responsibility of the airport operators. However, the personnel at central security department at the SAS Group, that are responsible for group-wide security, are, as all SAS Group employees, introduced to the SAS Group's Code of Conduct.
Indigenous Rights			
HR9 Total number of incidents of violations involving rights of indigenous people and actions taken.			No incident of violations involving rights of indigenous people has been reported during January–October 2012.
Social Performance: Society			
Community			
S01 Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting.	SR12 pages 6–7.		The SAS Group is constantly involved in stakeholder dialogues to be able to assess and manage the impact on communities which is described on page 6–7 (SR12).
Corruption			
S02 Percentage and total number of business units analyzed for risks related to corruption.	SR12 page 5.		The SAS Group considers all business where valuable resources are handled to be at risk related to corruption. Thus, all employees are covered by the Group's Code of Conduct. Moreover, comprehensive guidelines are available for all employees regarding situations where risks related to corruption and other issues of unethical behavior is present. Hence, all business units are continuously analyzed for risks related to corruption.
S03 Percentage of employees trained in organization's anti-corruption policies and procedures.	SR12 page 5.		The SAS Group provides an e-learning program regarding Code of Conduct. The percentage of employees that have completed the program is reported on page 5 (SR11) All key personnel have been educated in SAS Competition Law Compliance Program
S04 Actions taken in response to incidents of corruption.	AR12 pages 24 and 40.		The SAS Group discloses all significant legal actions, including corruption, see pages 24 and 40 (AR12) for further details. The SAS Group takes substantial measures to ensure that ethical behavior is a core value in all business relationships through the Code of Conduct and SAS Competition Law Compliance Program.

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Performance Indicators	Page reference	Reported	Comments
Public Policy			
SO5 Public policy positions and participation in public policy development and lobbying.	SR12 pages 5 and 11. SAS Group's Code of Conduct		The SAS Group's Code of Conduct states that "communication work is to be conducted on a high, professional level and follow the laws and regulations that apply to listed companies. Internal and external communication is used to create insight, understanding, motivation, strength, willingness to change, sound labor standards and a good reputation. The main principle is that central Group functions are responsible for all communication affecting overarching issues in the SAS Group." Moreover, the public affairs department manages all communication activities with authorities and politicians. Many of the organizations in which SAS Group is a member (AEA and IATA) carry out lobby activities. However, the SAS Group does not make any contributions or give other support, direct or indirect, to political parties or individual politicians. Nor are you allowed to make contributions at the Group's expense or provide assistance in the form of funds or resources from the Group. For more information, see also the SAS Group's Code of Conduct available at www.sasgroup.net under the heading "Sustainability".
Anti-Competitive Behavior			
SO7 Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes.	AR12 pages 24 and 40.		The SAS Group has an extensive program, SAS Competition Law Compliance Program, to ensure that professional business relations are conformed to in the SAS Group. The SAS Group discloses all significant legal actions, including anti-competitive behavior, anti-trust, and monopoly practices, see pages 24 and 40 (AR12) for further details.
Compliance			
SO8 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	AR12 pages 24 and 40. SR11 page 18.		The SAS Group discloses significant fines subsidiary by subsidiary and in the Report by the Board of Directors.
Social Performance: Product Responsibility			
Customer Health and Safety			
PR1 Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	AR12 page 19. SR12 pages 15, 18 and 48.		The SAS Group does mainly offer services. Thus, life cycle analysis per se is not performed. However, the SAS Group's environmental impact chiefly compromises air emissions from the airline operations, see page 18 and 48 (SR12) for further details. To reduce the environmental impact the SAS Group is, among other things, involved in the development of jet fuel based on renewable resources, as described on page 23 (SR12) and co-operation with Air Traffic Control, as described on page 18 (SR12). Flight safety is a main concern of the SAS Group, where all SAS Group airlines are certified in accordance to IOASA (IATA Operational Safety Audit). Further details about the SAS Group's approach to customer safety can be found on page 19 (AR12).
PR2 Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	AR12 page 19.		The SAS Group reports a risk index for SAS Scandinavian Airlines and deviations in accordance with ICAO's rules and regulations on page 19 (AR12). The SAS Group considers flight safety to be the most relevant indicator for customer health and safety.
Products and Service Labeling			
PR3 Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.			All airline travel has substantial information requirements. The SAS Group strives to adhere to all laws and regulations regarding service information. However, data on information requirements are not publicly communicated.
PR5 Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	AR12 pages 20–22. SR12 page 13.		The SAS Group publishes results of their customer satisfaction surveys or other measures on customer satisfaction per entity and in total.
Marketing Communications			
PR6 Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.	SR12 page 5.		The SAS Group Code of Conduct and SAS Competition Law Compliance Program both include the subject of marketing and communications.
Compliance			
PR9 Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.	AR12 pages 25 and 40.		The SAS Group discloses all significant legal actions, including fines for non-compliance concerning the provision and use of services, see pages 25 (AR12) and 40 (AR12) for further details.

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Auditors Report

Auditor's Review Report on the SAS Group's Sustainability Report

To the readers of the SAS Group's Sustainability Report

Introduction

We have been engaged by the Executive Management of the SAS Group to review the SAS Group's Sustainability Report for the January 1, 2012 to October 31, 2012 fiscal year. The Board of Directors and the Executive Management are responsible for ongoing activities regarding the environment, health & safety, quality, social responsibility and sustainable development, and for the preparation and presentation of the Sustainability Report in accordance with the applicable criteria. Our responsibility is to express a conclusion on the Sustainability Report based on our review.

The Scope of the Review

We have performed our review in accordance with RevR 6 Assurance of Sustainability Reports issued by FAR. A review consists of making inquiries, primarily of persons responsible for the preparation of the Sustainability Report, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with IAASB's Standards on Auditing and Quality Control and other generally accepted auditing standards in Sweden. The procedures performed consequently do not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

The criteria on which our review are based are the parts of the Sustainability Reporting Guidelines G3, published by The Global Reporting Initiative (GRI), which are applicable to the Sustainability Report, as well as the accounting and calculation principles that the Company has developed and disclosed. We consider these criteria suitable for the preparation of the Sustainability Report.

Our review has, based on an assessment of materiality and risk, e.g. included the following procedures

- a. an update of our knowledge and understanding of the SAS Group's organization and activities,
- b. an assessment of suitability and application of the criteria regarding the stakeholders' need for information,

- c. an assessment of the outcome of the Company's stakeholder dialogue,
- d. interviews with the responsible management, at group level, subsidiary level, and at selected business units in order to assess if the qualitative and quantitative information stated in the Sustainability Report is complete, accurate and sufficient,
- e. shared internal and external documents in order to assess if the information stated in the Sustainability Report is complete, accurate and sufficient,
- f. an evaluation of the design of the systems and processes used to obtain, manage and validate sustainability information,
- g. analytical procedures of the information stated in the Sustainability Report,
- i. a reconciliation of financial information with the Company's Annual Report for the financial year 2012,
- j. an assessment of the Company's declared application level according to GRI guidelines,
- k. an assessment of the overall impression of the Sustainability Report, and its format, taking into consideration the consistency of the stated information with applicable criteria,
- l. a reconciliation of the reviewed information with the sustainability information in the Company's Annual Report for the financial year 2012.

Conclusion

Based on our review, nothing has come to our attention that causes us to believe that the information in the SAS Group's Sustainability Report has not, in all material respects, been prepared in accordance with the above stated criteria.

Stockholm, February 25, 2013

Deloitte AB

Elisabeth Werneman
Authorized Public Accountant

Andreas Drugge
Expert Member of FAR

Accounting Principles for Sustainability Reporting 2012

The SAS Group's airlines, Scandinavian Airlines, Widerøe and Blue1 transported 24.0 million passengers to 136 destinations in January–October 2012. The Group's home market is the Nordic Region. The Group also comprises operations for aircraft maintenance, ground handling and post/air freight.

For the financial year of 2012, the SAS Group reports its general sustainability results divided into same segments as reported in the Annual report:

- Scandinavian Airlines comprises all operations within the SAS Consortium, including SAS Ground Handling (SGH), SAS Technical Operations and SAS Cargo Group (SCG).
- Widerøe including ground operations.
- Blue1 including ground operations.

"SAS" or "SAS Group" is used throughout the report when the total operations are referred to. Within environmental responsibility, the SAS Group strives to separate between airline and ground operations. Thus, the following divisions have been made:

- Scandinavian Airlines comprises:
 - airline operations with SK flight number
 - ground handling within SAS Ground Handling (SGH). SGH conduct ground handling for Scandinavian Airlines, Widerøe, Blue1 and other customers, such as other airlines.
 - technical maintenance within SAS Technical Operations. SAS Technical Services conduct technical maintenance primarily for Scandinavian Airlines but also for other customers, such as other airlines.
 - freight and mail services within SAS Cargo Group A/S (SCG).
- Widerøe comprises Widerøe's airline, technical and ground operations, including the premises used.
- Blue1 comprises Blue1's airline and ground and technical operations, including the premises used.
- SAS Facility Management comprises of the premises owned or leased by the SAS Group used by Scandinavian Airlines, SGH, SAS Technical Operations or SCG. Premises owned or leased by Widerøe and Blue1 is reported separately.

SAS still holds interests in Air Greenland and Estonian Air, but as SAS is no longer majority shareholder and is divesting the current holdings, they are not presented. The SAS Group's structure is presented on **page 83** in the SAS Group Annual Report with sustainability overview January–October 2012.

Sustainability reporting

The SAS Group's Sustainability Report has been prepared in accordance with the SAS Accounting Principles for Sustainability Reporting. The presentation and disclosures are partly based on Deloitte's (Sweden) Checklist for preparation and evaluation of voluntary reporting of environmental, ethical and social information ("Checklista för upprättande och utvärdering av information om miljö, etik, socialt ansvar och bolagsstyrning" Utgåva 2008, www.deloitte.se). The SAS Group has also applied the Global Reporting Initiative's (GRI) Sustainable Reporting Guidelines, version 3.0. GRI cross-references are available on **page 32–40**. These indicate where the GRI-indicators are found in the SAS Sustainability Report 2012, and also comment on non-applicable GRI-indicators. The Sustainability Report also covers all important principles in the UN Global Compact. GRI's Sustainability Reporting Guidelines, version 3, contains 10 reporting principles as disclosed below, which have been taken into account in preparing the SAS Group's Sustainability Report 2012.

Reporting Principles for Defining Content

1. **Materiality:** The information in a report should cover areas and indicators that reflect the organization's significant economic, environmental, and social impacts or that would substantively influence the assessments and decisions of stakeholders.
The SAS Group's Approach: In the preparation of the Sustainability Report all information considered material, by external or internal factors, has been included. Materiality can be defined by stakeholder requests but also by the SAS Group's most important aspects of sustainability or the SAS Group's approach to responsibility for sustainable development.
2. **Stakeholder inclusiveness:** The reporting organization should identify its stakeholders and explain in the report how it has responded to their reasonable expectations and interests.
The SAS Group's Approach: The SAS Group has identified its most important stakeholders from a sustainability perspective. These are described on **pages 6–7** in the Sustainability Report together with main communication channels for each stakeholder group. The sustainability report includes the information deemed most important for the main stakeholders.

3. **Sustainability context:** The report should present the organization's performance in the wider context of sustainability.
The SAS Group's Approach: The SAS Group has decided to describe its sustainability aspects in a context of external interest and stakeholder demands on the Group's operations as well as SAS' opinion of its own impact. Due to stakeholder demands, environmental responsibility is given the most space in SAS's Sustainability Report.
4. **Completeness:** Coverage of the material areas and indicators and definition of the report boundary should be sufficient to reflect significant economic, environmental, and social impacts and enable stakeholders to assess the reporting organization's performance in the reporting period.
The SAS Group's Approach: SAS' ambition to report a fair and complete picture of the operation is based on the stakeholders' demands and expectations that the group's material financial, environmental and social impact is presented. This is clear from the stakeholder dialogs conducted by SAS. In order to achieve this, SAS has an internal network, SAS Group Sustainability Network that contains representatives from the companies and units with the biggest sustainability impact. Furthermore, SAS has had for many years a well-developed organization and process for the way in which its sustainability work is carried out and reported.

Reporting Principles for Defining Quality

5. **Balance:** The report should reflect positive and negative aspects of the organization's performance to enable a reasoned assessment of overall performance.
The SAS Group's Approach: The SAS Group discloses both success and failure regarding the Group's approach to sustainable development. The SAS Group has a tradition of openly disclosing all material issues and performances, both positive and negative.
6. **Comparability:** Issues and information should be selected, compiled, and reported consistently. Reported information should be presented in a manner that enables stakeholders to analyze changes in the organizations performance over time, and could support analysis relative to other organizations.
The SAS Group's Approach: The purpose of these accounting principles is to make the reported information as comparable as possible. Limitations in scope and changes in accounting principles are described. In some cases, indicators are not perfectly translatable to GRI's "Indicator Protocols". The reason is usually that the SAS Group has for a long time used uniform definitions of social and environmental indicators that might not conform completely to GRI principles. In other circumstances, it can be attributed to the fact that the SAS Group has not historically reported on the required data. In "Cross reference list for GRI" all deviations from the GRI's "Indicator Protocols" are explained.
7. **Accuracy:** The reported information should be sufficiently accurate and detailed for stakeholders to assess the reporting organization's performance.
The SAS Group's Approach: It is important that the information reported is as correct as possible. See the description in the segment "10. Reliability" below, for how the SAS Group ensures the accuracy of reported information. In these accounting principles it is possible to find accounting and compilation principles for most of the indicators disclosed in the SAS Group's Sustainability Report as well as the definitions of concepts used in the Sustainability Report.
8. **Timeliness:** Reporting occurs on a regular schedule and is available in time for stakeholders to make informed decisions.
The SAS Group's Approach: The SAS Group's Sustainability Report is distributed annually.
9. **Clarity:** Information should be made available in a manner that is understandable and accessible to stakeholders using the report.
The SAS Group's Approach: The ambition is to briefly describe the most important impacts on the operations by environmental and social aspects, which is considered to be of interest for the major stakeholder groups. Due to the number of different stakeholders, complex operations, and limited space, the SAS Group has chosen to use a non-technical language and avoid detailed descriptions. Furthermore, the structure of the Sustainability Report is similar from year to year.
10. **Reliability:** Information and processes used in the preparation of a report should be gathered, recorded, compiled, analyzed, and disclosed in a way that could be subject to examination and that establishes the quality and materiality of information.

The SAS Group's Approach: Formally, the managing director (MD) of each legal unit has the main responsibility for the sustainability reporting. They are in general assisted by HR and/or sustainability coordinators who are responsible for analyzing and reporting data from their respective units into reporting templates, which are sent to the Group's environmental and sustainability function.

The central environment and sustainability function consolidate the information for the whole Group and review and analyze the information and compares it with data from previous years. Certain information, primarily related to production data, taxes and charges are collected from other Group functions.

Assessment of sustainability goals and the fulfillment of these goals according to the Global Compact principles are made by self-assessments on entity-level in conjunction with a dialog with the Group's environment and sustainability function.

The Group's external auditors have performed an independent review of the SAS Group's Sustainability Report. The review was conducted in accordance with FAR (the institute for the accountancy profession in Sweden) "RevR 6 Assurance of sustainability reports". The scope of the auditors' independent review is described in detail in their Review Report on **page 41**.

Scope of the sustainability report

The SAS Group's Sustainability Report should contribute to the evaluation and understanding of the SAS Group's operations. The report is an overview of the SAS Group's structured sustainability work. The goal of the SAS Group's Sustainability Report January–October 2012 is to disclose all information necessary to provide the reader with a fair overview of the Group's environmental, social, and financial responsibilities.

The SAS Group has a long tradition of reporting on environmental indicators. The Group, which works in several different countries with several different companies constantly strives to achieve comparable environmental and social indicators. In the SAS Group's opinion, deviations in reported data with regards to the principles described by the Group are not material, and the information provided gives a fair presentation of the Group's sustainability approach and impact.

To the extent possible, entities within the SAS Group report on financial impacts of environmental and social responsibilities.

The SAS Group Annual Report with sustainability overview January–October 2012 includes a general overview of the Group's environmental work and the sustainability information in the Board of Director's Report on **pages 36–41** in the SAS Group Annual Report with sustainability overview January–October 2012 is tailored to the requirements prescribed by EU directive (2003/51/EC).

The utmost responsibility for the sustainability aspects of the SAS Group, and their integration in operational activities, lies with Group Management. The Sustainability Report was approved by the SAS Group Management in February 2013. The SAS Group Board of Directors submitted the Annual Report in February 2012, and was informed of the sustainability report.

Limitations

The main principle for sustainability reporting is that all units and companies controlled by the SAS Group are accounted for. This means that sustainability-related data for divested companies owned by the Group during the period will be reported wherever possible. The same accounting principles as for financial information in the Annual Report are intended to be used for financial information in the Sustainability Report.

The SAS Group has a number of production indicators (such as passenger kilometers and available seat kilometers). In some cases there will be differences regarding definitions, resulting in reduced ability to compare information between the Annual Report and the Sustainability Report.

Standard definitions for environmental and social data have been applied throughout the entire Group. Some minor limitations have been made regarding the information provided in the Sustainability Report. None of the limitations are considered to have substantial significance.

Changes in accounting and calculating principles

The sustainability information in the Sustainability Report is affected by the following changes:

Key figures either reflects the 10 months period January, 1 until October, 31 2012 described in this report as "fiscal year 2012" or 12 months data covering November 2011 to October 2012.

Fuel consumption in SGH and Technical Operations has been adjusted for 2011 due to change of method.

Climate index has changed base year to full-year 2011 in order to follow up progress connected to activities in 4Excellence and 4XNG.

Long-term sick leave is changed in fiscal year 2012 to, more than 14 days. The change reflects requirements in national legislation

For Widerøe and Blue1 number of employees October 2012 (head count) is reported. Previous years average number of employees (FTE) was used.

Principles for reporting and calculation of environmental data

Reported environmental information is based on the following calculations and/or factors:

- Distance, based on WGS84 Great Circle Distance (GCD) calculations between airport reference points as defined in national AIPs.
- Passenger weight for TK calculations in 100 kg for any person with hand luggage and checked luggage transported. Does not including active crew.
- Cargo and mail, actual weight is used.
- Fuel density (kg per liter):
 - Jet A/A-1²⁾: 0.8 or actual density.
 - Diesel: 0.84
 - Petrol: 0.73
 - Heating oil: 0.84
- CO₂ factor (per weight unit of fuel):
 - Jet A/A-1²⁾: 3.15
 - Diesel: 3.17
 - Petrol: 3.12
 - Heating oil: 3.17
- Energy conversion of fuels (GWh per 1,000 tons):
 - Jet A/A-1: 12.0
 - Diesel: 12.0
 - Petrol: 12.2
 - Heating oil: 12.0
- Nitrogen oxides (NO_x), factors (per weight unit of fuel):
 - Jet A/A-1¹⁾ Between 0.00694 and 0.01932
 - Heating oil: 0.005
- Unburnt hydrocarbons (HC) factors (per weight unit of fuel):
 - Jet A/A-1¹⁾ Between 0.0 and 0.0318

1. Varies per aircraft/engine combination.

2. Fuel density and CO₂ factor for Jet A/A-1 is calculated according to approved MRV-plan.

Climate index

SAS Group has chosen to construct a climate index for flight operations. The base year is full-year 2011 in order to follow up progress connected to activities in 4Excellence and 4XNG. The climate index is calculated by taking the quantity of emissions of carbon dioxide and nitrogen oxides in relation to production. Even though there is no consensus regarding the weighting between the different greenhouse gases' effect on total impact on climate change, SAS has chosen to base the calculation on the assumption from, among others, Cicero that 1.5 is a reasonable multiplier given the knowledge available "today". Read more about Cicero that has provided basic data for IPCC, for example, on www.sas-group.net under the headline Sustainability. This gives a relationship of 2/3 carbon dioxide to 1/3 other climate changing emissions such as nitrogen oxides, water vapor and particulates. Nitrogen oxides have been chosen as a non-CO₂ indicator for the climate index. Until clearer directives are given regarding how the total climate effect should be calculated every emission is reported separately.

Environmental aspect	Weighting	Production factor
Carbon dioxide	67%	Passenger Kilometer (PK)
Nitrogen oxides	33%	

The Climate index is designed for SAS to present year-to-year development. This assumes that no changes to methodology are made.

Principles for reporting and calculation of social data

The following principles for calculating and reporting of social data have been used. Occupational injuries (H-value):

Frequency of occupational injuries (H value) is calculated using the following formula:

$$\frac{\text{No. of occupational injuries with minimum of one day's absence} \times 1,000,000}{\text{total number of performed working hours per year}}$$

Number of employees:

In the Sustainability Report, the number of employees is based on the number of persons during the month of October and sick leave statistics calculated for the fiscal year. These are employees having a budgeted or actual schedule and/or who have been sick during the period.

Sick leave:

Sick leave for Scandinavian Airlines is reported as the number of hours sick in relation to actual or planned working hours. For Widerøe and Blue1 sick leave is reported as the percentage of sick leave in relation to planned work time. For sick leave, absence due to sick children is excluded. Long-term sick leave (more than 14 days) is reported as a percentage of total sick leave.

Principles for reporting and calculation of external and other environmentally related costs

Where possible environmentally related costs are based on information directly from the accounting system. When this has not been possible, e.g. for calculations of certain charges and taxes that are included in landing charges, estimates have been used based on the number of passengers to a certain destination and the charge or tax per passenger.

Sustainability-terms, definitions and concepts

A

Acetate Acetic acid (CH₃COOH). Used by airport operators to deice takeoff and landing strips.

ASK Available Seat Kilometers, the available (offered) number of passenger seats multiplied by the distance flown.

ATAG Air Transport Action Group is an independent coalition of organization and companies throughout the air transport industry.

ATK Available Ton Kilometers, available (offered) capacity for passengers and cargo expressed in metric tonnes, multiplied by the distance flown.

Average number of employees Average number of employees is defined as the average number of employees expressed in full time equivalents, excluding leave of absence, parental leave and long-term sick leave. This definition is also used in the financial reporting. Sometimes the term FTE (Full Time Equivalent) is used.

B

Biofuels Solid or liquid fuel with biological origin. Liquid fuels for vehicle/ship/aircraft engines. To various degrees considered carbon neutral. EU's renewables directive (2009/28/EC) and biofuels directive (2003/30/EC) defines the EU's mandates on biofuels and degree of carbon neutrality.

C

CAEP Committee on Aviation Environmental Protection, technical committee of the ICAO (see definition) charged with developing and establishing rules and recommending measures to reduce the environmental impact of aviation.

Carbon dioxide (CO₂) A colorless gas that is formed in combustion of all fossil fuels. The airline industry's CO₂ emissions are being reduced through a change-over to more fuel-efficient aircraft, something that is also desirable from a financial standpoint since lower fuel consumption automatically means lower costs.

Carbon monoxide (CO) A toxic and combustible gas formed by incomplete burning of substances containing carbon, e.g. fossil fuels.

Certification requirements The ICAO's minimum requirements for certification of aircraft types, such as limits for noise and emissions of carbon dioxide, nitrogen oxides and hydrocarbons (see Chapter 2, 3).

CFCs A group of chlorofluorocarbons that may also contain hydrogen and/or bromine. A class of stable chemical compounds mostly known under the trade names Freon or Halon. Manufacture prohibited by Montreal Protocol because of negative effect, depletion of the Ozone Layer. Aviation has exception for use under a critical use clause due to lack of approved alternatives. Research for alternatives is ongoing.

Charges for the infrastructure Charges imposed by the operators of the infrastructure and which are intended to cover operating and capital costs for airlines and air traffic management.

CO₂ Carbon dioxide (see definition).

Code of Conduct Business ethics rules and guidelines.

D

dB Decibel, a logarithmic unit of measurement that expresses the magnitude of a physical quantity relative to a specified or implied reference level.

Drop-in fuel A fuel that is chemically indistinguishable from conventional jet fuel. This means that no changes would be required in aircraft or engine fuel systems, distribution infrastructure or storage facility. It can be mixed interchangeably with existing jet fuel.

E

Ecoefficiency A term launched primarily by the environmentally oriented business organization WBCSD. Ecoefficiency is defined as a tool that companies can use to measure their environmental performance relative to how market demands are met and the company's financial performance is improved. The goal of ecoefficiency is to generate qualitative growth where value is created instead of transforming unnecessary volumes of material and energy into waste.

EMAS EU Eco Management and Audit Scheme. EMAS is based on ISO 14001. Two of its requirements are publication of an environmental audit and employee involvement. Current edition is EMAS III (2009).

Environmental impact of leased aircraft Fuel consumption and emissions from leased aircraft and aircraft leased including the crew (wet lease), are included in the reported data for Scandinavian Airlines.

Environmentally related charges Charges imposed by the airport operators for the purpose of motivating aircraft operators to operate aircrafts with high ecoefficiency with respect to noise and other emissions such as of NO_x as well as surcharges imposed by airport operators to motivate aircraft operators to avoid take-offs and landings at night. In some cases the environmentally related charges are considered income-neutral, i.e. the total income of the airport remains unchanged by decrease in other charges. The methods for classifying aircraft differ between countries as well as airports within countries. Although the charges are differentiated based on the ecoefficiency of the aircraft, all in all they are balanced out in such a way as to amount to the total cost determined by the airport operator.

Environmentally related contingent liabilities Contingent liabilities pertaining to possible future costs for measures to prevent, reduce or restore environmental damage arising from operations.

Environmentally related investments Investments in assets to prevent, reduce or restore environmental damage arising from operations and/or aimed at meeting upcoming, more stringent environmental requirements.

Environmentally related provisions Provisions for liabilities and allocations for known undertakings and requisite measures to prevent, reduce or restore environmental damage arising from operations.

Environmentally related taxes Taxes which, in contrast to other corporate taxation, are motivated by environmental grounds. Examples are the environmentally motivated passenger charge in the UK and the environmentally related fiscal CO₂-charge in Norway. The charge on glycol in Norway is also included as a part of the environmentally related taxes.

External environmentally related costs The sum of environmental charges and environmentally related charges and taxes.

F

Fossil fuels Fuels consisting of organic carbon and hydrogen compounds in sediment or underground deposits – especially coal, oil and natural gas.

G

Germicides Chemicals used to kill or prevent the growth of harmful microorganisms such as bacteria, virus or fungus. Added to the sanitizing liquid in aircraft lavatories reduce the risk of infection.

Global Compact A challenge from the former UN Secretary General Kofi Annan to business and industry to live up to ten principles of human rights, employee rights, the environment and anti-corruption, as formulated by the UN. www.unglobalcompact.org

Glycol An alcohol that is sprayed on the aircraft in cold weather to prevent ice formation. Today, a non-toxic propylene glycol is used. Some 80% of the glycol runs off the aircraft when applied, and seeps into the ground unless collected. A further 15% is emitted into the air and is thus dispersed in the vicinity of the airport. The airports are responsible for collecting the glycol runoff for reuse.

GRI Global Reporting Initiative. An organization aiming to provide companies and organizations with a global sustainability reporting framework and thereby facilitate comparisons between companies from a social, environmental and economic perspective. www.globalreporting.org

Green Approach In a Green Approach, the approach begins from the Top of Descent (ToD) using a Continuous Descent Approach (CDA) with minimum thrust.

Greenhouse effect Carbon dioxide and other gases trap and reradiate incoming solar radiation that would otherwise be reflected back into space. The problem is that emissions of greenhouse gases have increased. Most scientists agree that heavy human use of fossil fuels is causing global warming. Carbon dioxide is formed in combustion of all fossil fuels, but burning of biofuels only emits an amount of carbon equal to that absorbed during growth, producing no net emissions. However, use of coal, oil and natural gas produce a net increase, since they release carbon that has been bound in the earth's crust. The freon substitute HFC, methane and nitrous oxide are other powerful greenhouse gases. Other gases that contribute to the greenhouse effect are CFCs (see definition), methane and nitrous oxide.

H

Halons See CFCs.

HC Hydrocarbons (see VOCs).

Heavy metals Certain high-density metals, such as cadmium and mercury, which both have acute and chronic toxic effects.

Hydrocarbons See Volatile organic compounds.

I

IATA The Air Transport Association represents, leads and serves the airline industry. Its members comprise all major passenger and cargo airlines

ISO 14000 A series of international environmental standards developed by the International Organization for Standardization. The general guiding principles for ISO 14000 are identical to those in the quality standard ISO 9000. There are several environmental standards in the ISO 14000 family, such as for environmental management systems (ISO 14001), environmental labeling, environmental audits and life-cycle analyses.

J

Jet A-1 Common jet fuel specification outside North America. (Jet A and Jet A-1 are very similar and throughout this Sustainability Report the term jet fuel is used to describe fuel used by aviation.

K

Kerosene The common name for petroleum-derived jet fuel such as Jet A-1. Kerosene is one of the fuel sources that can be made by refining crude oil. It is also used for a variety of other purposes.

M

MRV Monitoring, Reporting and Verification of CO₂ emissions and production in tonne-kilometers in the EU Emissions Trading Scheme.

N

N-ALM The Nordic Working Group for Environmental Issues in Aviation, composed of civil aviation, environmental and communication authorities and airlines in the Nordic countries.

Nitrogen oxides (NO_x) Formed during combustion in all engines. For aircraft engines since the high temperature and pressure cause the atmospheric nitrogen and oxygen to react with each other, mainly during takeoff and ascent when the engine temperature is at a maximum. With effect from 1996, the ICAO has tightened the requirements for nitrogen oxide emissions, and these are expected to be made even stricter. New engines with double annular combustors (DAC), for example, reduce emissions by up to 40% compared with the previous generation of engines. (See also Acidification and Ozone layer.)

Noise Environmentally detrimental, undesirable sounds. The environmental impact of air traffic in the form of noise is primarily of a local nature. Noise is normally described and measured in dB(A), an A-weighted sound level.

NO_x Nitrogen oxides (see definition).

O

Occupational injuries Occupational injuries is the number of injuries employees incur by accidents at the workplace resulting in at least one day of absence.

Oil aerosols Oil emitted from the aircraft engines during operation under high pressure. Upon contact with air they form a fine mist, which is then broken down primarily into carbon dioxide.

Other environmentally related costs Costs for waste management, purification plants, permits, any fines and charges for permit deviation, costs for remediation measures, etc. as well as internal reported costs for environmental work, e.g. costs for persons and organizations working with environmental issues, costs for sustainability reporting etc.

P

PFOS: Perfluorooctane sulfonate. A substance used as fire-fighting foam among other uses and prohibited for use in concentrations of 0.005% per weight or higher since 2007 in Norway. Regulation work ongoing in the EU and USA.

PULS The Swedish acronym for SAS's employee surveys, conducted via individual questionnaires.

R

RPK (used in the financial reporting) Revenue Passenger Kilometers, utilized (sold) capacity for passengers expressed as the number of seats multiplied by the distance flown. Revenue passengers include only those paying at least 25% of the regular ticket price.

RPK (used in the sustainability-related reporting) Revenue Passenger Kilometers, utilized (sold) capacity for passengers expressed as the number of seats multiplied by the distance flown in scheduled traffic, charter, ad hoc flights and bonus trips.

RTK Revenue Ton Kilometers, utilized (sold) passenger and cargo capacity expressed in metric tonnes, multiplied by the great circle distance flown. Revenue passengers and cargo over a certain payment limit.

PK Passenger Kilometers, includes all passengers excluding active crew multiplied by the great circle distance flown for all flights performed.

S

SAFUG Sustainable Aviation Fuel Users Group. Aviation industry organization focused on accelerating the development and commercialization of sustainable aviation fuels.

SO₂ Sulfur dioxide (see definition).

Sulfur dioxide (SO₂) Formed in combustion of fossil fuels if containing sulfur. A colorless gas with an acrid odor that is toxic when inhaled in large quantities. Aviation fuel contains a minute proportion of sulfur, and, accordingly, causes only minor emissions of this substance. The same applies to the "green" diesel used in ground vehicles. In the airline industry, as in many others, sulfur dioxide emissions come largely from oil-fired heating.

Sustainable development means that when mankind satisfies its needs to today, it does so without limiting the opportunities for future generations to satisfy theirs.

T

Tonne kilometers The number of transported metric tonnes of passengers and cargo multiplied by the distance flown.

U

Urea A urine substance synthetically produced from carbon dioxide and ammonia that is used by airport operators for deicing of runways. Contributes to eutrophication/ eutrophication. See also Acetate.

V

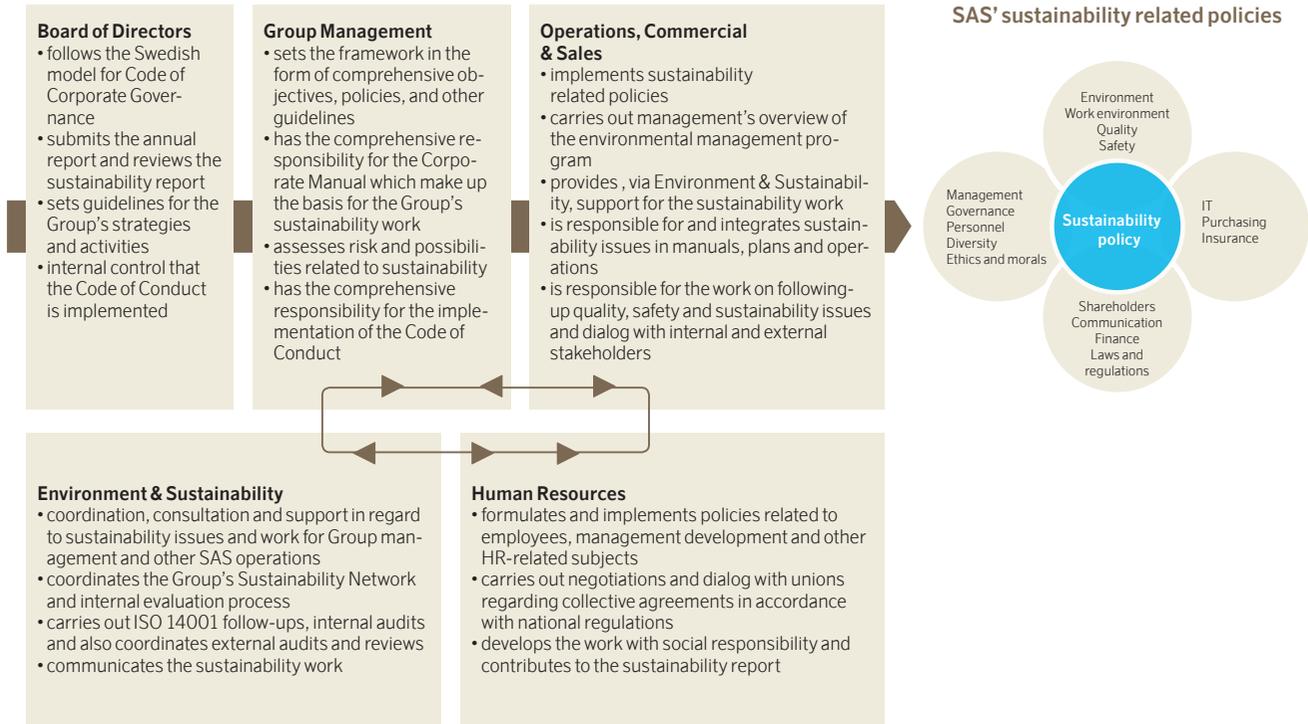
Volatile Organic Compounds (VOC) Emitted during incomplete combustion of fossil fuels – in aviation mainly when the engine is run at low speed and the temperature in the combustion chamber is low. This category also includes all types of solvents that evaporate from detergents and paints, among other things. With effect from April 1, 2002, only aircraft with low VOC emissions will be permitted in the EU.

W

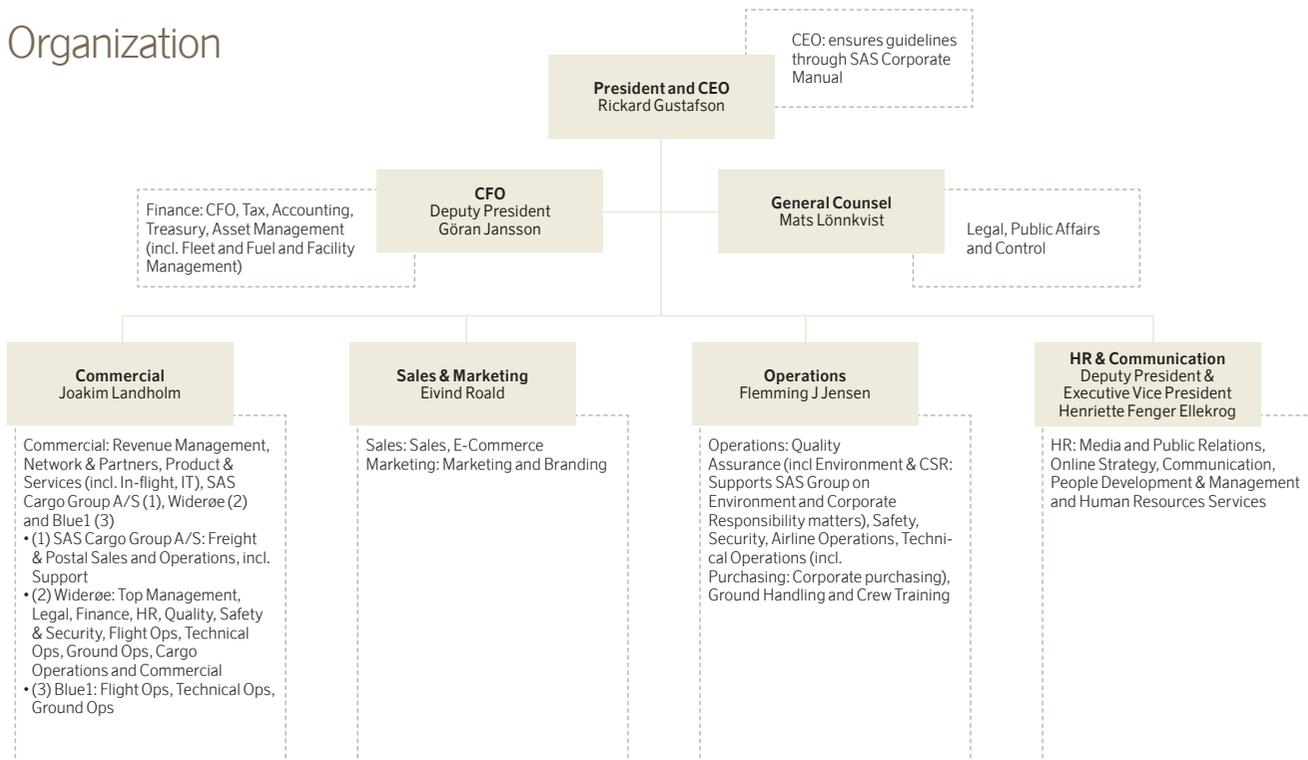
Weighted noise contour The weighted noise contour is calculated based on the number of takeoffs per day at a given airport, with regard to the aircraft types the airline uses at that airport. The weighted noise contour defines the area in km² that is subjected to a noise footprint of 85 dB(A) or more in connection with takeoff.

Appendix

Management, Sustainable Development



Organization



Examples of stakeholder groups engaged by SAS Group

<p>Employees</p> <ul style="list-style-type: none"> • Employee index PULS • Performance reviews • Whistleblower function • Employee meetings at all levels including meetings related to ISO 14001 and EMAS • Dialog and close cooperation with labor unions 	<p>Customers</p> <ul style="list-style-type: none"> • Customer surveys • Interviews • Customer Satisfaction Index (CSI) • Image index • Contract customers are offered carbon dioxide compensation • Direct dialog in meetings and ongoing contact with several thousand customers • Social media 	<p>Owners, investors and financial analysts</p> <ul style="list-style-type: none"> • Regular Board meetings • Annual General Shareholders' Meeting • Surveys • Teleconferences • Regular meetings with investors and analysts
<p>Partnerships and networks</p> <ul style="list-style-type: none"> • Star Alliance • Global Compact Nordic Network • CSR Sweden • IATA, ATAG, SAFUG and Sustainable Biofuel Network • NHO Klimatpanel, Baltic Development Forum etc • Green Light Project 	<p>NGOs</p> <ul style="list-style-type: none"> • Close dialogue and cooperation with, for example, Bellona, WWF and the Norwegian Society for the Conservation of Nature. 	<p>Industry organizations</p> <ul style="list-style-type: none"> • ICAO's Committee on Aviation Environment Protection (CAEP) • Association of European Airlines (AEA) • IATA and ATAG • Conf. of Swedish Enterprise • Conf. of Danish Industries • Conf. of Norwegian Enterprise, etc.
<p>Authorities</p> <ul style="list-style-type: none"> • Close contact with relevant national and international authorities, politicians, airport owners and air traffic control management • Together with AEA, IATA and Star Alliance, dialog meetings are held with relevant authorities 	<p>Suppliers</p> <ul style="list-style-type: none"> • Purchasing negotiations with prioritized suppliers based on the SAS Group's purchase policy and adherence to the principles of the Global Compact, etc. • Dialog with energy energy and fuel suppliers 	<p>Manufacturers</p> <ul style="list-style-type: none"> • Ongoing dialog with manufacturers of aircraft, engines and equipment that are better adapted to the environment and work equipment products, services, chemicals, etc.
<p>Mass media</p> <ul style="list-style-type: none"> • Daily communication and dialog with media • Interviews • Articles and opinion pieces • Social media, for example, facebook.com/SAS or twitter.com/SAS 	<p>Schools and universities</p> <ul style="list-style-type: none"> • Support of and dialog on essays and doctoral theses • Presentations and participation in conferences and debates 	<p>Airports and air traffic control management</p> <ul style="list-style-type: none"> • Partnership and cooperative models established with airport owners and air traffic control management at the most important airports • Focus on punctuality, efficiency and reduced environmental impact

Key environmental figures for SAS Group flight operations

Scandinavian Airlines Aspect	Aspect Input (1) 2011	Aspect Input (1) Nov 11– Oct 12	unit (1)	Production Input (2) 2011	Production Input (2) Nov 11– Oct 12	unit (2)	Relationship (1) to (2)	Relationship (1) to (2)			
								Result 2011	Result Nov 11– Oct 12	Result 2011 %	Result Nov 11– Oct 12 %
Jet fuel – used	1,098	1,138	1,000 tonnes	29,192	30,895	million PK	Kilo per PK	0.038	0.037	1.0%	–2.1%
Jet fuel – CO ₂	3,460	3,584	1,000 tonnes	29,192	30,895	million PK	CO ₂ gram/PK	119	116	1.0%	–2.1%
Jet fuel – NO _x	14.3	14.8	1,000 tonnes	29,192	30,895	million PK	NO _x gram/PK	0.49	0.48	1.4%	–2.1%
Jet fuel – HC	1.0	1.0	1,000 tonnes	29,192	30,895	million PK	HC gram/PK	0.03	0.03	2.3%	–5.0%
Aircraft Noise – takeoff	652	656	1,000 km ²	259	264	1,000 departures	85db area in km ² per departure	2.52	2.49	7.4%	–1.2%

Widerøe Aspect	Aspect Input (1) 2011	Aspect Input (1) Nov 11– Oct 12	unit (1)	Production Input (2) 2011	Production Input (2) Nov 11– Oct 12	unit (2)	Relationship (1) to (2)	Relationship (1) to (2)			
								Result 2011	Result Nov 11– Oct 12	Result 2011 %	Result Nov 11– Oct 12 %
Jet fuel – used	51	53	1,000 tonnes	842	854	million PK	Kilo per PK	0.061	0.062	–3.5%	2.5%
Jet fuel – CO ₂	161	167	1,000 tonnes	842	854	million PK	CO ₂ gram/PK	191	196	–3.5%	2.5%
Jet fuel – NO _x	0.6	0.6	1,000 tonnes	842	854	million PK	NO _x gram/PK	0.67	0.68	–3.7%	1.6%
Jet fuel – HC	0.1	0.1	1,000 tonnes	842	854	million PK	HC gram/PK	0.07	0.08	7.9%	6.5%
Aircraft Noise – takeoff	28	31	1,000 km ²	112	120	1,000 departures	85db area in km ² per departure	0.25	0.26	8.7%	1.7%

Blue1 Aspect	Aspect Input (1) 2011	Aspect Input (1) Nov 11– Oct 12	unit (1)	Production Input (2) 2011	Production Input (2) Nov 11– Oct 12	unit (2)	Relationship (1) to (2)	Relationship (1) to (2)			
								Result 2011	Result Nov 11– Oct 12	Result 2011 %	Result Nov 11– Oct 12 %
Jet fuel – used	77	53	1,000 tonnes	1,558	1,109	million PK	Kilo per PK	0.049	0.048	8.5%	–2.8%
Jet fuel – CO ₂	242	168	1,000 tonnes	1,558	1,109	million PK	CO ₂ gram/PK	155	151	8.5%	–2.8%
Jet fuel – NO _x	0.8	0.6	1,000 tonnes	1,558	1,109	million PK	NO _x gram/PK	0.49	0.51	–0.8%	3.0%
Jet fuel – HC	0.04	0.02	1,000 tonnes	1,558	1,109	million PK	HC gram/PK	0.03	0.02	–8.1%	–43.9%
Aircraft Noise – takeoff	44	29	1,000 km ²	32	29	1,000 departures	85db area in km ² per departure	1.37	1.00	–27.1%	–26.4%

Key environmental figures for SAS Ground Handling

Total	Aspect Input (1) 2011	Aspect Input (1) Nov 11– Oct 12	unit (1)	Production Input (2) 2011	Production Input (2) Nov 11– Oct 12	unit (2)	Relationship (1) to (2)	Relationship (1) to (2)			
								Result 2011	Result Nov 11– Oct 12	Result 2011 %	Result Nov 11– Oct 12 %
Vehicle Diesel – Fuel used	2,763 ¹	2,041	1,000 liters	368	360	1,000 departures	1,000 liters per departure	7.5	5.7	–4.3%	–24.7%
Vehicle Diesel – CO ₂	7,358 ¹	5,435	tonnes	368	360	1,000 departures	CO ₂ kilo per departure	20.0	15.1	–4.3%	–24.7%
Vehicle Petrol – Fuel used	125	99	1,000 liters	368	360	1,000 departures	1,000 liters per departure	0.3	0.3	–18.7%	–19.6%
Vehicle Petrol – CO ₂	285	224	tonnes	368	360	1,000 departures	CO ₂ kilo per departure	0.8	0.6	–18.7%	–19.6%
Fuel spills	6	1	instances	368	360	1,000 departures	Spills per 1,000 departures	0.02	0,00	94.0%	–83.0%
Glycol used	2,215	1,913	1,000 m ³	16.8	15.7	1,000 deicings	Liter per deicing	132	122	–13.0%	–7.5%

1) Note: Values in 2011 changed.

Key environmental figures for SAS Technical Operations

Total Aspect	Aspect Input (1) 2011	Aspect Input (1) Nov 11– Oct 12	unit (1)	Production Input (2) 2011	Production Input (2) Nov 11– Oct 12	unit (2)	Relationship (1) to (2)	Relationship (1) to (2)			
								Result 2011	Result Nov 11– Oct 12	Result 2011 %	Result Nov 11– Oct 12 %
Vehicle Diesel – Fuel used	84	82	1,000 liters	259	264	1,000 departures	1,000 liters per departure	0.3	0.3	-11.7%	-4.4%
Vehicle Diesel – CO ₂	223	217	tonnes	259	264	1,000 departures	CO ₂ kilo per departure	0.9	0.8	-11.7%	-4.4%
Vehicle Petrol – Fuel used	63	52	1,000 liters	259	264	1,000 departures	1,000 liters per departure	0.2	0.2	1.9%	-19.0%
Vehicle Petrol – CO ₂	143	118	tonnes	259	264	1,000 departures	CO ₂ kilo per departure	0.6	0.4	1.9%	-19.0%

Note: Values in 2011 changed.

Key environmental figures for Scandinavian Airlines operations regarding Energy, Waste and water

Total	Aspect Input (1) 2011	Aspect Input (1) Nov 11– Oct 12	unit (1)	Production Input (2) 2011	Production Input (2) Nov 11– Oct 12	unit (2)	Relationship (1) to (2)	Relationship (1) to (2)			
								Result 2011	Result Nov 11– Oct 12	Result 2011 %	Result Nov 11– Oct 12 %
Energy	181	171	GWh	14.2	14.0	1,000 FTE	MWh per FTE	12.8	12.2	-8.0%	-4.9%
As of electricity	91	89	GWh	14.2	14.0	1,000 FTE	MWh per FTE	6.4	6.3	-7.0%	-1.5%
As of heating	91	82	GWh	14.2	14.0	1,000 FTE	MWh per FTE	6.4	5.9	-8.9%	-8.3%
As of heating oil (included in "heating")	0.8	0.9	GWh	14.2	14.0	1,000 FTE	MWh per FTE	0.1	0.1	-28.6%	9.2%
Unsorted Waste	650	557	tonnes	14.2	14.0	1,000 FTE	kilo per FTE	46	40	-8.7%	-13.5%
Hazardous waste	172	169	tonnes	14.2	14.0	1,000 FTE	kilo per FTE	12	12	-41.5%	-0.8%
Water	151	145	1,000 m ³	14.2	14.0	1,000 FTE	m ³ per FTE	11	10	5.9%	-3.1%

Key environmental figures for Widerøe operations regarding Energy, Waste and water

Total	Aspect Input (1) 2011	Aspect Input (1) Nov 11– Oct 12	unit (1)	Production Input (2) 2011	Production Input (2) Nov 11– Oct 12	unit (2)	Relationship (1) to (2)	Relationship (1) to (2)			
								Result 2011	Result Nov 11– Oct 12	Result 2011 %	Result Nov 11– Oct 12 %
Energy	11	9	GWh	1.3	1.3	1,000 FTE	MWh per FTE	8.8	7.1	-15.9%	-19.3%
As of electricity	8	6	GWh	1.3	1.3	1,000 FTE	MWh per FTE	6.2	4.9	-14.6%	-20.7%
As of heating	3.3	2.9	GWh	1.3	1.3	1,000 FTE	MWh per FTE	2.6	2.2	-18.9%	-15.9%
As of heating oil (included in "heating")	2.7	2.4	GWh	1.3	1.3	1,000 FTE	MWh per FTE	2.1	1.8	-15.4%	-15.7%
Unsorted Waste	109	99	tonnes	1.3	1.3	1,000 FTE	kilo per FTE	87	75	12.7%	-13.8%
Hazardous waste	45	20	tonnes	1.3	1.3	1,000 FTE	kilo per FTE	36	15	370.6%	-57.8%
Water	8	8	1,000 m ³	1.3	1.3	1,000 FTE	m ³ per FTE	6	6	-27.8%	4.1%
Vehicle Diesel – Fuel used	78	86	1,000 liters	112	120	1,000 departures	1,000 liters per departure	0.7	0.7	-27.8%	2.9%
Vehicle Diesel – CO ₂	208	230	tonnes	112	120	1,000 departures	CO ₂ kilo per departure	1.9	1.9	-27.8%	2.9%
Vehicle Petrol – Fuel used	3	2	1,000 liters	112	120	1,000 departures	1,000 liters per departure	0.0	0.0	-	-43.9%
Vehicle Petrol – CO ₂	6	4	tonnes	112	120	1,000 departures	CO ₂ kilo per departure	0.1	0.0	-	-43.9%
Fuel spills	-	-	instances	112	120	1,000 departures	Spills per 1,000 departures	-	-	-	-
Glycol used	142	124	1,000 m ³	1.5	1.5	1,000 deicings	Liter per deicing	92.6	80.5	-30.8%	-13.1%

Key environmental figures for Blue1 operations regarding Ground Fuel, Glycol, Energy, Waste and water

Total	Aspect Input (1) 2011	Aspect Input (1) Nov 11– Oct 12	unit (1)	Production Input (2) 2011	Production Input (2) Nov 11– Oct 12	unit (2)	Relationship (1) to (2)	Relationship (1) to (2)			
								Result 2011	Result Nov 11– Oct 12	Result 2011 %	Result Nov 11– Oct 12 %
Energy	1.6	1.5	GWh	0.4	0.4	1,000 FTE	MWh per FTE	4.6	4.3	20.4%	-5.5%
As of electricity	1.6	1.5	GWh	0.4	0.4	1,000 FTE	MWh per FTE	4.6	4.3	20.4%	-5.5%
As of heating	-	-	GWh	0.4	0.4	1,000 FTE	MWh per FTE	-	-		
As of heating oil (included in "heating")	-	-	GWh	0.4	0.4	1,000 FTE	MWh per FTE	-	-		
Unsorted Waste	81	9	tonnes	0.4	0.4	1,000 FTE	kilo per FTE	230	25	0.4%	-89.0%
Hazardous waste	6	3	tonnes	0.4	0.4	1,000 FTE	kilo per FTE	17	8	56.6%	-53.6%
Water	2.5	1.8	1,000 m ³	0.4	0.4	1,000 FTE	m ³ per FTE	7	5	-18.7%	-30.3%
Vehicle Diesel – Fuel used	32	27	1,000 liters	32	29	1,000 departures	1,000 liters per departure	1.0	1.0	-48.4%	-4.2%
Vehicle Diesel – CO ₂	84	73	tonnes	32	29	1,000 departures	CO ₂ kilo per departure	2.7	2.5	-48.4%	-4.2%
Vehicle Petrol – Fuel used	13	8	1,000 liters	32	29	1,000 departures	1,000 liters per departure	0.4	0.3		-28.3%
Vehicle Petrol – CO ₂	29	19	tonnes	32	29	1,000 departures	CO ₂ kilo per departure	0.9	0.6		-28.3%
Fuel spills	-	2	instances	32	29	1,000 departures	Spills per 1,000 departures	-	0.1	-100.0%	
Glycol used	374	487	1,000 m ³	2	2	1,000 deicings	Liter per deicing	191	223		16.9%

Key environmental figure for SAS Cargo Groups' operations

Total	Aspect Input (1) 2011	Aspect Input (1) Nov 11– Oct 12	unit (1)	Production Input (2) 2011	Production Input (2) Nov 11– Oct 12	unit (2)	Relationship (1) to (2)	Relationship (1) to (2)			
								Result 2011	Result Nov 11– Oct 12	Result 2011 %	Result Nov 11– Oct 12 %
CO ₂ – Jet fuel used	3,702	3,752	1,000 tonnes	3,595	3,741	million TK	CO ₂ gram/TK	1,030	1,003	2.1%	-2.6%
CO ₂ – Truck Diesel used		2,872	tonnes		14,347	000s TK	000s TK		200		

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