



## **ENVIRONMENTAL and SOCIAL RESPONSIBILITY REPORT**

### **Climate and Environmental Responsibility**

- Fuel Efficiency Program
- Alternative Fuels
- Environmental Management
- Waste Management

### **Social Responsibility**

- Occupational Health and Safety
- Flight Safety
- Supply Chain
- Social Responsibility Projects

It is Turkish Airlines' responsibility to act and promote sustainability as a commitment to the environment.

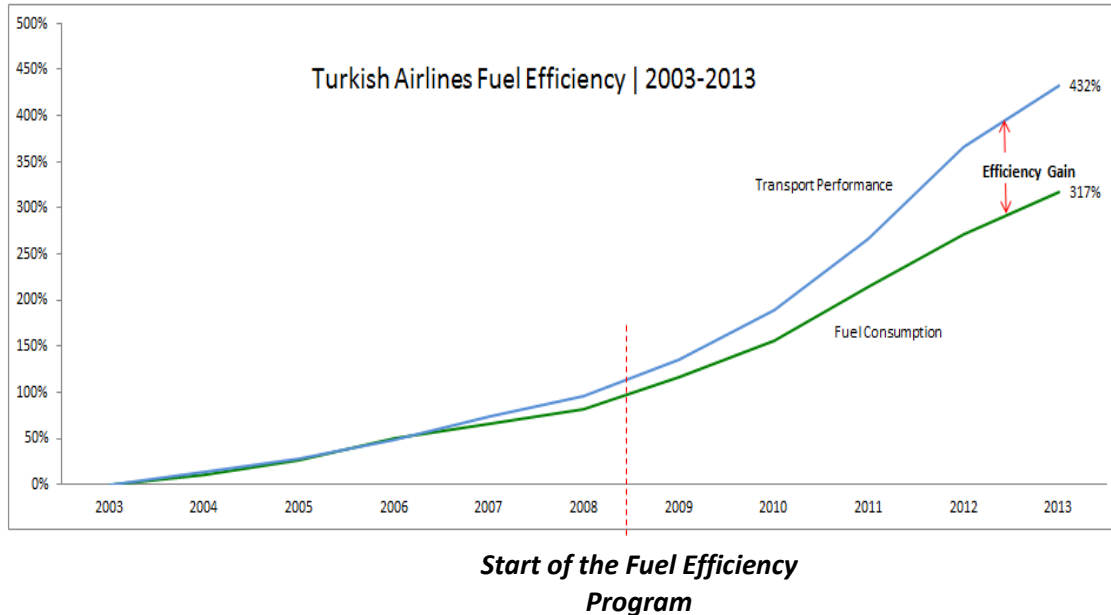
## A. Fuel Efficiency Program

In the beginning of 2008, Turkish Airlines started a collaborative study with IATA Green Team and has begun implementing a Fuel Efficiency Program aimed at increasing fuel efficiency and reducing the carbon emissions. The program involves measuring and monitoring of fuel efficiency initiatives and reporting to the Fuel Steering Committee which consists of competent and dedicated personnel from key departments such as Flight Operations, Flight Planning and Dispatch, Engineering and Maintenance, Finance, Marketing and Sales. The initiatives undertaken within the program to increase fuel efficiency and to reduce carbon footprint could be gathered under the umbrella of below topics:

- 1. Optimizing the operations:** Since 2008, more than 70 projects to optimize operations in order to reduce carbon footprint have been introduced and implemented. Some of these operational optimization projects include: Pilot technique, optimizing the use of APU (auxiliary power unit) while the aircraft is on ground, introducing a new optimized flight planning system, optimization of the routes and aircraft speed, aircraft weight reduction (fly away kits, magazines, containers, potable water, catering equipment), aircraft modifications (winglet and sharklet), engine wash.
- 2. Investing in new technologies:** Turkish Airlines takes the environment into consideration while growing. This is approved by Turkish Airlines under its Occupational Health and Safety and Environment Policy as quoted: 'The technology and methods that have the least possible adverse effects on the environment are used while investments are planned, the fleet has been expanded and the technological infrastructure level has been raised.' With its current fleet Turkish Airlines is ranked as the 6<sup>th</sup> youngest fleet over the world. In 2013 Turkish Airlines ordered 75 Boeing and 92 Airbus new generation aircraft to be delivered by 2021. These new generation aircraft is known to be up to 15% more fuel efficient.
- 3. Improving infrastructure:** Turkish Airlines attempts to improve the air traffic management system working closely with the air navigation service providers both domestic and international. Turkish Airlines has a dedicated team for the permanent research of the optimum flight routes, and has created an interdivisional committee working on the project SESAR (Single European Sky ATM Research). Other infrastructure projects to improve operational efficiency include airport enhancements such as new parking spaces and better airspace usage with improved approaching procedures.

# ENVIRONMENTAL and SOCIAL RESPONSIBILITY REPORT

Turkish Airlines is now flying %19 percent more efficient per ATK (Available Ton-Km) since the Fuel Efficiency Program has been launched. Fuel consumption per ATK in 2007 was 27.05 liters whereas it is now 21.93 liters. Compared to 2007, Turkish Airlines absolute carbon emission reduction is measured to be more than 1 Million tons of CO<sub>2</sub>.



## Why Fuel Efficiency

- Fuel is the biggest cost item for an airline comprising more than 35% of all operational costs. Effectively managing fuel consumption contributes to profitability and long term economic sustainability of the company.
- It is the environmental responsibility of the company in the attempt to prevent climate change as 1 kg of fuel burn will emit 3.15 kg of CO<sub>2</sub> to the environment in return.
- Also within the context of sustainability flight safety is the number one priority for Turkish Airlines. Managing fuel accurately and efficiently also improves SAFETY as a result of:

- ✓ Additional attention to planning
- ✓ High accuracy of the flight planning system and in the execution of flights
- ✓ Increased awareness
- ✓ Discipline to follow flight plan
- ✓ Effective analytical tools and statistics
- ✓ Training of the pilots and other operational staff
- ✓ A feedback mechanism to inform employees of airline policy, efficiency targets and performance data within regular time periods

## B. Alternative Fuels

Turkish Airlines invests in research and development in search of alternative fuels which would have a big impact in reducing carbon emissions. Turkish Airlines has signed in 2013 a non-binding Letter of Intent with Solena Fuels Corporation located in Washington DC, USA with a view to explore potential partnership opportunities on installing a waste-to-biofuel production facility in Istanbul, Turkey.

## C. Environmental Management

Turkish Airlines has a publicly announced environmental policy under the “Occupational Health and Safety and Environment Policy” and is committed to conducting and regularly reviewing its environmental policy through a well-documented Environmental Management System (EMS) Turkish Airlines has documented its Environmental Management System (EMS) structure under the following procedures:

- Occupational Health And Safety and Environmental Risk Management Procedure
- Occupational Health Safety and Environmental Performance Measurement And Monitoring Procedure
- The Procedure For Monitoring of and Assessing The Compliance With The Legal And Other Requirements in OHSE
- Occupational Health, Safety And Environment Communication, Involvement and Consultation Procedure
- Preventive Action Procedure
- Procedure For Management Of Documents
- Procedure For Management Of Records
- Audit Procedure
- Management Review Procedure

Environmental Impact Assessments (EIA) are regularly carried out and reported bi-annually. The reports cover; status of environmental trainings, usage of natural resources, amount of hazardous wastes, emission measurement values, deviation, alteration and status of cpa (corrective/preventive action), emergency activities, ISO 14001 objectives and targets, environmental risk assessment activities, status of achieving objectives and targets, assessment in terms of environmental legal regulations , assessment of carried out internal audits and findings, assessment of carried out external audits and findings, audits carried out by certification authorities, reporting submitted to legal organizations, number of environmental incidents, number of environmental accidents, assessment of compliance with legal regulations, calibration records and environmental activities carried out.

# ENVIRONMENTAL and SOCIAL RESPONSIBILITY REPORT

Management review meetings are held twice a year, upon attendance of the CEO and President, the Chief Officers, the Senior Vice Presidents (SVPs), the Managers directly reporting to the CEO and President, and the Managers of the Quality Assurance Directorate.

Turkish Airlines provides communication; involvement and consultation with all its stakeholders (passengers, employees, the subcontractors and the cooperated organizations and institutions) according to the Occupational Health, Safety and Environment Communication, Involvement and Consultation Procedure and all suppliers are audited on a yearly basis upon their environmental compliance.

Turkish Airlines has been certificated by ISO 14001 since March 2013. All of the fields of activities of Turkish Airlines within the borders of the Republic of Turkey, all the operations carried out within the mentioned fields, and all of the activities carried out onboard the aircraft during flight operations even if not operated within the borders of the Republic of Turkey are in scope of the TSE ISO EN 14001 Environmental Management System. Within the EMS, various activities are carried out in order to increase environmental awareness of employees and to reduce the environmental impacts that may arise as result of its products, services and activities. Waste management projects are conducted in offices and inflight activities, projects promoting effective and efficient use of natural resources such as water, electricity, natural gas and paper are implemented, compliance with legal and regulatory requirements related to environment are monitored and assessed, and environmental training is provided to employees.

## 2013 Targets and Realizations:

Turkish Airlines have committed to providing environmental training for more than 50% of its employees. As of December 2013, 27.92% of all employees are trained. For the effective and efficient use of natural resources, management committed 2013 targets and realizations are as follows:

	2013 Target	Realization
Electricity consumption	Reduce by 2%	4% decrease
Natural Gas consumption	Reduce by 5%	36% decrease
Fuel consumption of ground vehicles	Reduce by 3%	1,9% decrease
Paper consumption	Reduce by 5%	6,5% decrease

## D. Waste Management

In 2012, Waste Management Supervisor's Office has been established reporting to Office of Chief Human Resources in order to coordinate the process for waste management. Waste management at Turkish Airlines involves ensuring identification of any waste and their sources generated within the organization, collection and separation of the wastes at their own sources, temporary storage, recycling and elimination of the wastes within the borders of Turkey in accordance with the regulations of the Ministry of Environment and Urbanization.

Turkish Airlines aims to complete establishing its Waste Management System in 2014 by allocating waste storages at all points where needed. Regarding such purpose, General Management Building Waste Storage has been established; and sortation of such wastes has been ensured based on the types of waste. An examination for waste types at the locations in Istanbul has been carried out as of 2013, and the required contracts have been signed with the licensed firms. Also, an agreement has been made with an Environmental Consulting Firm in order to establish waste management in Ankara, Adana, Izmir, Kayseri and Antalya offices. Types of wastes, which have been generated/may be generated at the said 5 points, have been identified; and waste containers have been procured for storage of such wastes.

Types of wastes for which a contract has been signed, are as follows;

- Contaminated Packaging Materials
- Hazardous Wastes
- Nonhazardous Wastes
- Electronic Wastes
- Paper Wastes

The procedures that are followed within the Waste Management System are;

- Solid Waste Management Procedure
- Hazardous Waste Management Procedure

# ENVIRONMENTAL and SOCIAL RESPONSIBILITY REPORT

## Reporting of Wastes

Reporting of any hazardous waste is performed online in accordance with the regulations of the Ministry of Environment and Urbanization. As of 2013, the required reporting in relation to any waste, generated at the General Management Building, Ground Operations Directorate and our Antalya location has been submitted. Amounts of the waste delivered to the licensed firms, are as follows;

2012 Type of Waste	Amount	Unit
Waste Papers	174.315	kg
Waste Batteries	20	kg
Nonhazardous Scrap Wastes	15.91	kg
End-of-Life Tyres	15	piece
Hazardous Contaminated Packaging	150	piece
Materials	9.55	kg
Hazardous Fluorescent Lamps	23	kg
Hazardous Waste Fuel (other mixtures)	190	kg

2013 Type of Waste	Amount	Unit
Waste Papers	107.34	kg
Plastic Packaging Materials	200	kg
Metal Packaging Materials	20	bag
Glass Packaging Materials	10	bag
Waste Resin	875	kg
Used Active Carbons	2.4	kg
Nonhazardous Metal Scraps	3.8	kg
Nonhazardous Wooden Wastes	940	kg
Contaminated Wastes	15	bag

## SOCIAL RESPONSIBILITY

### A. Occupational Health and Safety

Turkish Airlines has a public occupational health and safety (OHS) policy on its official website under the “Occupational Health and Safety and Environment Policy” with a well-documented OHS management system that is carried out together with Personnel Management Directorate and Quality Assurance Directorate.

Internally, Turkish Airlines identifies significant OHS topics and risks according to Occupational Health and Safety and Environmental Risk Management Procedure and provides communication, involvement and consultation with all stakeholders according to its Occupational Health, Safety and Environment Communication, Involvement and Consultation Procedure. All of these processes are audited through Turkish Airlines’ internal Audit Procedure and published every year in the Company’s intranet system.

The Company holds management review meetings regarding OHS issues twice a year, with the attendance of the CEO, the Chief Officers, the Senior Vice Presidents (SVPs), the Managers directly reporting to the CEO and President and the Managers of the Quality Assurance Directorate.

Turkish Airlines obtained OHSAS 18001 certification in 2013. All of the Company employees receive training on Occupational Health and Safety (OHS). The following are the training topics that are provided to relevant employees regarding OHS:

Chemical, physical and ergonomic risk factor trainings; safe use of work equipment trainings; electrical hazards training; risks and precautions training; safety and health signs training; use of personal protective equipment training; information regarding safety legislation training; legal rights and responsibilities of employees training; causes and prevention of occupational incidents training; general rules of occupational health and safety and safety culture training; explosions, fires and fire protection training; lastly evacuation and rescue training.

Turkish Airlines calculates accident frequency rate as: number of accidents \*1.000.000/working time. According to this formula, accident frequency rate of the Company is calculated as 16.3. Since 2011, Turkish Airlines has not experienced any fatal accidents.



## B. Flight Safety

Safety is an indispensable asset, an integral part of Turkish Airlines' corporate values that is never compromised. Safety also plays a significant role in the provision of an efficient, effective and sustainable air transport operation. It is of utmost importance that all levels within Turkish Airlines offer a commitment in line with industry best practices and standards.

Turkish Airlines acknowledges the involvement of management as a key contributing factor to the overall safety of the organization's operations. All responsible managers at Turkish Airlines are accountable for the continuous monitoring of safety trends, and to actively provide the necessary support and resources within their areas of responsibility in order to maintain and improve safety.

Turkish Airlines continuously strives to achieve and maintain a healthy working environment for its employees and to provide the highest possible safety standards to all its customers. In this context, with the overall accountability belonging to the CEO, Turkish Airlines coherently exploits Quality Management System (QMS) and Safety Management System (SMS) for compliance and performance based assessment and management, respectively. The core of Turkish Airlines' SMS is to continuously monitor, identify, manage, reduce, or eliminate detectable or foreseeable hazards through a systematic and data-driven approach. This enables Turkish Airlines to minimize its exposure to risk and to address potential future challenges, while fulfilling its safety responsibilities to the highest standards. With regard to national and international requirements, Turkish Airlines aims to continuously develop safety and quality standards that exceed industry best practices. Accepting and implementing the standards dictated by the aviation authorities and manufacturers as the baseline, Turkish Airlines strives to attain safer operation conditions in respect to continuous development process and appreciates it as a must. To this end;

- Turkish Airlines has been implementing TS-EN ISO 9001:2000 Quality Management System(QMS) since 2006. Quality Assurance Directorate which takes part for safe operations is in charge of the implementation and oversight of the system. The departments within this directorate are:

- ✓ Quality Assurance - Flight Operations,
- ✓ Quality Assurance - Ground Operations,
- ✓ Quality Assurance - Technic,
- ✓ Quality Assurance - Cabin,
- ✓ Quality Assurance - Flight Training,
- ✓ Quality Management and Improvement,

# ENVIRONMENTAL and SOCIAL RESPONSIBILITY REPORT

---

Each department implements scheduled and unscheduled operational audits annually to acquire the condition information.

- Turkish Airlines has been implementing Safety Management System (SMS) since 2006. The activities within this system include, but not limited to, Flight Data Monitoring (FDM), trainings and publications to flourish a widespread safety culture, audits, line observations and investigations of occurrences and reports (mandatory or voluntary) to promote safety.
- It must be emphasized that Turkish Airlines is a qualified IOSA (IATA Operational Safety Audit) operator since 2006. Establishing the most detailed operational safety standard in aviation, IOSA provides a measure and proof for health of safety. In addition to the IOSA audit, due to its vast operation network, Turkish Airlines is in active contact with numerous Civil Aviation Authorities and subject to their audits as well as Turkish DGCA's. These audits, as well as providing the opportunity to the auditors to evaluate the current situation, input the required feedback for Turkish Airlines' safer operation from thereupon.
- Amongst the prominent items in the realm of safety, Safety Assessment of Foreign Aircraft Program (SAFA) rating may be considered as one of the most important index. Turkish Airlines' position is better than average in the ranking as it can be verified from the following link: [EASA](#)
- On the other hand, Turkish Airlines is one of the major member of the Star Alliance Group and safety is one of the prominent assets of this group that founder's common dependence on each other to cooperate.

## C. Supply Chain

Turkish Airlines monitors its suppliers according to their contract types every year. The Company audits its suppliers through internal audit procedures in addition to Yearly Audit Plan Form.

In 2013, Turkish Airlines carried out 57 supplier audits. According to these 57 audits, non-compliances related to 6.25% of design deficiencies, 6.25% of inadequate checking, 18.75% of inadequate communication, 6.25% of lack of knowledge, 18.75% of poor coordination, 6.25% of poor decisions, 6.25% of poor human-system interface, 6.25% of poor planning, 12.5% of poor procedure, 6.25% of poor system feedback and 6.25% of task/education mismatch.

## D. Social Responsibility Projects

Turkish Airlines, the Euroleague Basketball title sponsor, has partnered to create an initiative, "One Team", as a way to reach out to those in our society who are disadvantaged, either mentally or physically. The aim of the project is to make a social development in the public by using basketball as a tool with the help of the Euroleague teams.

As a founding partner of the project, Turkish Airlines and the players will donate their time as the group reaches out to people who often are overlooked by society and will use their skills, learned on the court, to brighten lives. In this program, fifteen Euroleague Basketball clubs from nine countries choose a topic and developed a program within their country. Each club work with a group of disadvantaged people from their communities using the power of basketball as an integrating tool. Two workshops were organized with the attendance of one marketing manager and two One Team coaches from each team. Participants got theoretical and practical lessons on how to reach the people through basketball. Lessons were given by experts on CSR programs.

In order to highlight this initiative's importance Turkish Airlines organized a One Team event hosted by Istanbul Kid Orphanage before the Final Four, the most prestigious basketball event in Europe. In addition to One Team, Turkish Airlines participates enriching projects with the Turkish Red Crescent Society and AKUT Search and Rescue Association.

Under a long-standing cooperation agreement with the Turkish Red Crescent Society, Turkish Airlines contributes towards the society's natural disaster recovery, blood drive, educational, and publicity activities on an ongoing basis. As part of this support, Turkish Airlines undertakes transport assistance provided by the society in the event of natural disasters taking place anywhere in the world.

As part of its Social Responsibility activities, Turkish Airlines started a campaign in 2012 to plant a tree for each child between the ages of 0-2 travelling with the Company. Turkish Airlines also provides the opportunity for other travelers to make a contribution to the project inducing awareness towards the nature.