# COMMUNICATION ON PROGRESS 2014



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### INTRODUCTION

The Avinor group reaffirms its support of the Ten Principles of the United Nations Global Compact in the areas of Human Rights, Labour, Environment and Anti-Corruption. This Communication on Progress describes our actions to continually improve the integration of the Global Compact and its principles into our business strategy, culture and daily operations. We commit to share this information with our stakeholders using our primary channels of communication.

Avinor's social mission is to ensure that Norwegian aviation operates in a safe, efficient and environmentally friendly manner. At the same time, we will ensure good availability for all groups of travellers – in close cooperation with the airlines and other players in the aviation industry. The objective of this report is to highlight how we fulfil our social mission, whilst assuming active responsibility for the environmental and social consequences of our operations.

In 2014, Avinor made an analysis of the social impact of aviation. The analysis documents how dependent Norwegian society is on aviation: Commercial and industrial undertakings, civil protection and emergency preparedness, settlement

and development in regions and urban centres – all depend on a well-functioning aviation sector.

Moreover, the aviation industry contributes to about 60 000 jobs. The analysis also documents that the health sector and hospital structure in Norway are based on good accessibility to air transport services. In brief, the report shows that aviation is a key part of public transport in Norway. This is particularly the case for Northern Norway.

To prevent significant climate change, emissions of greenhouse gases must be reduced by up to 80 per cent in the OECD countries by 2050, compared with 1990. This requires measures in all sectors, including aviation. Consequently, Avinor's corporate social responsibility work focuses on environment and climate measures in particular, although other areas have also been identified as important. The report identifies four focus areas:

- Perform our role in society in a safe, efficient and environmentally friendly manner and ensure good aviation services for all of Norway
- Be a driving force in the work on climate and environmental challenges
- Be a good, professional employer
- Ensure responsible business management

CSR work means continuously setting new goals. The report shows that we have not achieved al our previously set goals in all areas. However, it documents that progress has been made, and presents our plans for further efforts. Reducing greenhouse gas emissions is particularly challenging, as the aviation industry is growing and we need to expand capacity at major airports.

The start of 2015 has shown clear indications of slower growth in air traffic, compared with previous years. In the short term, Avinor is prepared for greater uncertainty in the Group's earnings. The development is faced with measures related to increased efficiency and cost reductions. In 2014, a modernization programme was initiated which aims to reduce the Group's operating expenses.

Avinor's CSR efforts are based on the OECD's guidelines for responsible business. In 2014, the company joined UN Global Compact. This report was prepared in accordance with the principles of the Global Reporting Initiative  $(G_4)$ .





### ABOUT AVINOR

Avinor is a wholly-owned state limited company under the Ministry of Transport and Communications. Avinor is responsible for the 46 state-owned airports and for air navigation services for civil and military aviation in Norway. Twelve airports are operated in cooperation with the Norwegian Armed Forces. As from 1 June 2014, the air navigation services are organised in a separate company which is wholly-owned by Avinor. This report also includes air navigation services. There were 3 214 permanent employees in the Group at the end of the year. (3 156 in 2013).

Avinor's task is to facilitate safe, environmentally friendly and efficient aviation across Norway. The total number of passengers (scheduled flights, charter and offshore) at Avinor's airports increased in 2014 to 50 million. This is a growth of 2.7 per cent compared with 2013. This is a new passenger record for the fifth year in a row. International traffic has been growing more quickly than domestic traffic for several years, and accounted for 39.1 per cent of Avinor's total number of passengers in 2014. In total for Avinor's airports, 861 000 take-offs and landings were made, up 2.9 per cent compared with the previous year. This is in addition to overflights in Norwegian airspace, which rose by nearly 10 per cent.

The shares in Avinor AS are wholly-owned by the Norwegian state as represented by the Ministry of Transport and Communications. The Ministry of Transport and Communications manages the Norwegian state's ownership of Avinor, and determines the Group's financial framework.

In addition, the Ministry of Transport and Communications regulates the aviation fees. The Ministry of Transport and Communications is the highest authority for Norwegian aviation and also lays down the Civil Aviation Authority's regulations that have consequences for Avinor's operations.

#### **VISION**

We create valuable relationships!

#### **MISION**

Avinor shall develop and operate a safe, efficient and sustainable aviation system throughout Norway

#### **VALUES**

- Open Responsible Dynamic
- Customer-oriented



#### More about Avinor

#### Annual report and quarterly reports

Avinor's annual report consists of the directors' report, financial statements with notes, information on corporate governance, declaration from the board and general manager, including the external auditor's report. Financial reports are also prepared and published on a quarterly basis, showing the key figures and accounts, as well as a brief statement on finances. Avinor's annual and quarterly reports are available at Avinor's website.

#### Article 10 plan

Article 10 of Avinor's articles of association state that the board shall prepare a report each year on the company's overall activities, including plans for the future and submit this to the Ministry of Transport and Communications. The document is available to the public and is called the Article 10 plan. At least every fourth year – once every parliament election period – Avinor's Article 10 Plan forms the basis for a report on Avinor's activities to Norway's parliament, the Storting.

# Avinor's contribution to the national transport plan 2018-2027

The Norwegian National Transport Plan (NTP) presents the Norwegian government's transport policy. It forms the basis of comprehensive political assessments, efficient use of policy instruments and strengthened interaction between the various modes of transport. The NTP is considered by the Standing Committee on Transport and Communications, who presents its recommendation to the Norwegian Parliament. Aviation infrastructure is also addressed in the report <a href="https://www.ntp.dep.no">www.ntp.dep.no</a>



# AVINOR'S CSR PRIORITIES

Avinor's CSR work is based on the OECD's guidelines for responsible business, and on the CSR expectations laid down in Avinor's articles of association and the Norwegian Accounting Act. In 2014, the company joined UN Global Compact. This report was prepared in accordance with the principles of the Global Reporting Initiative (G4).

#### Stakeholder dialogue

Avinor is an enterprise that affects the entire country and its population. Broad, good contact with the people who depend on our services, or who are affected by our operations, is essential if we are to carry out our assignment well, and choose the right priorities. Avinor therefore conducts regular meetings with the company's stakeholders. The Group's plan for dialogue with key stakeholders is renewed by the Group annually and updated continuously. The customers, i.e. the airlines and passengers, are our key stakeholders, along with politicians at the central, regional and local levels, the business community, the Armed Forces, as well as regulatory authorities within aviation and the environment. Important topics for these stakeholders include finances, capacity, reliability and handling of environmental and climate issues. Avinor also has regular, but informal contact with various special interest organisations. The topics raised there include environmental and climate issues, universal design and accessibility at the airports. Customer surveys are also conducted on a regular basis. Important issues for travellers include reliability, capacity and airport services.

#### Dialogue with employee representatives

The employee representatives are important partners

in the effort to realise the Group's objectives. In 2013, Avinor enjoyed good cooperation with the employee representatives, both as regards ongoing case processing and more comprehensive processes. The cooperation model between employee representatives and management is being developed further to ensure good working conditions, stable operations and cost-effectiveness throughout the Group. Avinor's employees are represented on Avinor's board holding four of ten seats. Representatives are also elected by and among the employees to the boards of the various subsidiaries.

#### Four focus areas

Using Avinor's strategy and stakeholder dialogue as a point of departure, four focus areas have been identified for Avinor's corporate social responsibility: Perform our role in society in a safe, efficient and environmentally-friendly manner and ensure good aviation services for all of Norway.

- Be a driving force in the work on climate and environmental challenges
- Be a good, professional employer
- · Ensure responsible business management

Avinor does not have a dedicated staff for corporate social responsibility. The strategy director is responsible for the CSR report, and the work on the respective topics takes place in the line throughout the whole organisation.

## PROMISES MADE IN THE 2013 REPORT

In last year's report on CSR work in Avinor, we made several promises for implementation of measures in various areas. We will return to these in this year's report. Below follows a summary of some of the main promises and how they have been followed up:

- A report was to be prepared in 2014 on how aviation benefits society. *This was launched in January 2015 and is discussed in detail in this year's report.*
- Safety: The 2013 report stated that: «A new process and new tools for handling nonconformities will be implemented in early 2015 to bolster Avinor's ability to carry out proactive and safety-focused management.» The new tool for handling nonconformities was launched and implemented in June 2015.
- Procurement: The 2013 report stated that: «70 per cent of the contracts signed in 2013 contained requirements for the supplier's management of CSR (environmental, working conditions, human rights). The target for 2014 is 90 per cent. The situation is that all group-wide agreements are entered into with an emphasis on the environment. A system for systematic registration of human rights and working conditions is not fully in place yet, but will be developed over the course of 2015.
- Human relations: The 2013 report states that Avinor is working on a diversity strategy which will be ready in 2014: *In the 2014 report, we report* that Avinor's strategic objective is to work towards ensuring that the composition of the Group's

employees should reflect the composition of the Norwegian population. The Group is continuously working to establish measures aimed at underrepresented groups. Both communication and the choices regarding recruitment channels were adjusted in 2014 in order to attract more young candidates and women. Concrete measures were initiated in 2014 to establish relationships with women who have started an education programme within craft trades, for example through internships.

#### · Climate:

- Avinor shall reduce the total greenhouse gas emissions controlled by the Group during the period 2012–2015, regardless of traffic growth. *Emission figures for 2014 were below those for 2012.*
- In addition to Oslo, Trondheim, Værnes and Kjevik, other airports will participate in the Airport Carbon Accreditation scheme over the next few years: *Stavanger and Bergen joined the scheme in 2014.*
- Avinor shall be a driving force in reducing the total emissions of greenhouse gases from Norwegian aviation: *This is thoroughly accounted for in the 2014 report. However, there is no denying that traffic growth still represents a significant challenge for this objective.*
- A climate action plan will be established over the course of 2014. *This work is still ongoing,* and is scheduled to be completed in 2015

#### Environment

- Avinor shall not violate discharge permits: *In* 2014, *Oslo Airport had a total of nine violations* 

- of the discharge permit for groundwater and one violation for waterways. There were no violations at other airports.
- Avinor shall achieve a source separation rate for waste of 60 per cent: *In 2014, Avinor achieved a* total source separation rate of 58 per cent. Separately, Oslo Airport achieved a rate of 62 per cent
- Discharges of PFOS (fire-fighting foam containing environmental toxins). See separate account later on in the report): An assessment of risk for human health and ecosystems was to be completed in 2014. This work has taken longer than estimated. Avinor is working on special action plans for Oslo Airport, Kjevik and Evenes. Follow-up at various levels is also required at several airports.

# ROLE IN SOCIETY: ENSURE GOOD AVIATION SERVICES FOR ALL OF NORWAY

Pursuant to Avinor's Articles of Association, Avinor's role in society is to «own, operate and develop a national network of airports for the civilian sector and joint air navigation services for the civilian and military sectors. The company's operations shall be carried out in a safe, efficient and environmentally-friendly manner and ensure good accessibility for all groups of travellers».

# The social benefit of aviation is significant and growing

Norway is a country with challenging topography and vast distances, and Norwegian businesses are oriented to international markets. These businesses are entirely reliant on aviation. In Norway, aviation is a key part of public transport, and essential for settlement, tourism, the public health service, education, sports and culture.

In 2014, Avinor made an analysis of the social impact of aviation in Norway. The analysis documents e.g. that:

- Two of three Norwegians have access to an airport within a one-hour journey. 99.5 per cent of the population can manage a visit to Oslo and be back home on the same day.
- · Aviation employs between 60 000 and 65 000 people.
- Aviation is of great importance to regional growth and accessibility to regional centres.
- There are about 2 ooo direct connections with at least one weekly flight between Avinor's airports and international destinations, and the number of direct intercontinental routes is expected to treble over the next ten years.
- Of all domestic flights, 13 per cent are related to the oil and gas sector. Around 700 000 helicopter

- flights are completed each year to installations on the Norwegian continental shelf.
- The importance of aviation to Norwegian tourism is substantial and increasing: Of all tourists who visit Norway 34 per cent arrive by air, and this is the form of transport that is increasing the most. Spending by air tourists in Norway amounts to around NOK 13 billion.
- In 2013, each inhabitant in Norway took 2.7 domestic flights. The highest air travel frequency is in the northernmost counties, with 6–8 flights per inhabitant.
- Aviation also plays an important role for Norway's decentralised education system. Furthermore, accessibility to air travel is of great significance for both students and professional personnel.

The analysis also shows that aviation is of vital importance to the health sector in Norway: In 2013, more than 32 000 ambulance flight movements were registered between Avinor's airports. This corresponds to around 4 per cent of the total number of flights in Norway. Each year, 300 000 patient flights take place with scheduled flights. In addition, around 170 000 journeys are completed each year with assistance for passengers with reduced mobility. The significance for the health sector is greatest in Northern Norway, and the hospital structure is based on the accessibility of air transport.

#### STRATEGY FOR THE NORTHERN AREAS

28 of Avinor's 46 airports are located in the country's three northernmost counties. Vast distances and considerable challenges for land-based transport make aviation more important in Northern Norway

than in any other region. In order to achieve greater insight into Northern Norway's unique challenges and opportunities, and to ensure that Avinor's services help address the region's transport needs in the best way possible, Avinor has developed a Northern Area Strategy. This strategy has been developed in close cooperation with the authorities, businesses and education institutions. Avinor expects to invest between NOK 8-13 billion in Northern Norway up to 2040. The Northern Area Strategy is available on Avinor's website.

#### High safety and security level

Avinor has a high safety level. There were no aviation accidents in Norway with personal injuries where Avinor was a contributory party in 2014. Nor were there any serious aviation accidents where Avinor contributed to the cause. Also in 2013, there were no registered aviation accidents with personal injuries in Norway where Avinor was a contributory party. There was one serious aviation incident where Avinor contributed to the cause in 2013.

Aviation safety is a key element in Avinor's investment policy, and priority is assigned to the measures that yield the best safety benefit compared with use of resources. Extensive national and international regulations form the foundation for the safety work. Safety work is a continuous process where new challenges are met with new measures.

Avinor has an active safety culture based on transfer of experience, audits, surveys and analyses. During the period 2011–2014, a project was initiated – the SMART project – with the objective of improving



management from the strategic to operative level, where the individual employee's roles, responsibilities and work tasks will become clearer. A new tool for handling nonconformities has also been established, and will be implemented in early 2015.

Changes in the threat situation have triggered requests from the legislator for new and improved equipment for security checks. Avinor is working to clarify the need for investments and implications for the flow of passengers at security checkpoints. In 2014, the Ebola situation led to improved procedures and routines between Avinor and health authorities.

Some of the measures at the airports are controversial, and have been met with fundamental questions as to individual personal integrity. As part of the effort to develop security checks for the future, Avinor is testing security scanners at Oslo Airport in the spring of 2015. Three different security scanners-will be tested to see how they can contribute to increased security. Concurrently, Avinor will evaluate whether the new scanners can contribute to more

comfortable security checks for passengers. The scanners use millimetre wave technology. The images are not stored, and the security guard will only see a schematic figure when the passenger is scanned.

There is continuous focus on reducing the risk of collisions between aircraft and birds. Risk analyses are being conducted at the airports to identify which measures should be implemented, and training is being carried out and new equipment tested. Over the next three years, Avinor will certify all of its airports in accordance with pan-European legislation prepared by the European Aviation Safety Agency (EASA). Preparations for certification have been ongoing in 2014.

Avinor is executing several projects within aviation safety, which will contribute to improved safety, increased capacity, more efficient service delivery and reduced environmental impact. One such project is the Southern Norway Airspace Project (SNAP). This was implemented at the end of 2014 and resulted in new airspace organisation for parts of Western Norway, Møre and Romsdal and Trøndelag counties.

#### High degree of reliability

The Group's target for punctuality and regularity is 88 per cent and 98 per cent, respectively. Achieving this target depends on the concerted efforts of the airports, airlines and providers of airport-related services, in addition to the weather conditions. Punctuality at Avinor's airports (arrival of scheduled flights and charter flights) increased to 88 per cent in 2014, compared with 85.7 per cent in 2013. Flight regularity, a measure of the percentage of scheduled departures that actually take place, was as high as 98.8 per cent in 2014, the same as in previous years.

Winter poses considerable challenges for air traffic in Norway and every year Avinor submits a winter maintenance plan, developed in cooperation with the airlines. The plans are evaluated following each winter season, with a focus on improvement items.

#### **Good accessibility**

The principle of universal design stipulates that air transport must be accessible for everyone who needs it. Avinor cooperates with several organisations for



the physically challenged to obtain input on measures that can improve accessibility.

In 2013, the Ministry of Transport and Communications introduced a new set of regulations for universal design at Norwegian airports. New construction and modifications at the airports are based on universal design. The new terminal at Oslo Airport will safeguard universal design throughout all aspects of the buildings and installations. Avinor's airports will, however, continue to vary in terms of standard. For example, jetways between the terminal and the aircraft will not be an option for the vast majority of Avinor's smaller airports. Testing of new lifting and hoisting gear is therefore ongoing. The assistance service helps passengers with reduced mobility. Avinor conducts approximately 150 000 assistance assignments per year, from arrival at the airport until the passenger is on board the aircraft.

#### Strong results and financial challenges

Avinor is responsible for securing the company's financial results and the Group must also strengthen its position in contest with equivalent businesses both nationally and internationally.

The Group is self-financed. Airport operations are managed as a single unit, in which financially profitable airports finance the financially unprofitable airports. The primary sources of income are fees collected from the airlines and passengers, as well as commercial revenue from rental of space to duty free shops, cafés and restaurants and other services for passengers. Avinor also receives income from airport hotels and parking facilities.

The air navigation service is self-financed through fixed pricing for its services. A performance-based pricing system has been introduced in Europe, with risk sharing with the customers. Avinor Air Navigation Services has been assigned by the Ministry of Transport and Communications to provide air traffic services in Norwegian airspace. For en route services, the decision is valid until 2024. For tower service, Avinor AS and Avinor Air Navigation Services have been assigned until the end of 2017.

Oslo Airport is the hub for Norwegian air traffic. Nearly half of all flights take place to or from Oslo Airport, and this airport alone accounts for nearly 50 per cent of the Group's income.

The Group's operating income for 2014 amounted to NOK 10 671 million, with a profit after tax of NOK 1 399 million. Return on invested capital after tax was 6.4 per cent compared with 5.0 per cent in 2013. The return on equity in 2014 was 11.7 per cent compared with 8.0 per cent in 2013.

Operating income from airport operations increased by 6.2 per cent in 2014, to NOK 9 561 million. The total number of passengers increased by 2.7 per cent to NOK 50.1 million, and total operating income per passenger increased by 3.4 per cent from 2013 to 2014. Commercial income amounted to 50.3 per cent of the total operating income in 2014.

Operating income from air navigation services increased by 6.2 per cent to NOK 2 015 million, compared with the previous year. The volume of

traffic measured in the number of service units and aircraft movements increased by 8.2 and 1.0 per cent respectively.

The Group's operating expenses totalled NOK 8 354 million in 2014, which is on a par with 2013.

The start of 2015 has shown clear indications of slower growth in air traffic, compared with previous years. Consequently, Avinor is prepared for greater uncertainty in the Group's short-term earnings. This development will be met with measures aimed to improve efficiency and reduce costs. In 2014, a modernisation programme was initiated which aims to reduce the Group's operating expenses by NOK 600 million compared with current plans and with effect from 2018. For the period 2015–2018, the goal is an overall cost reduction totalling NOK 1.5 billion. This will prepare the Group for handling a period of lower traffic growth and lower income. Furthermore, the measures are aimed at benefiting the customers through lower fees.

#### Major investments in increased capacity

In connection with the Ministry of Transport and Communications' work on a new National Transport Plan (2018–2027), Avinor places particular focus on capacity at the major airports, and emphasises the need for clarifying construction of a third runway at Oslo Airport around 2030 and a second runway at Bergen Airport, Flesland around 2026. Expansion of the terminal capacity at Oslo Airport is proceeding as scheduled, and a new terminal will be ready in April 2017. The construction of Terminal 2 at Bergen Airport Flesland is also going as planned.



In the wheelchair: Ole Arne Sætervik, assisted by Airport Manager John Offenberg at Molde Airport .

#### Innovative ramps

Only the main airports of Norway are equipped with passenger bridges that allow travellers to move step-free directly from the terminal building to the aircraft door. However, at Molde Airport in Årø – and most other airports in Norway - the old-fashioned aircraft stairs was the only way to enter the aircraft, which meant that passengers who use wheelchairs had to be carried on board. Many passengers find this far from ideal. It is also risky, and it can guickly create delays. The solution to the problem is a British-made aircraft boarding ramp called Aviramp, which means that all passengers can forget about stairs while being protected from the elements at the same time. The solution is being tested and will be considered for other airports as well.

The future airport structure in Norway will also be a key issue in the coming Transport Plan. Over time, increasingly better roads has enabled air traffic to be concentrated at fewer airports where larger aircraft and more direct connections can provide a better service. Airport structure and road construction will therefore be seen in context. Specific proposals will be submitted in the spring of 2016.

#### Research and development with focus on safety

The number of businesses, research institutes and academic institutions seeking research and development collaboration with Avinor has strengthened the company's research and development work.

Avinor has created an internal innovation forum to co-ordinate innovation across the organisation. The forum is new and has started to prepare a strategy. Efforts are ongoing to encourage funding agencies to invest in aviation.

Avinor focuses on air safety and there is a continuous activity that looks at improving forecasts for weather and climate phenomena such as ash and turbulence. There is ongoing research collaboration with Met.no, SINTEF and NILU. One of the research topics is whether satellite-supported solutions could provide improved forecasts.

National databases intend to offer an overall overview of data on various topics. A general overview and easy access can contribute to improving the efficiency of the public sector and in society at large. Through the inter-agency cooperation with the Norwegian National Transport Plan (2018–2027), a joint research project has been established. Avinor participates in the project together with the Norwegian Public Roads Administration, the Norwegian National Rail Administration and the Norwegian Coastal Administration. The purpose is to look at the cost/benefits of establishing national

geological databases. The work will be completed early in 2015.

Avinor has issued a public procurement tender and invited manufacturers of machinery and suppliers of advanced electronics and remote control technology to take part in developing driverless snow removal machines for the aviation industry.

The airspace will be optimised and the efficiency of airports improved to ensure that future needs for capacity can be handled. The EU's regulations relating to the establishment of a single European airspace (Single European Sky) promote increased cooperation and harmonisation across national borders. New technology will support operative concepts both in the air and on the ground. Avinor participates actively in this work through the EU's research and innovation programme Horizon-2020 and the SESAR aviation programme.

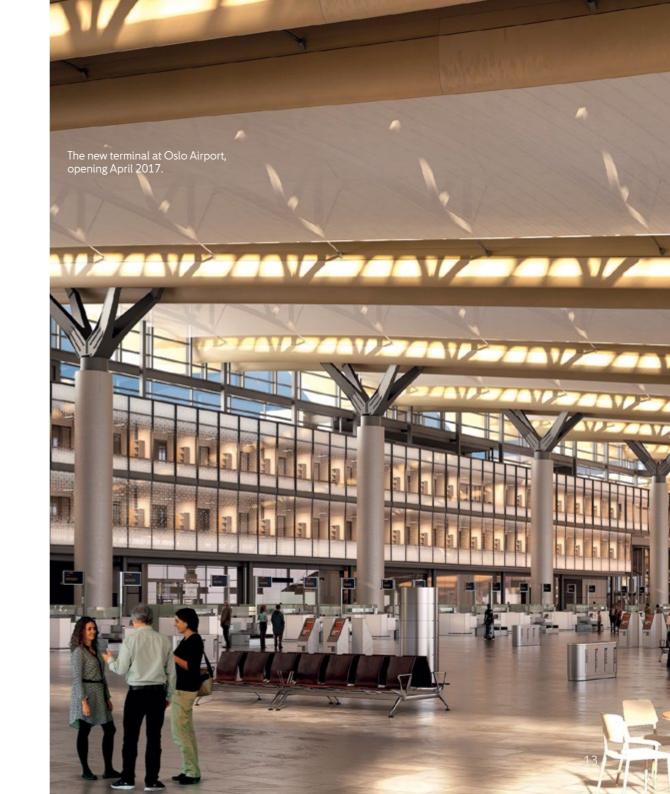


Avinor has helped develop technology for so-called «remotely-controlled towers». This means that tower services for several airports can be operated from one location. Aircraft on the ground and in the lower airspace will be controlled from one hub through camera and radar technology. It has been decided that the centre will be in Bodø. In April 2015, a decision was made as to what five airports will be the first to have remotely controlled tower services: Mehamn, Berlevåg, Værøy, Røst and Hasvik. Avinor's ambition is that the first airports will be operated from the tower centre when it has been completed in 2017. Thereafter remote control is expected to be introduced at 3-5 airports annually. Avinor plans to have remotely controlled towers at 36 of Norway's 46 airports. This could reduce costs by 30 to 40 per cent.

#### Avinor's reputation strengthened

According to Ipsos MMI's profile survey, Avinor's reputation improved significantly in 2014 compared with the previous year, Avinor's reputation ranking was 6th out of 112 companies in 2014, compared with 85th in 2013, and the company was among those with the strongest improvement. No systematic analysis has been made of the reasons for the strong improvement, but important factors are likely to be punctual and stable traffic management, combined with a rebranding that has made Avinor appear more modern. Avinor has also had extensive positive media coverage. The cooperation with TV2 on the series «Fly med oss» (Come fly with us) has had positive impact.

In TNS Gallup's annual opinion survey in 2014, Oslo Airport rose to a strong 15th place on the list of companies with the best reputation in Norway, up 12 places on 2013.





#### Avinor as sponsor

Avinor's sponsorships shall predominately be directed towards local measures and activities for children and young people. Many airports provided support for activities for children and young people in local communities in 2014. Avinor supports the Church City Mission in Oslo through the «Nabosamarbeid i Bjørvika (The neighbour partnership in Bjørvika)» project. The Church City Mission also organises special activities for children and young people, where Avinor's employees participate. Avinor's Christmas present went to the Church City Mission – to the campaign «Gled en som gruer seg til jul (Make someone happy who is dreading Christmas)». Avinor has also partnered with Global Dignity Norway, which works to encourage young people to reflect and share stories about the concept of dignity in connection with the Global Dignity Day. Avinor provides financial support to the environmental organisations Zero and Bellona. The organisations provide specialist support to Avinor in connection with the work on developing biofuel for aviation. Avinor donated to the 2014 TV fundraising show - «Vann forandrer alt» (Water changes everything), organised by the Norwegian Church Aid. In addition, Avinor funded advertisements for the Norwegian Society for Sea Rescure and Amnesty International and contributed to the Sola Conference, Flyoperativt forum (a forum for aircraft operations), Newton Aviation Camp, Flypionerprosjektet (a flight pioneer project) at Kjeller and the 75th airport anniversary for Fornebu Airport.

# AVINOR WILL BE A DRIVING FORCE IN THE WORK ON CLIMATE AND ENVIRONMENTAL CHALLENGES WITHIN AVIATION

#### Avinor's environmental policy

Avinor's environmental policy will ensure that Avinor is a driving force within the aviation industry's environmental work, while making active contributions to improving the overall environmental performance of the industry and its own environmental reputation.

Principles for environmental work in Avinor:

- Avinor complies with acts, regulations and regulatory requirements and will in certain areas seek opportunities beyond this, based on reputation or business considerations.
- Avinor's management system is adapted to ISO14001, and ensures coordination, control and follow-up of the environmental work.
- Avinor ensures a high level of awareness and expertise on the environment throughout the Group, where roles and responsibilities for

- strategic and operative environmental work are clearly defined centrally, in air navigation services and at the airports.
- Together we create continuous improvements, minimise pollution and negative environmental impact.
- Avinor emphasises and integrates environmental considerations early in planning, projects and procurement. Development projects are implemented with a strong environmental focus.
- Avinor engages in open, constructive and proactive dialogue with partners, local communities, authorities, aviation organisations and other stakeholders.
- Avinor seeks solutions to environmental challenges through collaboration with research and development environments, authorities, and other organisations.

#### Avinor's environmental goals

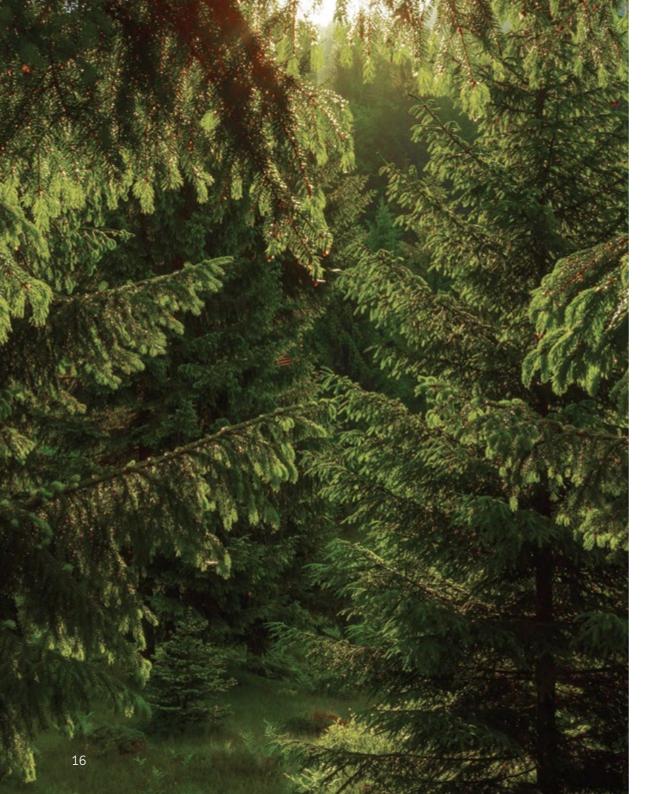
- Emission of greenhouse gases: Avinor will reduce the total greenhouse gas emissions the Group controls in the period 2012-2015, regardless of traffic growth, and be a driving force in reducing overall GHG emissions from Norwegian aviation.
- Aircraft noise: The number of residents exposed to outdoor noise levels above Lden 60 dB and Lnight 55 dB shall not increase in the period.
- Discharges to water and soil: Avinor shall not violate discharge permits.
- Consumption of products and materials: Avinor will select products and materials with the lowest environmental impact from a lifetime perspective.
- Waste: Avinor will achieve a source separation rate of 60 per cent.
- Energy consumption: Avinor's total energy consumption in buildings will be reduced by 25 per cent in 2015, compared with the energy consumption in 2010.

The Norwegian aviation industry recognises the sector's environmental challenges and believes that a development with emissions increasing in line with traffic growth is unacceptable. Avinor's goal is to be a driving force for the industry's environmental work and contributes actively to improving the industry's environmental performance.

#### Greenhouse gas emissions

If irreversible climate change is to be avoided, emissions of greenhouse gases must be reduced by as much as 80 per cent in the OECD countries by 2050, compared with 1990¹. This requires extensive measures in all sectors, including aviation.

According to IPCC - Intergovernmental Panel on Climate Change



Avinor's goal for the period 2012–15 is to reduce the total greenhouse gas emissions the Group controls regardless of traffic growth, and be a driving force in reducing overall GHG emissions from Norwegian aviation.

Greenhouse gas emissions from aviation can be divided into three major groups: Air traffic, shuttle services and airport operation.

### EMISSION OF GREENHOUSE GASES FROM AIR TRAFFIC

Greenhouse gas emissions from civil aviation according to Statistics Norway (Statistics Norway) in 2013 (last official numbers) were 2.3 per cent of overall domestic emissions (1.25 of a total of 53.9 million tonnes). These emissions are regulated by the Kyoto Protocol. In addition come greenhouse gas emissions from international air traffic, meaning from Norwegian airports to the first destination abroad, which in 2013 totalled 1.52 million tonnes CO<sub>2</sub>-equivalents. Overall greenhouse gas emissions from all jet fuel for civilian purposes sold at Norwegian airports in 2013 were in the order of 2.75 million tonnes CO<sub>2</sub>-equivalents, which is an increase compared with 2012.

The growth in air traffic will result in increased greenhouse gas emissions if measures are not implemented. Therefore, since 2007, Avinor has cooperated with the airlines and Federation of Norwegian Aviation Industries concerning the facilitation of reduced greenhouse gas emissions. Two reports<sup>2</sup> outlining emission-reducing measures and comparing the effect of these with expected traffic development

have been published. According to the forecasts, the greenhouse gas emissions from domestic air traffic can be less in 2025 than in 2007, despite substantial traffic growth. As regards international air traffic, the emissions will probably increase, as a result of significant traffic growth.

The most important emissions-reducing measures are associated with fleet replacements, improving the efficiency of the airspace and biofuel.

The airlines will continue the work on energy efficiency and fleet renewal. SAS and Norwegian now have almost exclusively the latest generation aircraft in their fleets. For example, the new Boeing 737 planes consume around 30 per cent less fuel per seat than the previous generation of aircraft. Starting from 2016, the A320 NEO and Boeing 737-Max aircraft will be phased in. This will yield a further reduction of around 15 per cent.

More efficient airspace. More efficient airspace along with optimisation of landings and take-offs are important measures where Avinor has considerable opportunity to make an impact. Better navigation technology can yield more precise and flexible approach and departure procedures. One example is the 4 244 curved test approaches conducted at Oslo Airport in 2014. Such approaches aim to avoid flying over densely populated areas, but will also reduce fuel consumption as the flight distance is reduced compared with the current straight-line approaches. The total reduction in emissions associated with these flights is about 1000 tonnes CO<sub>2</sub>. In November 2014, a new airspace organisation system was implemented in Southern Norway³. The change encompassed new approach

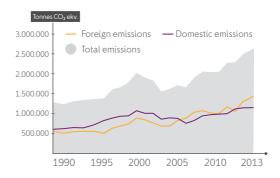
and departure routes at 15 airports. The objective is enhanced aviation safety, securing future capacity, reducing environmental impact, as well as standardising and streamlining delivery of air navigation services.

*Biofuels.* Norway's first flights using biofuels were conducted in November 2014. In 2015, all airlines refuelling at Oslo Airport will be offered biofuels. This will make Oslo Airport the first hub in the world with regular supplies of biofuels.

Avinor has allocated up to NOK 100 million over a ten-year period (2013-2022) for initiatives and projects that can contribute to the realisation of Norwegian biofuel production. Along with the airlines and Federation of Norwegian Aviation Industries, Avinor has explored opportunities to establish largescale production of biofuels for aviation, based on biomass from Norwegian forests. The conclusion is that this can be realised from 2020-2025. The initiative will be able to reduce greenhouse gas emissions from Norwegian aircraft and helicopter traffic by between 10 and 45 per cent, depending on how much biomass from the forest industry is used for the purpose. A partnership has been formed with Viken Skog in view of a possible plant at Follum, and Avinor has close ties with other industry players, including Statkraft and Södra Cell.

Large-scale Norwegian production of sustainable bio-fuel for aviation and heavy road transport can be essential to reach Norway's climate goals. However, this depends on long-term and predictable framework conditions.

# EMISSION OF GREENHOUSE GASES FROM AIR TRAFFIC (1990–2013)

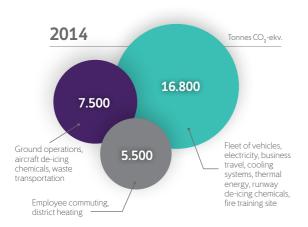


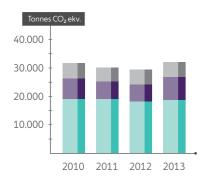
See https://avinor.no/konsern/miljo-og-samfunn/ rapporter/

<sup>3.</sup> SNAP - Southern Norway Airspace Project.

# EMISSION OF GREENHOUSE GASES FROM AIRPORT OPERATION







*Quotas and carbon taxes*. As one of the few countries in the world, Norway has introduced a carbon tax on domestic flights. Furthermore, aviation is encompassed by the European Emissions Trading System, under which airlines also have to stay within allowances for emissions from flights within the EU/EEA.

# EMISSION OF GREENHOUSE GASES FROM AIRPORT OPERATIONS

Avinor prepares annual greenhouse gas inventories in accordance with the Greenhouse Gas Protocol. Emissions from Avinor's own operations are offset by purchases of UN-approved emission allowances. Oslo Airport, Trondheim Airport and Kristiansand Airport have been certified by the voluntary carbon management programme for airports, Airport Carbon Accreditation (ACA) since it was launched in 2009. Stavanger Airport and Bergen Airport joined the programme in 2014. Participation here entails preparation of detailed carbon accounts, action plans and binding carbon reduction goals.

Avinor maps greenhouse gas emissions from our airport operations whenever practically feasible, also outside our own operations. Emissions are categorised in accordance with the Group's impact opportunities.

Avinor's objective for greenhouse gas emissions during the period 2012–15 is to reduce the total greenhouse gas emissions controlled by the Group regardless of traffic growth.

Avinor's energy efficiency measures have had positive results. Several mild winter seasons also

contribute to this being an achievable goal. Emission of greenhouse gases from airport operations are very sensitive to climate variations in the winter season due to energy used for heating, operation of the vehicle fleet for snow clearance, and use of de-icing chemicals. Furthermore, it is a challenge for the Group's climate performance that several of the Group's airports are being expanded.

In 2014, Oslo Airport established a long-term ambition to achieve zero emissions and discharges from its own directly controlled sources by 2020, and established a climate programme to assess and implement measures. Oslo Airport's various sources of greenhouse gas emissions have been identified, and eight working groups have been established who are working to identify and implement various measures to reduce emissions/discharges in the period leading up to 2020. Furthermore, preparatory work has been carried out in 2014 to establish a long-term climate action plan for the entire Avinor Group. Measures and milestones will be adopted in connection with the foundation of new environmental targets over the course of 2015.

The most extensive greenhouse gas emission measures in 2014 were implemented at the ACA-certified airports Oslo, Trondheim and Kristiansand. At Trondheim Airport, an extensive project has been implemented to assess reduction measures from airside sources, including emissions from aircraft movements on the ground, from Avinor's fleet of vehicles, electricity and ground operations (handling companies, etc.) The project is supported by Transnova. Moreover, Trondheim Airport has

stipulated strict climate performance requirements for tenders relating to parking of airport buses at the terminal. Bergen Airport will encourage employees to reduce car travel to and from work by introducing a carpooling app.

In 2014, a project group was established in Avinor which, over the course of 2015, will establish a framework agreement for second generation synthetic biofuel for Avinor's fleet of vehicles and energy facilities. In 2014, Oslo Airport converted the first energy facility from fossil to bio-based heating oil. More facilities will be converted in 2015, aiming to phase out fossil heating oil at the airport by 2020.

Furthermore, 15 passenger cars have been replaced by electric cars, and an anti-idling awareness campaign has been conducted, as well as a number of other minor energy efficiency measures – which in total are expected to have a noticeable effect.

Oslo Airport's fleet of small cars now have 15 per cent zero-emission vehicles. Including hybrid vehicles, the percentage of low- and zero-emission vehicles is 22 per cent. In 2014, the airport also acquired the Group's first hydrogen car

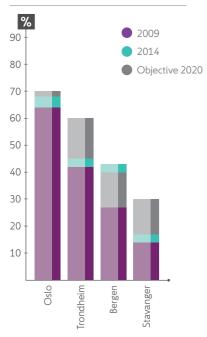
#### TRANSPORT TO AND FROM AIRPORTS

Shuttle services, meaning all transport systems that transport people to and from airports, are mainly governed by transport companies and the authorities and can only marginally be impacted by Avinor.

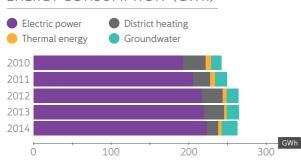
Avinor wishes to be a driving force and facilitator for ensuring that as much as possible of such transport



#### PUBLIC TRANSPORT SHARE



#### ENERGY CONSUMPTION (GWh)



takes place by public transport. This is e.g. managed through the infrastructure for public transport (parking spaces for buses and access to train stations) and information services. For announcements of tenders, Avinor emphasises the use of biofuel.

Several of Avinor's airports have a very high public transport percentage compared with the rest of Europe. However, at some airports shuttle services are still strongly dominated by car transport.

The four largest airports (Oslo, Bergen, Trondheim and Stavanger) aim to increase their public transport percentage during the period leading up to 2020, in cooperation responsible parties. For the other airports, mapping or objectives for shuttle services have not yet been established.

The goal of 60 per cent by 2020 for Trondheim Airport is stipulated in the area development plan, but is contingent on development of the railway. This is currently not very realistic and the target may have to be revised.

Several airports extended access to charging stations for electric cars in 2014, and with its 170 charging stations, Oslo Airport is the largest provider of such parking spaces in the Nordic countries.

One example of the authorities' focus on public transport and greenhouse gas emissions, is that private car parking companies at Oslo Airport will not indiscriminately be granted a licence to increase their services until an ambitious goal in the area development plan of 75 per cent public transport

share can be documented obtained. This will be very demanding. Oslo Airport already has the highest public transport share for shuttle services in Europe, 68 per cent.

#### **Energy**

The infrastructure at the airport is energy-intensive, and represents significant greenhouse gas emissions.

Avinor uses a number of energy carriers, with a varying degree of climate intensity, as shown in the figure below. Svalbard Airport has relatively low energy consumption, but disproportionately high greenhouse gas emissions. This is due to the use of coal for energy generation.

Avinor's objective for the 2010–15 period is to reduce energy consumption in buildings by 25 per cent.

A four-year energy conservation project was completed in 2014, with funding from Enova totalling NOK 13 million. The project achieved its result target and reduced consumption by a total of 8.8 GWh (21 per cent for the airports involved). The energy reduction also represents an improvement of the Group's climate performance corresponding to 143 tonnes CO<sub>2</sub>. However, a substantial increase in the number of buildings and activities in the Group during the same period has resulted in an increase in energy consumption, meaning that Avinor's energy target will not be achieved.

In 2014, a project was launched to test a top system for central operation management (SD) at four airports, where energy management and energy follow up systems are included. A preliminary project was also launched to select airports that can apply for funding from ENOVA for energy management. Both projects will be implemented in 2015.

Minor energy efficiency measures were implemented at several other airports in 2014, with main focus on ventilation control, LED lighting, heat pumps and insulation of ceilings.

Five of Avinor's airports receive district heating, from various types of energy systems:

Avinor does not calculate greenhouse gas emissions from biomass, as wood chips are a climate neutral commodity. However, the CO<sub>2</sub> freed from such combustion can be put into numbers, and using the emissions factor from www.klimakalkulatoren.no, we have the following overview (in the right column).

#### Climate adaptation

Major historical greenhouse gas emissions means that the global median temperature will continue to increase despite significant cuts in future emissions. This will cause climate change all over the globe. In Norway, we can expect warmer, more extreme and wetter climate, but with major regional and local variations. Projections from the climate models show that from around 2040 and onwards, the climate will change significantly. As a result, considerations for the future climate must be made in infrastructure projects currently being executed.

Since 2001, Avinor, the Norwegian Public Roads Administration, The Norwegian Coastal Administration and The Norwegian National Rail Administration have assessed climate change impact on own activities through the work with the National Transport Plan (NTP). Avinor has, in addition, carried out separate risk and vulnerability studies.

A number of measures to mitigate climate vulnerability have been implemented, including establishing new dimensioning criteria for vital infrastructure. Avinor will continue this work. The airspace and runways are continuously monitored, both from the air control centres, the airport towers, and through friction monitoring. Airports can be closed for shorter or longer duration, should weather conditions indicate such action.

#### Aircraft and helicopter noise

About two per cent of the Norwegian population lives in a location where average outdoor aircraft noise exceeds Lden<sup>4</sup> 50 dBA. This mainly includes people who are exposed to noise from fighter aircraft, but also people who live in exposed areas near the largest civilian airports in Norway and near airports with considerable offshore traffic. The number of people exposed to aircraft noise has remained relatively stable since 1999, in spite of a significant increase in traffic, which is primarily due to the reduced noise level from newer aircraft engines.

Aircraft and helicopter noise is one of Avinor's most important focus areas within external environment because it is an important topic in the airports' local communities. The Avinor Group's environmental policy includes a commitment to attempt to reduce the noise load from civilian aircraft and helicopter

AIRPORT	ENERGY CARRIER
Oslo Lufthavn	Biomass
Bardufoss	Diesel (70%) + electric boiler (30%)
Molde	Biomass (94%) + natural gass (6%)
Stavanger	Biomass
Svalbard	Coal

AIRPORT	ENERGY (GWh)	CO <sub>2</sub> EQV. (tonnes)
Oslo Lufthavn	8,80	2 287
Bardufoss	0,50	120
Molde	0,72	196
Stavanger	2,22	577
Svalbard	3,11	1 765

<sup>4.</sup> Lden = an A-weighted equivalent noise level for day-evening-night with a 5dB/10dB supplement for evening-night. The Lden level is calculated as the average noise load over the course of one year. Lnight = an A-weighted equivalent level for an 8-hour night period from 23:00 to 07:00 hours.

traffic, as well as implementing regular mappings at all airports and registering route usage at the major airports. The number of residents exposed to outdoor noise levels from aircraft and helicopters exceeding Lden 60 dB and Lnight 55 dB shall not increase during the 2012–2015 period.

Aircraft noise maps, which describe a noise picture with long-term predictability, are the most important tools for preventing increased aircraft noise exposure in residential areas. The municipalities are obliged to use these maps in their area planning. Aircraft noise exposure depends on the aircraft type, traffic volume, runway use, route choice, and how the traffic is distributed throughout the day. Apart from noise mappings, Avinor's most important tools are traffic management and adjustment by approach and departure procedures. In 2014, Oslo Airport continued its testing of approaches using satellite-based navigation, where the routes are charted between population centres. Limiting the noise load during approach and departure was one of the guidelines for the planning of the new airspace reorganisation for large parts of Southern Norway in November 2014.

The introduction of the Sikorsky S92 helicopter type for offshore transport has resulted in a significant increase in aircraft noise load at certain airports. More recent aircraft noise mappings show that the helicopter traffic contributes somewhat toward increasing the scope of the red aircraft noise zone, in which it is prohibited, in practice, to build schools, day-care centres, housing and holiday cottages. The helicopter traffic is of particular significance for the scope of the yellow aircraft noise zone, in which construction

is permitted, but only if measures are implemented to reduce noise. Avinor took the initiative to establish a national helicopter noise committee in 2012, and has worked actively on this problem in 2014. The committee consists of representatives from airport management at Bergen Airport Flesland and Stavanger Airport Sola, representatives from Flesland and Sola's host municipalities, the Norwegian Oil and Gas Association, helicopter operators CHC and Bristow, as well as professionals from Avinor. The Civil Aviation Authority – Norway is also participating as an observer. The committee's primary mission is to share information and provide advice about the noise situation around affected airports, with the aim of finding noise-reducing measures.

In 2014, a system was established for registering radar data from air traffic at the Bergen, Stavanger and Trondheim airports. This provides a good tool for influencing noise impact from offshore traffic, and has already led to adjustments that have been well-received by the neighbours.

#### Discharges to water and soil

The risk of water and soil contamination during current operation of the airports is mainly associated with aircraft de-icing, runway de-icing, fire training and the risk of fuel leaks. There are also contaminated sites as a result of historical activity, including PFOS-contaminated areas. PFOS is a substance that contains fluorine which as previously used as an additive in fire-fighting foam.

Avinor has prepared a vulnerability classification if its airports. Airports with the most vulnerable

natural areas have the most stringent protection measures. The existing environmental monitoring satisfies requirements in line with the environmental authorities, risk and assessed vulnerability. The results from the environmental monitoring are evaluated each year, and the follow-up programmes are revised as needed. Environmental monitoring documents the status in the aquatic environment around the airports, and shows the effect of the measures being implemented.

#### **EMISSION AND DISCHARGE PERMITS**

All Avinor airports have valid emission/discharge permits which govern and set requirements for the maximum use of chemicals for fire training and de-icing of aircraft and runways. The permits also set requirements for preparedness in the event of acute discharges, as well as environmental risk assessments in order to identify potential sources of acute pollution. The discharge permits apply for the entire airport area, except property which belongs to the Norwegian Armed Forces. Pursuant to the Internal Control Regulations, Avinor is responsible for coordinating in order to ensure that all players comply with the framework conditions for the external environment. The risk analyses show that these players also have a need for environmental measures. Avinor's goal is zero breaches of the discharge permits. In 2014, there was a total of nine breaches of Oslo Airport's discharge permit for groundwater (glycol and formate, which are used in de-icing) and one breach for the river system (oil and formate). For comparison, in 2013, there were seven breaches of the discharge permit for groundwater and one breach for the river system. The consumption of



volumes of aircraft de-icing chemicals was not exceed at Avinor's other airports during the 2013–2014 period. Neither were there breaches of the permitted volumes of runway de-icing chemicals.

#### THE ENVIRONMENTAL PROJECT

The Environmental Project was established in 2010 following the completion of risk analyses of the external environment at Avinor's airports in 2008 and 2009. The project's goal is to assess and implement measures at Avinor's airports to ensure that they are operated pursuant to the discharge permits and the Pollution Control Act. The Environmental

Project will be concluded in 2015, at which time the upgrade of technical facilities at the airports shall be complete, procedures shall have been updated and ordinary operation of the facilities shall be carried out by operations personnel.

The Environmental Project's mapping of contaminated soil in 2011/2012 uncovered the fact that soil and water near many active and decommissioned fire training fields were contaminated by PFOS. PFOS does not decompose in nature, and can spread from soil to water and/or to living organisms, in rising concentrations up through the food chain. Avinor phased out

the use of fire-fighting foam containing PFOS in 2001, and the substances were banned in Norway in 2007. In 2014, Avinor worked to analyse and evaluate results from samples from living organisms which were taken in 2013. The analysis reports assess the risk to human health and ecosystems as a result of the pollution in the fire training areas. Avinor will, based on the risk assessments, implement appropriate measures. The Norwegian Environment Agency has determined that two airports – Kristiansand Airport, Kjevik and Harstad/Narvik Airport, Evenes – are in need of measures, and the Agency has issued an administrative order compelling Avinor to prepare



an action plan. With the exception of experiments in laboratories and on the pilot scale, there is little experience on a global basis with full-scale cleaning of PFOS-contaminated areas. Avinor is in a dialogue with the Norwegian Environment Agency concerning this matter.

2014 was the first year of operation for the treatment plant for PFOS-contaminated ground water at a hangar at Oslo Airport. Experience from the plant shows good treatment results for the PFOS-contaminated water that is pumped up. However, the results show a need for adjusting the system in order to optimise the capacity of the treatment plant. Oslo Airport has also continued its effort to establish measures in connection with water and soil pollution at the airport's fire training field. A new treatment plant will be ready to treat PFOS-contaminated ground water from the fire training field in the autumn of 2015.

#### **DE-ICING AIRCRAFT AND RUNWAY SYSTEMS**

For safety reasons, snow and ice must be removed from the aircraft before they take off, and runways and taxiways must be cleaned and maintain satisfactory friction. When needed, the aircrafts are therefore de-iced before they take off, and runways and taxiways must be ploughed, brushed and sanded and/or de-iced with chemicals. The aircraft de-icing chemicals, when discharged into nature, represent an organic stress – oxygen is needed to biologically decompose the substance.

As regards runway de-icing, the substances used pose the least environmental strain of the available runway de-icing chemicals. Run-off and spread of

chemicals from the airport's area may, however, have a negative impact on the natural environment if the consumption exceeds the natural threshold and capacity for decomposition.

Based on an assessment of vulnerability in the environments surrounding our airports, we have established a system for recovering glycol from aircraft de-icing at additional airports. Such measures will make it possible to collect most of the chemicals, and will reduce strain on local natural environments.

#### OTHER DISCHARGES TO WATER AND SOIL

Avinor and other players at the airports conduct activities that generate oily drain water. This could be from the fire training fields, tank farms, workshops and washing halls. This water is led via oil separators to the municipal system or recipient pursuant to discharge agreements. The oil separators are followed up through regular maintenance, sampling and reporting of environmental conditions. The risk of accidental discharges has been assessed at each airport, and training and materials have been adapted to the risk profile. As a minimum, exercises for handling incidents are held on an annual basis.

#### Impact on landscape and natural environment

Many of Avinor's airports are located near river deltas, river banks, strandflats, marsh areas or similar flat areas which are often biologically diverse.

Avinor owns a total of 1 116 decares of cultivated landscape. The largest areas are the hay fields along the runways at Ålesund and Kristiansand airports and the coastal heather moors at Haugesund Airport.

The older airports have particularly important natural assets linked to unfertilised adjacent land. Here, local masses with underground seed banks have created fertile conditions for diverse flower meadows which are maintained through the care exercised by the airports. Flower meadows used to be a common sight throughout the country, but overgrowing and fertilisation have had a drastic impact on such areas in recent decades. The airports thus represent important replacement biotopes for such habitats.

Biotopes in the freshwater and wetlands main group, dominated by calcareous lakes, sea meadows and tidal marsh, and naturally fishless lakes also occur relatively frequently (about 500 decares). Sand dune areas, especially at Stavanger Airport, are also important natural areas, and in the north we often find calcareous area biotopes at high altitudes.

Five of Avinor's airports share boundaries with nature conservation areas and wetland areas under special protection. Ten have very important or important wildlife areas on their properties, and 18 have important wildlife areas (nesting, rest, breeding and feeding areas for birds) in their impact areas. Six are located near important salmon rivers or salmon fjords. 20 airports have registered red-listed (near threatened and threatened) species on their properties. The airports must implement necessary measures in order to keep these birds away from the airports for safety reasons. This is done as carefully as possible. The measures are mainly scaring and care with a view toward making the areas at the airport less attractive for protected bird species. Avinor aims to have a good overview of natural

assets in their areas and in areas that can be affected through operations. Biological diversity was mapped at all airports in a project which ran during the period 2008–2013. The reports are publicly available on Avinor's website. The mappings resulted in reports with descriptions, maps and management advice. These are followed up and used in order to ensure sound management of the natural areas both during operations and in projects.

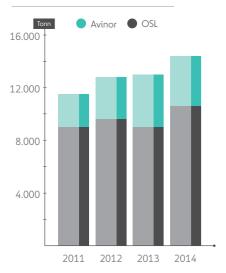
A number of measures were implemented in 2014. Examples include the following:

- At Oslo Airport, additional surveys were conducted in freshwater and of birds. In cooperation with a local school, we organised a nature day at a lake in the airport's forest areas in order to study insects and life in the water
- Information about CITES<sup>5</sup> and responsible tourism was communicated to passengers at Oslo Airport in collaboration with the Norwegian Environment Agency and Norwegian Customs and Excise
- Activities to combat harmful foreign species were initiated at Oslo Airport, Bergen Airport, Trondheim Airport and Svolvær Airport
- At Kristiansand Airport, surveys show that the re-establishment of hay fields after the construction work in 2012 was successful. There is also an exhibition on biodiversity in the terminal
- Stavanger Airport started producing honey in 2014, and now sells self-produced honey under the label Just plane/plain honey. The beehives placed in the protected landscape area at the airport

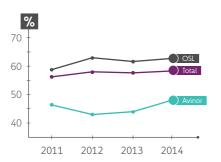
produced their first batch in the autumn of 2014. The honey is sold in the terminal and used in the coffee bar at the airport. The purity of the honey is a good indicator of the air quality at the airport, because the bees collect nectar in the landscape at the airport. The honey has been tested and found to be pure.

<sup>5.</sup> CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora)

#### TOTAL WASTE VOLUMES



#### SOURCE SEPARATION RATE



#### Consumption of products and materials

Avinor spends a considerable amount on products and services – about NOK 8 billion in 2014 – and is implementing large construction projects in connection with terminal expansions, runway extensions and similar performed by contractors. Avinor is a player which has the opportunity to influence the supplier industry within multiple sectors in a more environmentally friendly direction.

As regards the implementation of building and construction projects, Avinor will prepare an environmental follow-up plan which will safeguard considerations for the external environment in the planning and construction phases, as well as guarantee environmental considerations in the choice of solutions. This tool has been incorporated into the framework for development projects.

#### Waste

Waste is produced in public areas at all airports (terminals, including security check, food and beverage, shops and waiting areas), by office activities and activities in workshops and garages. At certain airports, Avinor also handles waste from other businesses, such as handling companies. Waste is also produced in development projects, and is then handled through the individual project.

Avinor is working to optimise the percentage of sorted waste, and the Group as a whole aims to achieve a source separation rate of 60 per cent in 2015. Oslo Airport aims to achieve a source separation rate of 65 per cent.

The primary tool is the local waste plans, which are prepared in cooperation with the waste management companies, based on the volume and types of waste, and the local waste processing facilities' opportunities to handle the fractions. By having centrally controlled framework agreements for waste handling, the Group can implement common requirements and improvement measures across its units. The Group-wide source separation rate was 58 per cent in 2014, up from 56 per cent the previous year. The source separation rate for Oslo Airport alone was 62 per cent. The other airports achieved 48 per cent.

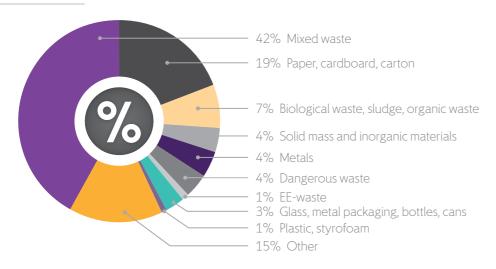
The total volume of waste in 2014 was 14,574 tonnes, an increase of nearly 10 per cent from the previous year. Oslo Airport accounted for 10,361 tonnes of this, whereas the other airports produced 4,213 tonnes. The increase in reported waste volume is, to some extent, a result of the new framework agreement which was entered into with Retura toward the end of 2013.

The Group produced a total of 548 tonnes of hazardous waste, 401 tonnes of which was produced by Oslo Airport.

#### Air quality

Air quality monitoring only takes place at Oslo Airport, where test results over several years have shown that the air quality is well within regulatory requirements. The measurement results from Oslo Airport indicate that this is also the case for other Norwegian airports, which all have considerably less traffic than Oslo Airport.

#### FRACTIONS 2014



In 2012-2014, Avinor participated in a project under the auspices of the National Institute of Occupational Health (STAMI), which aims to document the concentration by ultrafine particles<sup>6</sup> in Norwegian workplaces. Until recently, such measurements have been difficult to conduct, and knowledge concerning potential harmful effects is limited. This project has received financial support from the Confederation of Norwegian Enterprise (NHO)'s working environment research fund. Measurements conducted in 2012 and 2013 showed low concentrations of ultrafine particles at Oslo Airport. A report, which was completed in March 2015, shows that emissions linked to diesel fuel exhaust as well as exhaust from stationary parked aircraft, are low and slightly higher than concentrations which occur in central urban areas<sup>7</sup>.

#### Cultural monuments and cultural environments

Avinor is an important part of Norway's culture of aviation, a culture with roots as far back as the early 1900s. Avinor has mapped cultural monuments at the airports and has prepared a landscape protection plan. The project received expert follow-up from the Directorate for Cultural Heritage, the State Historical Properties project and the Norwegian Defence Estates Agency. The landscape protection plan is a management plan for historical properties whose main purpose is to ensure protection of a representative selection of buildings which document the history of the aviation sector as regards technical solutions, function, architecture and similar.

<sup>6.</sup> Particles with diameter less than 0,1 µm

<sup>7.</sup> Yngvar Thomassen et al. mapping of exposure to diesel exhaust particlate in norwegian working life using elementary carbon as a marker. Stami, 2015.

# KEY FIGURES AVINOR GROUP

Greenhouse gas emissions contrl. by Avinor (tonnes) 2010	2011	2012	2013	2014
18 696	18 471	17 827	18 361	16 862

Energy (GWh)	2010	2011	2012	2013	2014
Electric energy	210	204	215	222	223
District heating	28	21	23	26	15
Groundwater	13	15	15	16	21
Oil heating	6	4	3	2	2
Auxiliary power	1	2	2	1	2
TOTAL	259	245	258	267	263

Energy (TJ)	2010	2011	2012	2013	2014
Electric energy (part fossil)	757	734	774	799	803
District heating (part fossil)	101	75	85	93	55
Groundwater (renewable)	48	53	53	58	75
Oil heating (fossil)	20	15	12	7	6
Auxiliary (fossil diesel)	5	6	7	5	8
Seawater heating (renewable)	n/a	n/a	n/a	n/a	n/a
Vehicles (fossil diesel)	99	94	93	94	88
Vehicles (fossil petrol)	4	5	4	3	2
Vehicles (renewable biodiesel)	0	0	0	0	1
TOTAL	1 034	982	1 026	1 059	1 039

Fuel for vehicles (m₃)	2010	2011	2012	2013	2014
Diesel	2 727	2 606	2 567	2 593	2 436
Petrol	116	145	123	80	76
Biodiesel	0	0	0	0	5

Fire fighting chemicals	2010	2011	2012	2013	2014
Fuel: Jetfuel A1 (tonnes)	46	54	53	51	45
Fuel: Paraffin (tonnes)	25	29	29	17	13
Fuel: Others (diesel, petrol, propane) (tonnes)	15	7	8	7	8
Extinguishing agents: Foam (m³)	30	33	36	27	2
Extinguishing agents: Powder (tonnes)	24	26	19	21	17

Waste (tonnes)	2010	2011	2012	2013	2014
	10 538	11 773	12930	13 311	14 597

Source separation rate	2010	2011	2012	2013	2014
	54	56	57	56	58

Avisingskjemikalier	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Aircraft de-icing chemicals (ton	nes)				
Glycol	2 468	2 585	1 953	2 500	2 363
Chemical oxygen demand	4 146	4 343	3 281	4 199	3 969
Runway de-icing chemicals (tor	ines)				
Formiat	2 503	3 104	3 637	2702	3 060
Acetate	0	0	0	0	0
Urea	0	0	1	0	0
Chemical oxygen demand	268	335	376	369	488

# AVINOR SHALL BE A PROFESSIONAL AND ATTRACTIVE EMPLOYER

The 2014 employee survey showed that four of five employees are highly or very highly engaged in their job. The employees are of the opinion that:

- · Avinor has a good working environment
- · Job satisfaction is high
- Four of five would recommend Avinor as an employer

#### **Collaboration**

Avinor employs a high number of trade union members, and the collective agreement coverage is 100 per cent for the Group's companies, which each have their own collective agreement. Employee representatives are therefore important partners in the effort to realise the Group's objectives.

In 2014, Avinor experienced good collaboration with the employee representatives and the safety delegate service (more about the safety delegate service below), both as regards continuous case processing and more extensive processes such as major transition work. The Group aims to further develop the collaborative model between employee representatives, the safety delegate service and management, in order to secure good working conditions, stable operations and cost effectiveness throughout the Group.

#### **Expertise development**

Employees with the right expertise are essential in order for Avinor to succeed, and regulatory changes require continuous updates of the employees' expertise. In 2014, the Group started an effort to revise its expertise strategy linked to new strategic goals. Avinor Air Navigation Services conducted a major

expertise mapping in 2014. This work was completed quickly and represents substantial value. This effort will be continued in the rest of the Group.

430 managers, key personnel, safety delegates and employee representatives have completed Avinor's culture and management development programme. Furthermore, additional management groups are undertaking management team development. A role model index has been developed for managers in Avinor. It is founded on Avinor's four management requirements: cooperator, developer, result creator and role model. This work has been continued in a model for all employees. The results from the 2014 employee survey have provided all managers who supervise more than five employees, with a development report based on the index. Dedicated courses for training in operative management have also been held.

In 2014, in order to secure efficient completion of projects, the Group established a project school, which will ensure that the organisation has a shared project language and solid basic skills within project management. 340 participants have completed one or more modules.

#### Recruitment

Avinor wants the composition of its Group employees to increasingly represent a cross-section of the Norwegian population. The Group is continuously working to establish measures aimed at underrepresented groups. Both communication and the choices regarding recruitment channel were adjusted in 2014 in order to attract more young candidates



#### KEY FIGURES ABOUT AVINOR EMPLOYEES

	2014	2013
Permanent employees pr. 31.12.2014	3214	3123
Temporary full-time equivalents	155	150
Average age of permanent employees	45,4	44,4
Total turnover	2,8%	3,4%
Percentage of women	23,6%	23,7%
Women in management positions	21,4%	21,2%
Absence due to illness	4,5%	4,5%
LTI value	4,2	1,8
Attractive employer (scale 1-5)	4,1	4,1

and women. Concrete measures were initiated in 2014 to establish relationships with women who have started an education programme within craft trades, for example through internships

Decline in breaches of working hours provisions 2014 saw a decline in breaches of working hours provisions, both overall (-8 per cent) and for breaches after entering into an agreement on expanded working hours (-15 per cent). The use of overtime has been reduced by 6 per cent.

#### Preventive HSE and absence due to illness work

Avinor is divided in safety areas, with one safety delegate responsible for each area. All airports have at least one safety delegate, and many have more. Working environment committees have been established at the central, division and local levels. These committees are composed of safety delegates and representatives of the employees and management. The occupational health service, the chemical committee and AKAN are also part of the safety delegate service in Avinor. AKAN deals with substance abuse and compulsive gambling in connection with work.

It is important for the Group to raise awareness in the organisation as regards reporting undesirable incidents. This has resulted in an increasing number of reports since 2013, without this necessarily meaning that there have been more injuries: A total of 44 workplace accidents resulting in employee injuries were reported in 2014. There were 22 lost-time injuries and an LTI value of 4.2, which exceeded the Group's goal of 3.0 or lower.

The T2 project at Oslo Airport (new terminal) has had 13 lost-time injuries in 2014 and an LTI value of 3. The T<sub>3</sub> project at Bergen Airport, Flesland (new terminal) saw 3 injuries, two minor injuries with three days' absence and one more serious injury where a hand was crushed between concrete elements. The T<sub>3</sub> project achieved an LTI value of 6.9 in 2014. A number of measures have been initiated to avoid injuries in the future.

Absence due to illness work in Avinor is systematic and particularly aimed at employees who work shifts, in operative positions with physical and health requirements. Avinor is participating in a multi-year research project (FARVE) on the effect of various measures. There is too early to conclude on causation, but the number of employees who do not satisfy the health requirements set for the service those with a medical rejection - has been reduced by about 30 per cent during the project period. Each of the 42 regional airports employs a health motivator, who is responsible for disseminating knowledge and motivation for training and a healthy lifestyle. Avinor works systematically to prevent the harmful effects of substance abuse, through internal regulations, skills development and consciousness-raising. Employees who want to change their alcohol consumption, can also get help via Balance. Balance is an internet-based health-promoting programme that can assess the person's alcohol habits, and then follow up for up to one year if the person want to change their alcohol habits. The Group aims for an absence due to illness rate of 4.5 per cent or lower. Absence due to illness in 2014 was 4.5 per cent, the same as in 2013.

### PRUDENT BUSINESS CONDUCT

#### **Procurementstrategy**

Avinor has developed a dedicated procurement strategy which will quality-assure the Group's procurementroutines. These routines supplement the regulations for public procurement, and will ensure competition and appropriate contract coverage in order to achieve economies of scale and secure good coverage of local contracts. Suppliers are subject to pre-qualification before they can participate in competitions for contracts with the company. Businesses with an enforceable judgment for participation in a criminal organisation or for corruption, fraud or money laundering can be excluded from the competition. An effort is under way to further develop a requirement specification which will ensure control of additional circumstances with a supplier before Avinor potentially enters into a contract with this supplier. All group-wide agreements are entered into with an emphasis on the environment. Governing documents have been updated to reflect this and the Environmental Department must be contacted in connection with entering into any agreements of significant importance.

Furthermore, in 2015 we will introduce a set of contractual terms which will ensure that the suppliers with which Avinor enters into contracts, have ethical guidelines and take corporate social responsibility seriously. Together, the requirements will stipulate Avinor's principles for human rights, labour standards, HSE, the environment and prohibited business practices. The requirements are aimed at suppliers, and an overview is kept of all the Group's suppliers which have signed an agreement on prudent business conduct. The provisions of the

agreement provide an opportunity to audit the supplier. Any material breach of an agreement on prudent business conduct entitles Avinor to terminate all applicable agreements with the supplier, given that questionable matters are not satisfactorily followed up. Personnel who participate in procurementon behalf of the Avinor Group shall have assessed their own impartiality in relation to the purchase in question.

#### **Declaration on related parties**

Members of the Group Board and management submit annual self-declarations on related parties, with information about any transactions between these parties. An external auditor conducts annual surveys of formal relations between Avinor's Group management, the Board and suppliers. The objective is to identify relationships between the mentioned parties. Any relationships will be documented and reviewed with the person in question. The latter analysis generally confirms information that emerges through the self-declarations.

#### **Code of conduct**

The Group Board has stipulated a Code of Conduct which applies for the Board and all employees. More than 90 per cent of all employees have completed courses in Avinor's Code of Conduct, which e.g. prohibits corruption, bribes and anti-competitive behaviour in violation of competition rules.

#### **Compliance function**

The Group's compliance function shall follow up to ensure that the Group complies with external and internal regulations linked to corruption, fraud and the Code of Conduct. Various control and preventive measures have been established, which together will reduce the Group's risk of contributing to and being exposed to corruption and irregularities.

#### Whistleblowing

Avinor has established a committee to process reports of questionable matters in all parts of the organisation. This committee has set up routines for prudent processing of reports. Two reports were processed by the committee in 2014. The committee has also prepared routines and technical solutions which allow external stakeholders to report questionable matters in Avinor. Processing of these reports shall follow the same procedure as for processing reports from Group employees.



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