nokian TYRES

Responsible development

ENVIRONMENTAL REPORT 2009

Dear reader,

Sirkka Hagman, Vice President, HR and EHSQ (on the left),
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Sirkka Leppänen, EHSQ Manager, Ville-Matti Niemi, Measuring Technician,
Satu von Bagh, Quality Manager, and Arto Simola, Protection Technician.

Nokian Tyres' environmental report 2009 describes Nokian Tyres' activities related to environmental protection, occupational well-being and social responsibility. The environmental report provides a comprehensive outlook on the entire Group's activities, whereas the EMAS reporting only covers the Nokia plant. The EMAS certificate cannot be expanded to cover the Russian plant because the EMAS regulation only concerns operations within EU and EEA countries. We aim not only to report the statutory issues but also to bring up further important environmental and social perspectives pertaining to our activities and products and to arouse thoughts on how everyone can make choices to promote environmental well-being. We can all participate in working for the environment, for example by observing economical driving styles or choosing tyres with a lower rolling resistance.

In 2009, our EHSQ activities focused on statutory and business-critical matters as a result of the sudden economic recession. Changes in production volumes led to a decrease in the overall emission levels, which is a positive factor, but the new working time arrangements introduced at the Nokia plant will bring along certain challenges, for example with regard to energy consumption and waste management.

We will tackle all new challenges bravely and we intend to maintain our position as a forerunner in environmental and safety affairs. Our development aspirations span the entire scope of our functions, from product development to material acquisitions, from production to logistics. The next environmental report will be published by 31 May 2013.

We hope you enjoy reading this report!

22 March 2010
The EHSQ Team

Environmental Report 2009

A specialist in Nordic conditions

Nokian Tyres develops and manufactures safe tyres for demanding conditions with respect for environmental values. The world's northernmost tyre manufacturer, Nokian Tyres works persistently to make driving safer, more economic, more comfortable and environmentally friendly – in all seasons. A respect for and an understanding of nature and its whims is an inherent part of the special expertise in Nordic conditions.

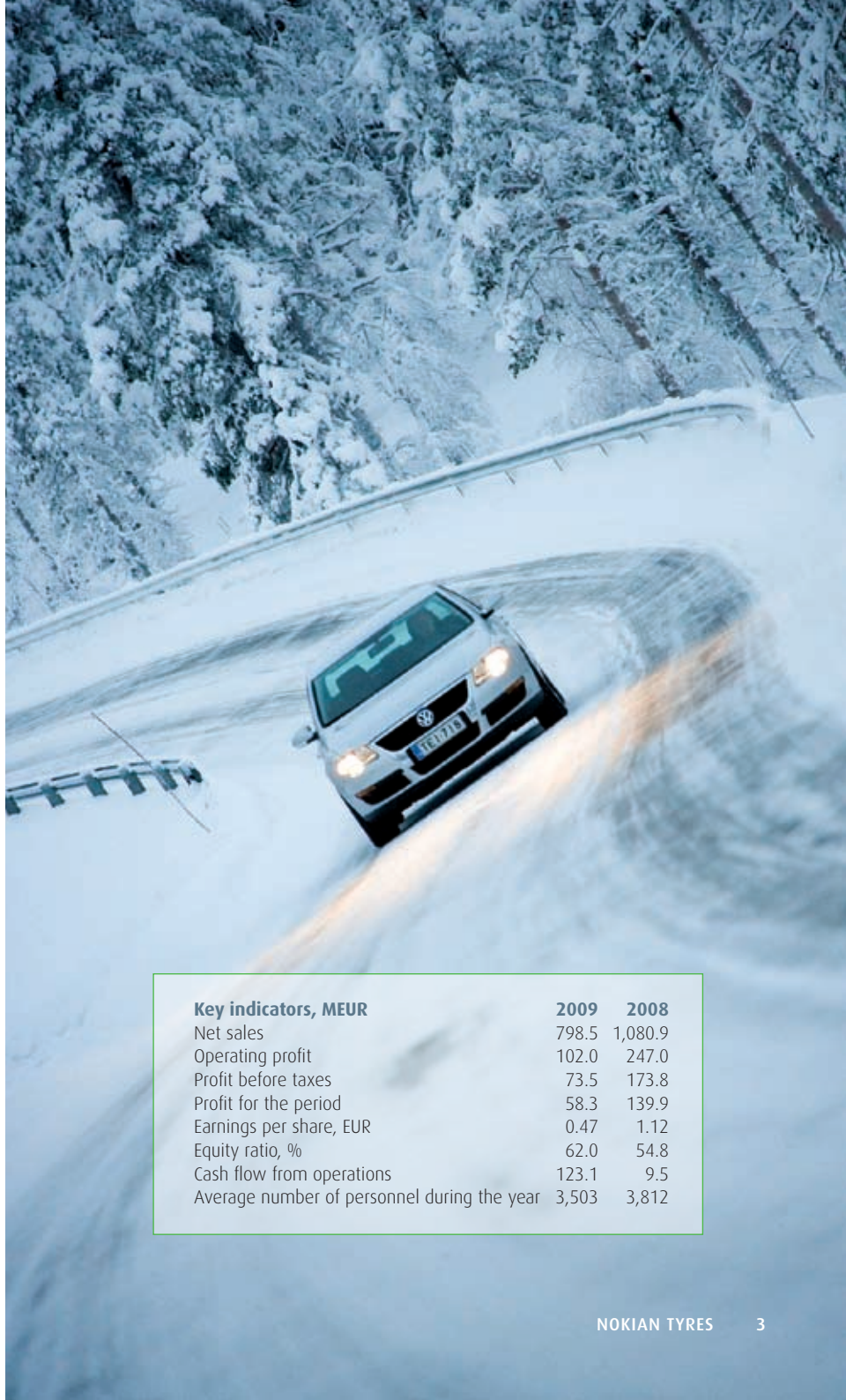
Nokian Tyres' reliable, innovative tyres for passenger cars, trucks and heavy machinery are primarily intended for areas featuring snow, forest and demanding driving and usage conditions caused by changing seasons. The products are tailored to different conditions, which is a unique approach in the tyre industry. The rough roads and extreme weather conditions of the north require different tyre structures and rubber compounds than in warmer climates found, for example, in Southern Europe. Sustainable safety is a guiding principle in our product development. Nokian-branded tyres maintain their properties throughout their life cycle. They serve quietly and reliably even when aged and worn.

More than a century of expertise and professional competence

Nokian Tyres' roots go back all the way to 1898, when Suomen Gummitehdas Osakeyhtiö was established. The Nokian plant has stood by the river Nokianvirta since 1904. Nokian Tyres plc was established in 1988 and went public in 1995. The company's second production plant was established in Vsevolozhsk, Russia, in 2005.

In addition to its own plants, the company utilizes high-quality contractual manufacturing. In 2009, contractual manufacture accounted for approximately 10% of the company's sales volume. Nokian Tyres has sales companies in Finland, Sweden, Norway, Russia, Ukraine, Kazakhstan, Germany, Switzerland, the Czech Republic and the USA. The quality and environmental certificates cover the Nokia and Vsevolozhsk plants as well as the Swedish sales company.

The first winter tyre in the world, the Kelirengas, was developed in 1934 to suit the Finnish conditions: the typical Finnish roads, varying terrain and winter driving. Based on the Kelirengas, the first Nokian Hakkapeliitta was developed a few years later. The success story of this "winner on snowy roads" has continued for over 70 years.



Key indicators, MEUR	2009	2008
Net sales	798.5	1,080.9
Operating profit	102.0	247.0
Profit before taxes	73.5	173.8
Profit for the period	58.3	139.9
Earnings per share, EUR	0.47	1.12
Equity ratio, %	62.0	54.8
Cash flow from operations	123.1	9.5
Average number of personnel during the year	3,503	3,812

Responsible tyre trade and versatile services close to the customer

The Vianor tyre chain owned by Nokian Tyres is the biggest tyre chain, in terms of size and reach, in the Nordic region, Russia and the CIS countries. At year-end 2009 it is comprised of more than 620 sales outlets, of which 170 are owned by Vianor and the remaining ones operate under the partner or franchising principle. The Vianor chain has expanded to 19 different countries in Nokian Tyre's core markets. Vianor lays a foundation to gain permanent market share for Nokian Tyres' products and spearheads the Group's growth.

The Vianor chain sells tyres for passenger cars and trucks, as well as for the needs of agriculture, earthmoving and industrial use. Vianor outlets provide tyre change and mounting services, and some outlets also offer car spare parts and fast-fit servicing. In addition, Vianor has a Tyre Hotel service, with which Vianor stores out-of-season tyres for the customer. This service also includes tyre preparation, washing and mounting. The hotel service reduces the number of tyres stored in such places as residential buildings, which improves the buildings' fire safety.

Vianor aims at providing its customers with products and services combining quality, safety, customer satisfaction, economies, and environmental friendliness. Vianor takes environmental and safety aspects into account in all of its activities.

VIANOR
Member of Nokian Tyres

Distribution of environmental impacts over a tyre's lifecycle

11.7%

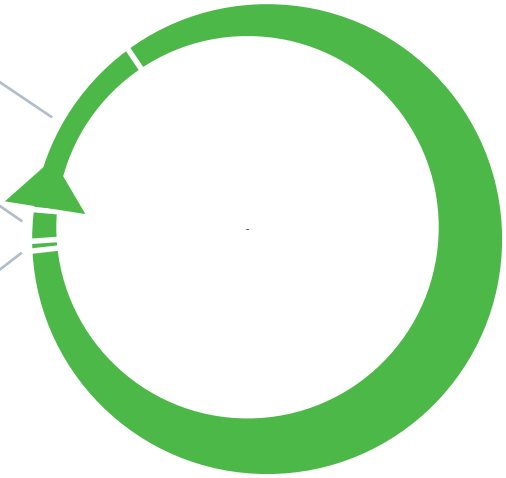
Raw material and tyre production

Discarding

2.0%

Transportation

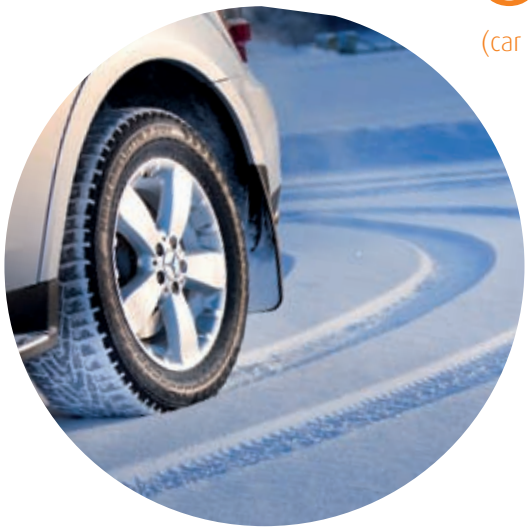
0.3%



In-use environmental impacts

86%

(car fuel consumption 75.2%)



Green choices at the core of products

Natural rubber, synthetic rubber, carbon black (which gives the tyre its characteristic colour), oils, various chemicals. The tyre plant receives dozens of raw materials from different parts of the world every day. Nokian Tyres does not let any raw material through to production without approval from the company's own laboratory.

At Nokian Tyres, respect for the environment is also a leading guideline in procurement. The company's purchase policy stipulates that raw materials are acquired from internationally reliable suppliers, and that the suppliers' commitment to environmental affairs is investigated as part of the procurement process.

> Nokian Tyres does not let any raw material through to production without approval by the company's own laboratory.

Approved suppliers must comply with statutory requirements, have a designated person responsible for quality and environmental affairs and posses a knowledge of the key quality-related and environmental impacts of their activities. Suppliers must commit themselves to continuous improvement, recognise the key environmental aspects, set environmental goals and compile quality and environmental policies. In 2009 Nokian Tyres, its suppliers and manufacturers jointly initiated the pre-registration, registration and risk assessment procedures pertaining to chemicals in accordance with the REACH regulation.

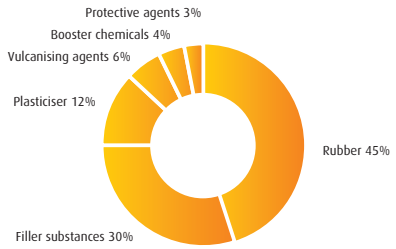
All raw material deliveries to Nokian Tyres plants undergo a receipt inspection before unloading and storing. A sample is taken from each delivered batch of raw materials for laboratory examination. Each batch of raw material remains in storage until the laboratory grants it utilisation approval. Only after this can the material be used in rubber compounds.

All packaging material used in raw material deliveries is recycled, for example, some of the packaging pallets are returned to the supplier for reuse. Nokian Tyres co-operates with the Environmental Register of Packaging PYR Ltd to ensure the utilisation of its products' packages in accordance with the EU's directives, waste laws, and other governmental regulations and decrees issued.

Nokian Tyres was the first tyre manufacturer in the world to introduce a manufacturing method using only purified, low-aromatic oils. In addition to low-aromatic mineral oils, Nokian Tyres uses only vegetable-based oils in its products. Canola oil is a renewable raw material used in the rubber compounds to improve the tyre's winter and wet grip. Oils are used as plasticising agents in the rubber compounds. This affects the tyre's grip of the road. There may be up to twenty per cent of such oils in a rubber compound.

In addition to the rubber compounds, steel and textiles are used as reinforcing materials when manufacturing tyres. Various chemicals, such as carbon black and sulphur, are used when manufacturing rubber compounds. Nokian Tyres does not use any toxic or carcinogenic chemicals in its own production processes.

Raw material composition of rubber compound



Premium products from pure raw materials

Pasi Villanen, Department Engineer at primary production, is responsible for Nokian Tyres' raw material storage and the long component lines. In close co-operation with Procurement, he ensures sufficient raw material supply to production and the production of high-quality tyre tread and sidewalls. His diverse work keeps him busy.

– The absolute best thing about my work is the team spirit in our department; all my co-workers are top professionals with a good sense of humour. Working with raw materials is fascinating. I particularly like testing how different raw materials and compounds function in the tyres.

The working conditions in production have undergone significant improvements over the years. No toxic chemicals are handled in production, and the weighing of chemicals, which is part of the preparation process, is nowadays carried out by a machine.

– Our tyres don't contain any toxic substances. For several years we have only been using low aromatic oils in production, and the renewable canola oil has proven to be an excellent innovation.

Quality, safety and environmental friendliness are embedded in the mindset and working methods of every Nokian Tyres employee.

– The core idea of our operations is to make safe, high-quality products using high-quality tools and taking safety and environmental friendliness into account throughout the tyre's lifecycle.

Sustainable safety

Nokian Tyres has observed the same basic principle in its product development for over 70 years: the company develops tyres for consumers who drive in northern conditions and need their tyres to be safe, durable and comfortable in all situations. Development is guided by the principle of sustainable safety: the tyre should retain its safety features almost intact throughout its service life.

> Nokian Tyres feature a number of noise-lowering innovations in their treads: the positioning of the tread blocks, circumferential platforms in the bottom of the main grooves and noise cavities.

The principle of sustainable safety also entails the promise of developing environmentally friendly products and production technology. Nokian Tyres has blazed a trail of environmental friendliness in the tyre industry by being the first tyre manufacturer in the world to introduce tyres that are made using only purified, low-aromatic oils.

Continuous development work for the environment

Nokian Tyres helps enhance vehicles' fuel efficiency by developing tyres that roll more lightly. One factor that affects the tyre's rolling resistance is its weight, and lighter-weight tyres also save raw materials and process energy. As the result of its persistent, long-term product development, Nokian Tyres has succeeded in lowering its tyres' rolling resistance. This process is ongoing, for example, with new tread compounds, and remains an object of continuous development. Both the studded Nokian Hakkapeliitta 7, the 2009 novelty, and the Nokian Hakkapeliitta R friction tyre were complimented for their low rolling resistance in different car magazines' winter tests. The Nokian Hakkapeliitta R is the lightest rolling winter tyre on the market, and it even beats summer tyres in this respect. The 'Ultra low rolling resistance' text on the sidewall tells the consumer that the Nokian Hakkapeliitta R rolls efficiently without wasting energy. Thanks to the low rolling resistance you can save up to 0.5 litres of fuel/100 km and at the same time reduce CO_2 emissions by 12 g/km.

One goal of product development is to make the tyres quieter. Reducing drive-by noise enhances general comfort, whereas inside noise impacts the driver's alertness and, consequently, traffic safety. Nokian Tyres features a number of noise-lowering innovations in its treads: the positioning of the tread blocks, circumferential platforms in the bottom of the main grooves and noise cavities.

The climate change is setting new requirements for winter tyres. The tyres must guarantee a safe grip in snowy and icy conditions as well as on slushy and wet roads. The Nokian Hakkapeliitta 7 performed wonderfully in all areas of car magazines' winter tyre tests. Its tread compound is a mixture of natural rubber, silica and canola oil, which provides grip in extreme winter conditions, wear resistance and wet grip. The Finnish canola oil gives this new tyre additional resistance to tear, as well as improved grip on ice and snow. Environmental values are emphasised in the Nokian Hakkapeliitta 7: it features a new studding technique that wears the road surface up to 15% less than its predecessor, Nokian Hakkapeliitta 5.

Continuous testing

The excellent wear resistance of Nokian Tyres' products is based on conscientious structural development and continuous testing. Testing in actual usage conditions in order to thoroughly under-

Superb reliability even in demanding conditions

The cornerstone of product development at Nokian Tyres is to develop tyres for the demanding Nordic conditions. Development is guided by the principle of sustainable safety: the tyre should retain its safety features almost intact throughout its service life. Development Manager Tuija Aro is in charge of the entire passenger car tyre development project, from beginning to completion, from tread pattern to tyre structure.

– Quality and environmental friendliness go hand in hand: higher quality means better environmental properties. Well made products have a longer service life, which reduces the amount of waste.

All Nokian Hakkapeliitta and Hakka tyres undergo thorough testing in the development phase, when their tread patterns, rubber compounds and structural functionality are tested.

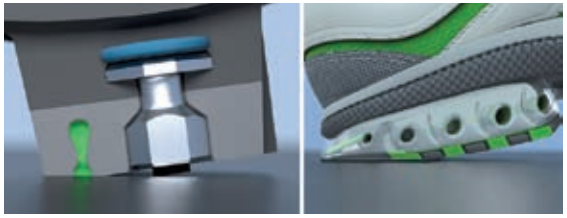
– We carry out unique, demanding winter tests at our test centre in Ivalo from October, well into the spring. Summer tyre properties and materials are tested in Finland from early spring till late autumn, and we also conduct tests abroad in countries with a warm climate. We want to be absolutely sure that our products function reliably in varying conditions.

According to the EU's new classification system, from November 2012 tyres will have to be labelled with their fuel efficiency, wet grip and rolling noise performance.

– These properties have always been focus areas for us, and our tyres are among the best in comparison tests. In the future, we will pay further attention to lowering the rolling resistance and noise levels, but, naturally, not at the expense of safety and quality. The new classification is another chance for us to prove our leadership in environmental affairs. The clear classification brings up important environmental issues related to tyres, which will surely influence the choices made by consumers.

Air Claw Technology

The multi-edged, sturdy and broad anchor stud and air shock absorbers form an innovation called Air Claw Technology. It reduces road wear, reduces tyre noise and improves stud durability. This innovation provides drivers with superb driving comfort and safety. It is like a good running shoe: the air shock absorbers soften and dampen the impact of the stud, making driving flexible and fluent.



Silica natural rubber compound in the tread

The tread compound combines natural rubber, silica and canola oil. The Cryo silane used as a coupling agent in the compound improves its functionality in varying winter conditions. The compound enables excellent winter and wet grip and wear resistance. Canola oil provides higher resistance to tear and improves ice and snow grip. Thanks to the high silica content in the tread compound, the tyre features extremely low rolling resistance which translates into lower fuel consumption and fewer harmful emissions.

stand the characteristics of winter driving and the products is an integral part of Nokian Tyres' operations. The company's own test centre in Ivalo, Lapland, focuses on demanding winter testing from October to May. Thanks to state-of-the-art equipment, versatile tests and the professional product development teams and test drivers, tests in Ivalo cover all extreme situations that can be encountered when driving in winter. The test track in Nokia is used from the spring until late autumn. It provides unique facilities for such pioneering activities as slush planing testing. This was introduced by Nokian Tyres in 1996, the first in the world. In addition, tests are also carried out on other tracks abroad in order to get sufficiently comprehensive results. Tyres are also tested with indoor testing machines that measure such qualities as the tyre's structural strength and speed endurance. The flawlessness of tyres is monitored by means of frequent tests to ensure the product quality and technical reliability. The development of a brand-new passenger car tyre takes 2 to 4 years.

With respect for fields and forests

Nokian special heavy tyres are the product of long-term development work with respect for the environment held as a key value. The successful results are based on the combination of traditional professional know-how and state-of-the-art technology. The aim of product design is to provide customers with optimal solutions for special use, emphasising energy efficiency, reliability of use and pleasant driving properties.

The low contact pressure of heavy tyres is one of the company's key development targets. It is a particularly important feature for agricultural tyres and tyres used on soft surfaces. The high mass and contact pressure of the machines cause compaction in the cultivated layer and the underlying subsoil. Compaction deteriorates the soil's cultivation properties, decreases crop yields and increases the environmental load. Subsoil compaction can have long-term consequences. The special tyres designed for agricultural use carry heavy loads with respect for the environment. Thanks to the wide contact area, their contact pressure against the field is significantly lower than that of cross-ply tyres. This results in high field productivity and easy machine movement, even on soft soil. Machines working in the forest, in turn risk damaging tree roots. In forest use, radial tyres possess better properties than the traditional cross-ply tyres. The Nokian Forest Rider forestry tyres have a wider contact area, which results in lower contact pressure that makes the tyre easier both on the forest terrain and on the driver. In addition, this reduces vibration and thus provides excellent driving comfort.

The rubber compounds, treads and structures of Nokian special tyres are designed to withstand tough use, which, from the users' point of view, translates into more operating hours and functionality in all conditions. Thorough field testing and research guarantee the achievement of the desired properties. All Nokian-branded heavy tyres have a low rolling resistance, which contributes to decreased fuel consumption and lower CO_2 emissions.

Safe driving with articulated vehicles

Nokian Tyres is actively involved in the improvement of heavy vehicle safety and its environmental impact. Nokian truck tyres and Nokian Noktop retreading materials are designed for demanding professional use and changing conditions. In order to enable profitable product development, Nokian Tyres works in close, confidential co-operation with transport and hauling operators. Nokian Truck Tyres participated in the RASTU project with the Technical Research Centre of Finland (VTT) and Helsinki University of Technology, studying the impact of tyres on the stability of full trailer trucks in slippery conditions.

Due to the heavy loads, trailers account for most of the rolling resistance in full trailer trucks. The research showed that with the right choice of tyres, the rolling resistance can be kept low and the swinging of the trailer can be reduced significantly. The new research results were immediately applied to Nokian Tyres' tyre recommendations. However, minimal rolling resistance alone is not a sufficient solution for safety in Nordic conditions. The right choice of tyres and treads is the key to optimising both economies and safety.

Tyre manufacturing process

The tyre manufacturing process can be divided into six main phases: raw material acquisition and receipt, rubber compound making, component manufacture, assembly, curing and inspection. Nokian Tyres also manufactures materials for retreading used tyres. The retreading material manufacturing process is similar to that of passenger car tyre manufacturing, apart from the assembly phase. In 2009 the Nokia plant manufactured a total of 36,000 tonnes of tyres and retreading materials, i.e. an average of 175 tonnes per day.

1. Procurement and reception of raw material

The raw materials used in tyre manufacture are natural rubber, synthetic rubber, plies, carbon black and various chemicals. Approximately 50% of the materials are oil-based and the most extensively used material is natural rubber. Raw material costs account for nearly 30% of net sales from manufacturing and for some 50% of production costs. All raw materials used in tyre manufacture at Nokian tyres are non-toxic. Every batch of material goes through laboratory testing before implementation.

2. Production of rubber compounds

In the mixing department raw materials are made into rubber compounds according to precise recipes. The compounds are used for rubber-coating components needed in tyre manufacture. The recipes depend on the desired characteristics of the tyre. Different components call for rubber compounds with different compositions.

3. Component manufacture

Component manufacture means making different tread components, (these include body plies, inner linings, beads, cores, sidewalls, sidewall wedge inserts, triangular fillers and steel belts), from rubber compounds, textile mats and metal cords. Most of the components are reinforcing elements. It takes 10–30 components to produce one tyre.

4. Assembly

The tyres begin to take shape at the tyre-building machine when the components are put together to make the body and belt package. The body side of the machine runs the inner and sidewalls as well as a sufficient amount of reinforcing material, while the belt side takes the so-called tread package, i.e. steel belts and the surface rubber. After these phases the machine places the cables, turns the sidewalls and rolls the tread package on. This results in a green tyre, which is soft and malleable.

5. Curing

The green tyres are cured, or vulcanised, in a curing press. Vulcanisation at the right temperature and pressure makes the green tyres solid and flexible. Curing gives the tyre its final shape, tread pattern and sidewall markings. Passenger car tyres are cured for 10–15 minutes and heavy tyres for up to five and a half hours. Apart from curing times, heavy tyres are made mainly in the same way as passenger car tyres.

6. Checks

After curing, all passenger car tyres undergo a visual and machine inspection. The visual inspection focuses on any deviations in the tyre's appearance, while the machine inspection measures the tyre's geometrical roundness, directional force difference, radial throw and conicity. The tyres are labelled, packed and transferred to the logistics centre, from where they are delivered to retail sellers.

Quality development and safety management

Organisation

Nokian Tyres has become increasingly international, and it has placed a strong focus on international co-operation and the development of joint practices.

The Vice President, HR and EHSQ, is responsible for the quality development and safety functions. There is a quality development and safety organisation, the EHSQ team, within the HR department of the Nokia site. This team is in charge of the company's environmental, health, safety and quality management. The EHSQ Manager, who reports to the Vice President, HR and EHSQ, leads these operations. In addition, the EHSQ team comprises experts from different fields. The team works in close co-operation with the people responsible for quality and safety in other units, as well as with external experts, such as occupational healthcare services. The organisational structure is illustrated in the graph.

The EHSQ team functions as an expert in all matters related to quality development and safety, including environmental management, chemical safety, waste management and occupational hygiene. The team is in charge of the legislative obligations related to environmental, occupational and property protection.

At the Nokia site, the environmental officers of different units, supervisors and occupational protection delegates attend to safety management tasks alongside their main duties. The environmental officers act as environmental specialists in their respective units and as contact persons in interaction between units. They are also in charge of the appropriate handling of chemicals and waste in their units. The occupational protection delegates are elected representatives of employees in occupational protection issues. Unit supervisors and other members of the line organisation handle safety management in accordance with their respective job descriptions. Training and discussion sessions are arranged annually for the persons responsible for these matters in each unit, and they work in continuous co-operation with the EHSQ team.

President and CEO, Management Team		
Vice President, Personnel and EHSQ		
EHSQ Manager		
Environment	**Health and safety**	**Quality**
■ Environmental Engineers ■ Environmental Officers – 20 people in different units	■ Safety Manager ■ Real Estate Manager ■ Protection Technician ■ Occupational Safety Delegates ■ Occupational Safety representatives	■ Quality Manager ■ Technical documentation specialist ■ Measurement Technician
	■ Tampereen Työterveys ry. ■ Vartiointi Securitas Oy	
■ ManagementSystems (EMAS, ISO 14001) ■ Permits ■ Authority and community relations ■ Chemicals monitoring (authority relations and permits, usage control, hazardous substance transport counselling) ■ Waste management ■ Monitoring, application and control of legislative issues (EU, Finland) ■ Training and communication	■ Security and access control ■ Facility management ■ Fire safety ■ Fire extinguishing and alarm systems ■ Risk management ■ Control of compliance with instructions and laws ■ Machine safety ■ Provision of occupational healthcare services and work ability maintenance ■ Safety audits ■ Tidiness and order ■ Protective gear ■ Training	■ Development and maintenance of the operational system (ISO 9001) ■ Arrangement of (customer, third-party and internal) audits ■ E- and e-approvals ■ Quality training ■ Calibration of measurement devices ■ Occupational hygiene

Management systems

Nokian Tyres aims at managing the environmental impacts of its products throughout the product lifecycle and addressing the safety and quality issues related to its operations systematically and comprehensively. The operational system encompassing

Quality – a collective concern

Respecting the environment, promoting safety, taking care of employees well-being and ensuring high quality are important values in the operations of Nokian Tyres. Most of the safe, high-quality tyres are manufactured at the company's own plants in Finland and Russia. Device and method developer Petri Haapala and assembly worker Maarika Luoma, who currently work at the Nokia plant, also have experience working at the Vsevolozhsk plant.
– Naturally, there are cultural differences between the two countries, but everyone works conscientiously in both locations, they confirm.

In Vsevolozhsk, Haapala helped with the installation of new machines and trained local employees in curing and finishing tasks, and Luoma served as an interpreter and assembly trainer.
– When the Russian plant was in construction, I volunteered to mentor new employees there. I didn't know what to expect in advance, but the year proved to be very fruitful; I can say that it helped me grow both personally and professionally. At the end of my stay I was elected the best tutor there. That made me feel I had done things right and it gave me more self-confidence, Luoma tells us.

The high quality of Nokian Tyres' products can be attributed to the efficient, carefully controlled processes along with the unified quality criteria, raw materials and production methods. The operations are continuously developed to become even more efficient and environmentally friendly, with the personnel's well-being also in mind. Employees have opportunities to grow, develop and advance in their career.
– I never regretted my decision to go to Russia. I had a great experience and learned to know my colleagues there, Haapala sums up.

Extract from the HR strategy, section dealing with social responsibility and environmental affairs

Goal	Measures
Minimising environmental risks	▪ Applying for permits and complying with legal requirements ▪ Complying with the EU's VOC directive terms on a global scale ▪ Complying with the REACH regulation in production and procurement on a global scale ▪ Joint practices for the assessment of environmental impacts of different projects and corporate acquisitions ▪ Analysing the management of extinguishing water at the Nokia plant
Environmental friendliness and safety of products	▪ Adding environmental aspects to support sales efforts ▪ Using increasingly safe chemicals in production, a forerunner in the tyre industry ▪ Promoting environmental aspects in tyre tests ▪ Participating in tyre recycling projects in the EU and Russia ▪ Anticipating forthcoming legal and environmental requirements and their impacts on the tyre industry
Responsible environmental image and good corporate citizenship	▪ Environmental report in 2010, corporate citizenship report in 2013 ▪ Promoting environmental affairs and taking them into consideration in the off-take production ▪ Measuring the company's level of social responsibility and setting goals

environmental, safety and quality issues serves as a key tool for this purpose. The operations manual complies with the ISO 14001 standard, EMAS regulation in environmental issues and the ISO9001 standard in quality issues. The Russian plant and the Swedish sales company Nokian Däck are also covered by the corporate environmental and quality system and the ISO 14001 and ISO 9001 certificates. The management system also covers the safety management system referred to in regulation 59/99 (industrial handling and storage of hazardous chemicals, SEVESO II).

The goals for environmental, safety and quality issues are defined in the HR strategy, which is compiled for five-year periods but reviewed and updated annually. The environmental programme sets out the annually specified goals, means, schedules and persons responsible for the goals outlined in the strategy. Furthermore, units have their own EHSQ goals and development projects concerning their own activities and processes.

The development of environmental, safety and quality issues is addressed in the monthly management meetings. Furthermore, the records of weekly HR department meetings that outline the most current matters are delivered to the President and CEO and other concerned parties. When necessary, top company management gives direct feedback to the EHSQ team.

Authorities and permissions

The environmental and safety operations of Nokian Tyres are subject to supervision by several authorities, including the Pirkanmaa Regional Environment Centre, the Safety Technology Authority TUKES, Tampere Regional Emergency Services and various officials of the town of Nokia, such as the environmental protection and construction supervision units. The body responsible for occupational safety issues is the Occupational Health and Safety Inspectorate of Häme. The activities of other Nokian Tyres sites are subject to supervision by local authorities. Nokian Tyres maintains constant discussion contacts with various authorities in order to be able to take any authority regulations and requests into account in a timely manner. Authorities are immediately informed of any disruptions, accidents or deviations from permit terms and conditions.

Nokian Tyres sees authority permits as minimum requirements, and being environmentally friendly means much more than just observing limit values. The company wants to be part of genuinely sustainable development. The company stays abreast of the developments in environmental and safety legislation in Finland, the European Union and Russia alike, and anticipates the impacts of regulations under preparation.

The Environmental Permit granted to the Nokia plant is the company's most important environmental protection permit. The current permit has been granted to the company by the Pirkanmaa Regional Environment Centre in 2007. In addition to this and the chemical permits granted by the Safety Technology Authority, the company's Nokia plant has the Water Court's permit for taking cooling water from River Nokianvirta. The permits needed at the Russian plant were acquired already at the construction phase in accordance with local legislation.

Chemicals control

Chemicals are handled and stored at the Nokia plant on a large scale, as stipulated in the decree 59/1999. The Nokia plant's obligations pertaining to chemicals handling changed in 2009 due to the decreased production volumes, and TUKES transferred it from the category of establishments obliged to submit safety reports back to the category of establishments obliged to set out their accident-prevention policy. The amount of chemicals stored and handled at the Nokia plant has decreased along with the lower production volumes.

Nokian Tyres initiated chemical control activities in the early 1960s. Currently, the company has a chemicals control team including an environmental engineer and a chemist from the product development laboratory. When necessary, other experts such as occupational healthcare professionals are consulted. Chemicals control aims at ensuring safe chemical handling at the plant.

No chemical may be taken into use at the Nokia plant before the chemicals control team has granted it a department-specific usage permit. The purpose of this procedure is to streamline the use of chemicals throughout the company and, whenever possible, replace hazardous chemicals with safer ones. New raw materials to be used in rubber compounds are tested for quality assurance and suitability for production in both laboratory and production conditions. Raw materials approved for rubber compounds are recorded in a list of approved raw materials. Purchasers may only acquire materials contained in this list. The raw materials used in the Russian plant are also tested and listed in

Finland. A total of 600 different chemicals are used at the Nokia plant. Their up-to-date safety data sheets are saved in a database available to the entire personnel.

Nokian Tyres manufactures and sells glues and paints for the rubber industry and imports some raw materials used in rubber compounds. The company prepares safety data sheets for these chemicals and submits them to Valvira, the National Supervisory Authority for Welfare and Health, for registration.

Nokian Tyres fulfils all requirements of the EU's REACH chemicals regulations that aim at making the use of chemicals as safe as possible for employees, the environment and end users alike. The company's products contain no toxic chemicals whatsoever. All of Nokian Tyres' chemical suppliers must submit the valid, statutory safety data sheet for all chemicals before delivering them to the plant. In 2009, Nokian Tyres continued to exchange information with chemical suppliers and manufacturers in order to enable risk assessment procedures pertaining to chemicals in accordance with the REACH regulation.

Audits

Regular audits form an integral part of environmental, safety and quality activities. The purpose of the audits is to guarantee an environmentally friendly, safe, high-quality working environment. The audits aim at finding out whether the audited activities comply with legislation, the company's safety policy, quality principles and operational system's instructions. In addition, any possibility of making activities even more environmentally friendly or safer are explored.

Internal audits are carried out according to an annual plan so that every area of activity outlined in the operational system is audited at least once every three years. The annual plan is based on the five-year plan, and any audits missed in the past year are taken into account in the planning stage. Audits are carried out on-site or on the basis of memos produced in the unit, depending on the auditor's choice. In addition to the auditors, the audit team comprises the required number of unit representatives. The team observes the unit's circumstances on site and in conversations with employees. The auditor inspects the unit's machinery and processes and gets acquainted with reports, registers, work instructions and other operationally significant documents. Internal safety audits include environmental and occupational safety audits. The safety audit covers machinery protection, fire safety (cleanliness and order), appropriate handling and storage of chemicals, occupational hygiene, working conditions and waste management. The audit team also monitors the development of the units' safety index.

The auditor draws up a report on the corrective actions and positive observations discovered during the audit. The unit's line supervisors are in charge of the audit. Once completed, the corrective actions are recorded as done, i.e. in quality terms, "the deviation is closed." Persons responsible for quality and safety audits compile a written audit summary after the audit round in accordance with their area of responsibility. The summary is presented at the management's audit. The purpose of these summary documents is to inform the management of the audit results and development and therefore to serve as a basis for the management's decisions on any new necessary development measures.

Audits carried out by customers and co-operation partners are also considered internal audits. These include, for example, audits by the car industry. In addition, the audit carried out in conjunction with the weekly management review is an internal audit.

An external auditor performs an audit once a year to assess conformity to standards. Authorities and insurance companies also control compliance with laws and regulations on an annual or per need basis.

Safety policy and quality principles

Uncompromising respect for and awareness of environmental and safety issues is part of Nokian Tyres' successful operations.

As a company and as individuals, we assume responsibility for the safety, health and mental and physical well-being of our environment, working community, co-operation partners and customers. Our operations are customer-oriented and profitable. Our activities and attitudes reflect respect for different individuals and opinions.

When producing, developing and marketing tyres, treading materials and related processes and services, we embrace the absolute necessity of environmental and working safety and aim at top-level safety, continuous improvement and sustainable development. We develop our activities mindful of the products' entire life cycle and aim at a level of 0 faults in all areas of safety.

Safety policy in practise

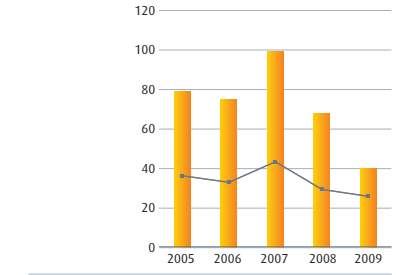
- Safety issues are handled in co-operation with personnel, occupational health services, occupational safety committee, authorities and experts.
- The employees are guided, trained and encouraged to constantly account for safety and environmental issues in their work.
- We make sure that our contracting partners apply these principles.
- We apply the related legislation, regulations and instructions, set function-specific goals and monitor the implementation thereof.
- Risk analyses, internal reviews and audits are carried out on a regular basis and the implementation of set goals and legislative regulations is monitored.
- Harmful environmental and safety effects are prevented by using high-quality, modern technology and operational procedures.
- We develop products that are safer and more environmentally friendly.
- The environmental, safety and health effects of projects are analysed beforehand.
- The development of safety and environmental issues is communicated on a regular basis and open, confidential relations are maintained with all stakeholders.

Quality principles:

- We develop and manufacture premium tyre products of high quality, utilising unique innovations to provide our customers with a long mileage of safe driving.
- The high quality of our products is guaranteed by efficient, carefully controlled processes.
- We offer our customers the best service in all areas of our business.
- As a forerunner of the industry, we continuously improve our products and operations to become more efficient, high-quality and environmentally friendly.

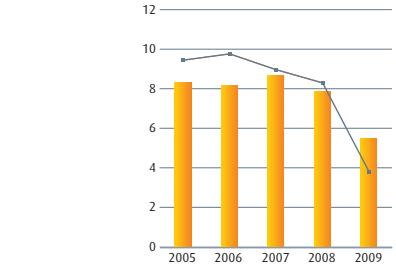
Work for well-being

Accidents 2005 – 2009



	2005	2006	2007	2008	2009
Accidents over 3 days	79	75	99	68	40
Accidents over 3 days/ million hours	36	33	43	29	26

Annual sick leave -%



	2005	2006	2007	2008	2009
Nokian Tyres plc	8.32	8.14	8.65	7.86	5.47
Nokian Heavy Tyres Ltd	9.49	9.81	9.01	8.34	3.84

Nokian Tyres' personnel well-being and occupational protection efforts aim at occupational health and safety at work and risk management in production and other operations. The connection between safety and environmental affairs is particularly evident in matters related to occupational hygiene and the use of chemicals.

Number of accidents decreasing

The accident frequency at the Nokia plant is at the average level in comparison with the Finnish statistics of corresponding work environments. However, this does not meet the company's goals. The exceptional conditions that prevailed in 2009 added new challenges to occupational protection management. Personnel cuts and lay-offs required increased versatility and flexibility from the employees. Despite the challenging circumstances, the safety indicators moved in a positive direction. The accident frequency went down by 12% in 2009. Most accidents are minor and cause shorter-than-average sick leaves.

Tyre safety was further developed in co-operation with customers in order to ensure the safe handling of heavy tyres.

Work ability and sick leaves

Sick leaves decreased significantly in 2009. However, the standard calculation method does not fully account for lay-offs and other such factors. Nevertheless, sick leave also clearly decreased in relation to completed working hours, which is a more reliable indicator in the exceptional circumstances.

Collaboration with employees and stakeholders

Collaboration with personnel groups plays a key role in the development of occupational health and safety at work. The elected occupational safety delegates and employees' representatives participate in well-being projects when needed. This co-operation is backed by open communication; for example, employees' representatives participate in management meetings. The importance of co-operation and openness is underlined throughout the Group. The representative selection procedures vary between sites, depending on the size of the site and local legislation.

In addition to internal activities, Nokian Tyres values co-operation with external stakeholders, such as the sites' neighbours, municipalities and authorities. The company actively communicates its activities and the related safety factors to the involved parties. Emergency services are important co-operation partners. Rescue drills are arranged and the emergency services' representatives visit plants to support the management of fire risks. In 2009, a fire drill took place in the Nokia logistics centre, and the use of fire extinguishing equipment was practiced in conjunction with it.



Competent, inventive personnel play the key role

The Nokian Tyres Group employs more than 3,500 professionals worldwide, and each member of the work community has his/her personal values and thoughts. It is important for the company to treat employees equally and fairly because an equal working community motivates people and, consequently, contributes to the company's profitability and competitiveness.

The personnel's activity, initiative and internal entrepreneurship provide good support for developing the Group's skills and strategy. Nokian Tyres' corporate culture is called the Hakkapeliitta spirit. It relies on the following values:

Entrepreneurship = The will to win

We thirst for profit; we are quick and brave. We set ambitious objectives and perform our work with persistence and perseverance. We are dynamic and punctual, and we always make customer satisfaction our first priority.

Inventiveness = The will to survive

We have the skill to survive and excel, even in the most challenging circumstances. Our competence is based on creativity and inquisitiveness, and the nerve to question the status quo. We are driven by a will to learn, develop and create something new.

Team spirit = The will to fight

We work in an atmosphere of genuine joy and action. We work as a team, relying on each other and supporting each other, offering constructive feedback when needed. We embrace difference and we also encourage our team members to individually pursue winning performances.

Competence development and well-being services

At Nokian Tyres competence development is a strategy-based activity that anticipates future needs. The company invests in the development of its employees' competence by means of tailored training, vocational qualifications and joint network training events. Employees have opportunities to grow, develop and proceed in their career. Competence development is the responsibility of both the company and individual employees.

One of the key competence development tools is the global Hakkapeliitta Academy. The services of this online portal are available not only to Nokian Tyres' personnel but also to key customers and partners. The content of Hakkapeliitta Academy is continuously developed and expanded; at the moment, it offers product training and the 'Become a native' online tutorial for employees. In addition to the online induction, new employees receive a general and task-specific induction. The purpose of such a comprehensive induction is to create prerequisites for safe, healthy and productive work.

Employees' well-being at work is supported by arranging weekly exercise groups and leisure time clubs. Exercise and well-being services, as well as preventive healthcare services, are developed in co-operation with the occupational healthcare service providers. Mental well-being is supported by individual and group counselling, training and various work time arrangements and personnel events. The personnel's well-being is annually monitored with surveys focusing on well-being at work and on internal customer satisfaction.

Well-being surveys are conducted to gather information on: employees experiences in their work and tasks, the activities of their workgroup, supervisors' work, the organisation's practices and the development of occupational health. The survey questionnaire also offers the opportunity to give free-form feedback, which is used as the basis for developing a positive atmosphere at work. The survey results also serve as an important tool in the development of supervisory work.

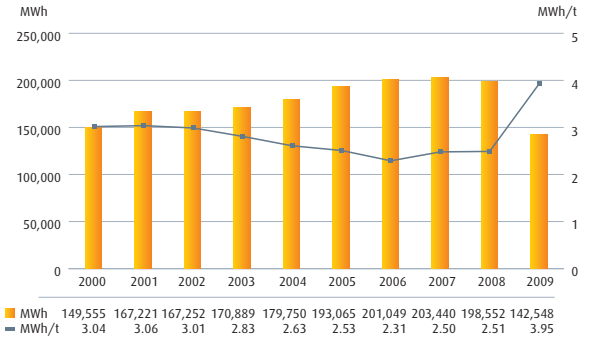
Inventiveness activities

Inventiveness is an integral part of Nokian Tyres' corporate culture. It supports leadership and creates opportunities for every employee to influence matters. The aim is to encourage employees to actively participate in company activities and the development of their own work. It also strives to enable wide-scale idea generation among personnel. In addition to the ongoing inventiveness activities, various inventiveness campaigns are arranged to activate employees to develop their work and working environment. Every implemented inventiveness idea is rewarded. In the future the inventiveness scheme will be expanded to cover all Nokian Tyres sites and employees.

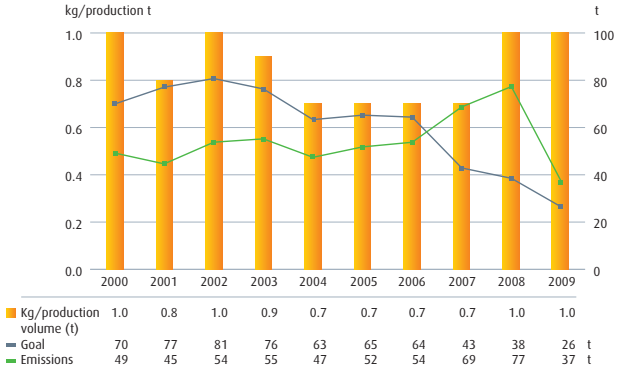
Competence development and the improvement of both personnel well-being and the working atmosphere will continue using both traditional and new methods, both locally and globally.

The environmental impact of tyre plants

Energy consumption



VOC solvent emissions



The figures describe only the Nokia factory.

The impacts of tyre manufacturing on the environment include odour, solvent and dust emissions, noise and waste. Waste and solvent emissions, as well as unpleasant odours in some locations, represent the most significant burden on the environment. In accordance with the company's safety policy, Nokian Tyres strives for zero tolerance in terms of faults in all areas of safety.

The environmental impacts of tyre plants are documented in annual records and reported to authorities according to local legislation in each country. The Nokia plant has a separate register for environment-related feedback received from the neighbourhood's inhabitants and the plant employees. All reports and claims submitted directly to the EHSQ unit are recorded in this register. The goal is to handle environmental affairs so effectively that no claims whatsoever should arise.

Energy consumption

Energy consumption decreased clearly in 2009 due to the decreased production volumes, but in proportion to production, energy consumption increased. All of the electricity consumed is environmentally labelled "Norppa electricity" produced using hydropower. New solutions to the energy challenges arising from the discontinued three-shift work schedule will be sought.

Emissions

Volatile Organic Compound, VOC

Solvents or volatile organic compounds – VOC for short – constitute the most significant emissions into the air. Solvents are mainly used in the production of heavy tyres and treads to improve adhesion. The most volatile organic compounds are collected and conducted to a catalytic incineration plant. In 2009 solvent emissions after cleaning totalled 37.4 tonnes, which equals 1.0 kg/product ton. The maximum amount of VOC emissions permitted in the company's environmental permit is 55 tonnes per year.

Nokian Tyres strives to comply with the total emissions limit set in the VOC regulation, which is 25% of solvents used. However, the emissions of 2009 totalled 35%. In late 2009, Nokian Heavy Tyres launched a project aiming to reduce the total use of solvents by 60% from the relative level of 2008 by 2013. During the project it will be investigated whether it is possible to achieve this goal by means of production process and materials development. If these measures are not sufficient, a cleaning technique suitable for the production of heavy tyres will be developed as part of the project.

Odour

According to odour surveys conducted by Nokian Tyres, the majority of odours at the tyre plant come from various hydrocarbons used in rubber compounds. Odours are also generated in the mastication process where natural rubber is softened: the precipitation and dehydration phases of rubber milk include compounds with an unpleasant odour. Droplet separators are used to reduce odours from mastication. Furthermore, separate mastication processes have been reduced, which has also resulted in a reduction in odours. Some of the odours come from the tyre curing process. The quantity of curing steam is directly related to the quantity of cured rubber. The concentrations of individual substances in the steam is small. At the moment, a cost-efficient system for recovering and processing curing fumes is not available.

The zero tolerance also applies to odour-related complaints. No complaints or inquiries related to odours were submitted to the Nokia plant in 2009. An odour survey featuring the odour spreading model will be implemented in 2010.

Particle emissions (dust)

Particle emissions originate in the processing of powder chemicals in the compound mixing department. Dust filters have been replaced, and state-of-the-art technology was implemented in conjunction with the mixing plant's expansion. The mixing equipment features effective ventilation and dust collection devices. At their

best, the water cleaners operate at a separating ratio of above 99 per cent. Particle concentration and differential pressure meters are used to monitor particle emissions. In addition, external experts carry out regular measurements. The measured concentrations have been clearly below permitted values. According to the latest measurement carried out in 2008, the calculated annual emissions total approximately 2,944 kg. In this measurement the measured dust concentrations were also primarily very low. However, the dry filters of filler openings in mixing machines 15 and 16 were broken during the measurement, which caused 45% of the reported annual total emissions (total annual emissions ~1.5 t; 0.042 kg/produced tonne). The average particle size in the dust in exhaust air is less than 3 micrometres. The dust that passes through the filter system mainly causes an aesthetic inconvenience and presents no harm to the environment or health.

Noise

The Nokia plant's environmental permit stipulates that the noise level in residential buildings' yards must remain below the average level of 55 dB (LA_{eq}) in the daytime and below 50 decibels at night. These figures are LA_{eq} decibels, which refers to the average noise level a human ear can detect. According to the latest noise report compiled by an external expert in the summer of 2004, the 50-decibel zone barely extends to the old residential area on the southeast, east and northeast sides of the plant. No complaints for noise were submitted in 2009. The noise survey will be updated in the summer of 2010.

Waste

Waste is generated in production as well as support functions. Production waste generation is recorded in department-specific files. The generated waste is sorted at the plant in accordance with separate waste management instructions. Most production waste is taken directly to utilisation without any intermediate storage. Hazardous waste is stored separately in labelled containers in separate, locked collection points. The generated waste can be roughly divided into three categories: landfill waste, i.e. non-recycled waste, recycled waste and hazardous waste.

Recycled waste

Waste suitable for utilisation or recycling is sorted at the point of origin and collected into separate, labelled containers. Scrap tyres – tyres that do not meet the company's high quality standards – are taken for direct utilisation through Finnish Tyre Recycling Ltd. In 2009, a total of 808 tonnes of scrap tyres were sent for recycling from the Nokia plant and 1,287 tonnes from the Vsevolozhsk plant.

Non-vulcanised scrap rubber is generated in production phases preceding vulcanisation, i.e. curing. Non-vulcanised scrap rubber can be divided into two categories: compound mixing waste (scrap rubber) and other non-vulcanised rubber waste. Compound mixing waste that can be used in compounds is separately collected on platforms for reuse as raw material. Internally recycled compound mixing waste at the Nokia plant totalled 3,503 tonnes in 2009. Other sorts of non-vulcanised scrap rubber are collected in separate containers and taken for recycling. Recycling targets include collision shields, conveyor belts and other rubber products that do not pose critical requirements on the material.

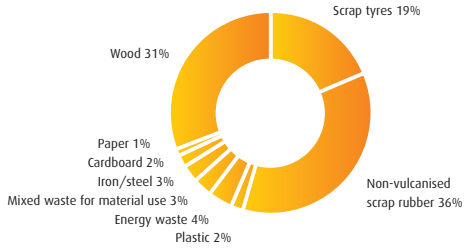
Plastic waste includes packaging materials and the plastic used for separating materials in the production departments. Layers of plastic are needed to prevent rubber components from adhering to each other during storage. The amount of plastic waste taken for recycling in 2009 totalled 74 tonnes at the Nokia plant and 62 tonnes at the Vsevolozhsk plant.

Wooden packages and platforms (Nokia 1,335 t, Vsevolozhsk 548 t) are reused, utilised in energy generation or composted. Platforms are reused as long as they are in good condition. The main source of scrap wood is the raw material storage, as most raw materials are delivered to the plant on wooden platforms or in wooden boxes. Scrap iron and steel are mainly generated in conjunction with the disposal of machinery and equipment. In 2009, a total of 136 tonnes of scrap iron and steel was taken for utilisation from the Nokia plant and 35 tonnes from the Vsevolozhsk plant. Waste paper (30 tonnes from Nokia) and cardboard (153 tonnes from Nokia, 57 tonnes from Vsevolozhsk) are also reused. Biodegradable waste (14.6 tonnes) is collected from the two cafeterias of the Nokia plant and composted.

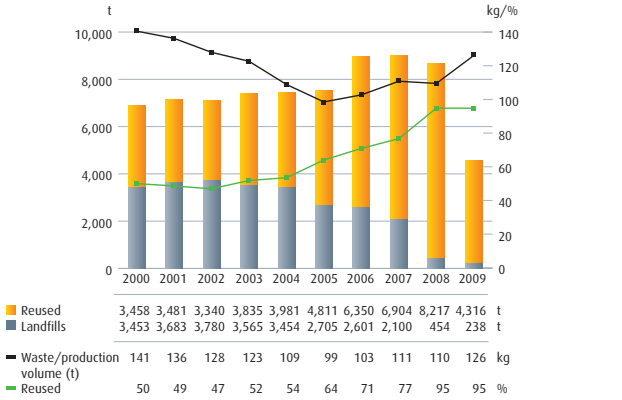
Waste generated at the Nokia plant (tonnes)

Waste Material	2005	2006	2007	2008	2009
Mixed waste	120.9	112.9	99.02	125.7	68.2
Hazardous waste	261.5	291.7	297.2	324.8	169.8
Nonvulcanised scrap rubber	2,322.1	2,196.8	1,703.6	3.68	0
Recycled waste	4,811.2	6,349.6	6,903.7	8,216.91	4,316.11
The amount of waste altogether, kg/t	98.5	115.2	110.8	109.5	125.6
Reuse [%]	64.0	70.9	76.7	94.8	94.8

Recycled waste 4,316 t 2009



Reused waste in proportion to production volume



Some of the mixed waste generated at the Nokia plant is sorted as energy waste. In addition, mixed waste generated at the plant is taken for processing to a company that can separate 85% of the waste for recycling as material or energy. A total of 193 tonnes of energy waste was generated in 2009.

Landfill waste

Mixed waste generated at the Nokia plant is pressed and delivered for processing. The processor can separate 85% of the mixed waste for recycling as material or energy. Mixed waste that cannot be recycled, as well as non-pressed mixed waste generated at the plant, are delivered to a waste treatment centre. In 2009 the Nokia plant generated 68 tonnes of waste not suitable for recycling, i.e. 1.9 kg/product ton and the Vsevolozhsk plant 1,584 tons, i.e. 40.76 kg/product ton.

Hazardous waste

Hazardous waste is delivered to a special treatment facility. The amount of hazardous waste generated in Nokia in 2009 totalled 169.8 tonnes (4.7 kg/produced tonne). Nearly one half of the hazardous waste is blade seal oil from the compound mixing machines (so-called box grease). The consumption of these oils is directly dependent on the rubber compound volumes manufactured. Other kinds of hazardous waste include oily waste, chemical waste, waste oil, fluorescent tubes, batteries, as well as electronic and electrical equipment.

Waste water and cooling water

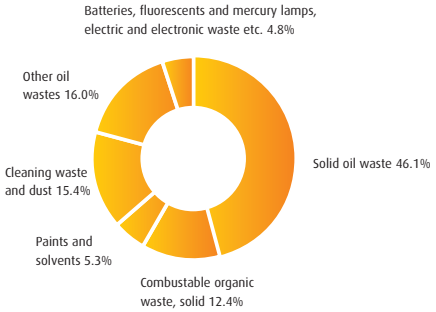
Large amounts of water are used for cooling in various tyre manufacturing processes. The Nokia plant takes its cooling water from the adjacent river Nokianvirta. After usage, the water is returned back to the river. The cooling water is never in contact with any chemicals used in the manufacturing process, and therefore it does not become contaminated before returning to the river. No numeric targets can be set for cooling water consumption as it depends on the temperature of the river water. The waste water of the plant (process and sanitary water) is pumped to the Nokia city sewage treatment plant. The graphs illustrate the amount of cooling water released from the plant to the river and the municipal sewage system.

Samples of the cooling water released to Nokianvirta and of the waste water led to the sewage treatment plant are taken annually to check the water quality. The water led to the Nokia city sewage system was rather typical sanitary water. The water in all cooling water drains was practically clean in 2009: it did not contain oil, solvents or other substances indicating a burden on the water system in amounts detectable by analysis.

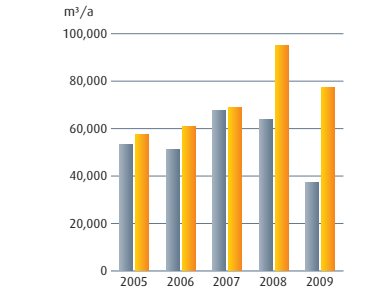
Continuous improvement

There are several ongoing waste reduction projects in various production departments. Over the past few years the focus has shifted from one-off waste projects to continuous improvement of activities. For example, a bar-code based waste reporting system was introduced in late 2009. Production waste (non-vulcanised scrap rubber) is weighed per sort and the data is entered into a database using the bar codes. The database is used for monitoring the generation of different waste sorts at a daily level, which enables immediate measures if any deviations are detected. An online reporting system is used at the production meeting every morning for reporting the overall waste level and the main reasons for waste generation. This system has replaced the previous practice of monthly reporting. The amount of waste is one of the key indicators monitored daily. It is overseen by company management, and production supervisors are required to implement improvement measures to reduce waste.

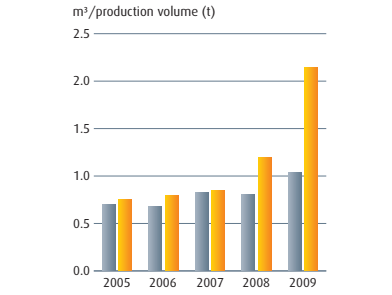
Hazardous waste 2009



Water and wastewater



	2005	2006	2007	2008	2009	
Water	53,162	51,346	67,683	63,802	37,421	m³/a
Waste water	57,417	60,862	69,101	94,966	77,302	m³/a



	2005	2006	2007	2008	2009	
Water	0.70	0.68	0.83	0.81	1.04	m³/prod. t
Waste water	0.75	0.80	0.85	1.20	2.14	m³/prod. t

Tyre plant's environmental impact

PARTICLE EMISSIONS TO THE AIR

1.5 t

HAZARDOUS EMISSIONS TO THE RIVER

0 t

AVERAGE NOISE LEVEL LA_{eq}

<55 dB

Vsevolozhsk plant
150 tonnes of tyres per day

Water from municipal system	296 m^3/d
Energy consumption	230,000 kWh/d
Noise	< 44 dB
Waste water to sewage system	250 m^3/d
Rainwater	119 m^3/d

Key measures 2009

The following table summarises the most important environmental goals outlined in Nokian Tyres' Nokia plant's environmental programme for 2009 and their realisation.

Object	Target 2009	Realisation	Explanation/ outcome
Implementation of the REACH regulation	According to project plan	Completed according to project plan	
Annual emission measurements	VOC, water	Completed	
Safety audits	2 audits/unit	2 audits/unit	
Further measures following the extinguishing water review	Planning and implementation of the additional measures outlined in the review	No progress	Statutory tasks were prioritised over this
VOC emissions	Max. 25% of the amount of solvents purchased	35% of the amount of solvents purchased	The reduction of solvent use has not succeeded as planned
Total amount of waste	< 100 kg/product ton	126.1 kg/product ton	
Non-vulcanised scrap rubber	< 2,810 t	1,537.3 t	
More efficient paper collection	From bulk freight to a packing garbage truck	End 2009/beginning of 2010	
Reducing the amount of booster chemicals	< 800 active trade names	786 trade names in December 2009	The project continues in 2010
Chemical training to the employees of mixing department	Training provided annually for the employees of mixing department	Three shifts received training	One shift was laid off
Internal cross-auditing between Nokia and Vsevolozhsk	By the end of 2009	Not implemented	Statutory tasks were prioritised over this

Key measures 2010

The most important environmental goals outlined in Nokian Tyres' Nokia plant's environmental programme for 2010.

Object	Area	Target	Schedule
Legislation	Implementation of the REACH regulation	According to project plan	12 / 2010
Permits	Emission measurements	VOC, cooling and waste water; particle measurements. Noise and odour surveys using spreading models.	9 / 2010
Emissions into the air	VOC emissions	< 25% of the amounts of solvents purchased, progress according to NHT's project plan	12 / 2010
Emissions into the air	CO_2	Determination of the ecological footprint of our products	12 / 2010
Waste management	Total amount of waste	< 100 kg/product ton, utilisation ratio > 95%	12 / 2010
Waste management	Non-vulcanised scrap rubber	< 1,500 t (1,537 t in 2009) According to department-specific targets	12 / 2010
Waste management	Waste survey at Nokia plant	According to plan	4 / 2010
Management system	Safety audits	2 audits/unit	12 / 2010
Management system	Internal cross-auditing between Nokia and Vsevolozhsk	in 2010	12 / 2010
Communications	Increasing staff's environmental awareness	According to the environmental programme	12 / 2010

Efficient logistics lighten the environmental burden

The business of Nokian Tyres is highly seasonal. The success of a season depends on having the right tyres in the right place at the right time. This calls for flawless logistics, efficient IT systems and skilled season management. One weak link in this chain can compromise the success of the entire season.

Logistics management is very important to Nokian Tyres. Completed tyres are transported from the plant to the Group's own warehouses or straight to the customer. Before the start of the summer and winter season, the warehouses are full of products waiting for orders and deliveries. Storage time varies depending on the time of year and the order. Products are ordered by both Nokian Tyres' own sales companies and external customers. The tyres are packed into containers and delivered to destinations around the world by road, rail or sea. Delivery times range from one day to four weeks.

Development work to optimise transportation

Nokian-branded tyres are sold in more than 50 countries by the company's own sales organisation and thousands of customers. The customers include tyre chains, car dealers, tyre wholesalers and retailers, independent importers, machine and equipment manufacturers, port and logistics companies and transport companies. The tyre chain Vianor plays an increasingly important role in Nokian Tyres' sales and season management. Currently, Vianor outlets generate a significant proportion of the Group's sales.

Nokian Tyres and Vianor are undertaking persistent development measures to achieve better, more efficient logistics. The Group aims to avoid all unnecessary transportation, which also contributes to a smaller environmental burden. In order to minimise the transportation distance and the consequent environmental impacts, tyres are delivered from the production plants to the customers as directly as possible, in full loads.

Transportation is one of the biggest environmental impact factors of the Vianor chain. Vianor strives to maximise the number of tyres dispatched from its import storage in each shipment and to minimise transportation between outlets. The tyre chain monitors the weight of shipments dispatched from the import storage. The tyre transport trucks are loaded as full as possible. For example, packing tyres in a 'scaling" formation saves room efficiently.

A substantial number of Nokian Tyres' deliveries in Central Europe are implemented as intermodal transportation, i.e. the trailer is loaded onboard a train. Railway transportation is widely used and marine deliveries are made whenever possible. The company prefers maximum container sizes (45' HC and 40' HC). Whenever possible, Nokian Tyres makes two-way deliveries in order to avoid return legs with empty trucks.

When selecting hauling companies to handle its tyre deliveries, Nokian Tyres places a great emphasis on the partner's environmental management and environmental certification.

The tyre transport trucks are loaded as full as possible. For example, packing tyres in a "scaling" formation saves room efficiently.

Choose wisely – consume less

Nokian Tyres' environmental protection policy stems from life-cycle thinking. This means that the company acknowledges its responsibility for the environmental impacts of its products and activities over their entire lifecycle. Most of the tyre's environmental impacts are generated during tyre use with fuel consumption causing the most significant impact.

> The rolling resistance of tyres can account for as much as 20% in the car's fuel consumption. Lower rolling resistance translates into lower fuel consumption and exhaust fume emissions.

Greenhouse emissions into the air can be reduced by lowering fuel consumption. The most significant factor affecting the level of exhaust fume emissions is the driver's driving style. Economic driving can save up to 10–20% in fuel consumption. It entails such features as avoiding sudden braking and accelerating and maintaining correct tyre pressure. Correct tyre pressure ensures that the tyre rolls and steers easily. If the tyre pressure is too low, it weakens the driving properties and makes the tyre wear much faster.

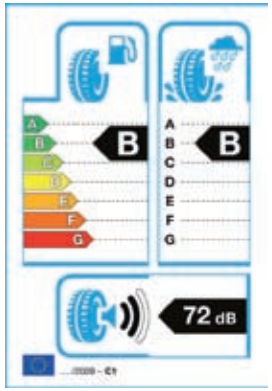
Tyres also affect cars' emissions, and the right choice of tyres can help reduce fuel consumption. The weight and rolling resistance of tyres have an impact on fuel consumption and, consequently, the environment. Nokian Tyres' long-term, goal-oriented development work has strongly focused on lowering the tyres' rolling resistance.

Rolling resistance refers to the energy consumed in the deformation that takes place when the tyre grips the road. This deformation, and the amount of energy it requires, can be regulated with structural and material choices in tyre design. The higher the rolling resistance, the higher the fuel consumption. The rolling resistance of tyres can account for as much as 20% in the car's fuel consumption. Lower rolling resistance translates into lower fuel consumption and exhaust fume emissions.

In addition to fuel consumption, tyre noise is another issue that has a significant impact on the environment when a tyre is being used. Nokian Tyres' tread patterns incorporate many features that reduce noise. The positioning of the tread blocks, circumferential platforms in the bottom of the main grooves and noise cavities all dampen tyre noise.

New classification to support purchase decisions

Nokian Tyres keeps abreast of the developments in environmental and safety legislation in Finland, the European Union and Russia, and anticipates the impact of regulations under preparation. According to the EU's new classification system, from November 2012 tyres will have to be labelled with their rolling resistance, wet grip and drive-by noise values.



For years, Nokian Tyres has been carrying out sustained development work in questions related to tyre safety and eco-friendliness. The new classification entails challenges, but the decision is very positive for Nokian Tyres. It opens up many possibilities for the company specialising in high-quality special products. The tyre's rolling resistance, wet grip and noise levels indicated on the tyre according to a clear classifica-

Your tyre choice makes a difference!

Nokian Tyres' technical customer service is responsible for product and usage training, new product launches, technical information distribution and resolution of problems related to the company's products and their usage throughout the entire customer chain. Matti Morri, Technical Customer Service Manager, has worked at Nokian Tyres for more than 20 years and he knows the company's tyres and their properties inside out. For him, tyre safety means durability and functionality in different conditions; in other words, the tyre must not surprise the driver even in the most varying weather.

– A wrong choice of tyres can spoil the car's driving properties. The optimal outcome is achieved by choosing tyres of the right speed category and size and maintaining the right tyre pressure. Wrong tyre pressure causes the tyre to wear too quickly because of overheating. In addition, low tyre pressure increases fuel consumption and, consequently, CO_2 emissions.

The most important in-use environmental impact of tyres is the vehicle's fuel consumption. It can be lowered as much as 0.5 litres per hundred kilometres by regularly checking the tyre pressure and selecting modern tyres with low rolling resistance.

– Every driver can make a difference for the environment, his or her personal finances and well-being by selecting safe, quiet tyres made from pure raw materials.

The tyre purchase decision should not be based on the price alone; personal values should dictate the priorities.

– We should choose the tyre that is the safest as a whole, bearing in mind that when driving, we are carried by four contact areas the size of the palm of your hand.

Hakka guarantee

The Nokian Hakka summer tyres are designed to endure driving in demanding conditions: grooved roads and even suddenly changing weather. In order to enhance usage safety, Nokian Tyres grants the Hakka guarantee free of charge for all Nokian Hakka summer tyres in Finland, Sweden, Norway and Russia. If an appropriately-used and correctly-mounted tyre is accidentally damaged beyond repair in normal usage, it will be replaced, free of charge, with a corresponding new tyre. In 2010 the Hakka guarantee was expanded to also cover the satisfaction guarantee: if the customer is not pleased with the Nokian Hakka tyres, the tyre set can be replaced with a new one.

Tip:

New winter tyres need a careful run-in. Avoid heavy acceleration and braking during the first 500–1,000 km of driving. This improves grip and durability of tyres and makes the studs stay on better.
Check the wearing of front and rear tyres and, if necessary, swap the rear tyres to the front. This helps maximise the tyres' service life and ensure even wear.

See more tips on tyre usage and safety at www.nokiantyres.com

tion will facilitate consumers' purchase decisions and comparison between tyre brands.

The new classification functions in a manner rather similar to the classification of household appliances. The categories are A, B, C, D, E, F and G. The green A category is the best and the red G category the lowest, i.e. poorest. The classification labelling indicates how much a tyre affects the car's fuel efficiency and how it performs in wet conditions. It also shows its external rolling noise in decibels.

The highest class passenger car tyres sold at the moment would belong to category C in terms of rolling resistance, whereas the majority of tyres are in categories G, F and E. In practice, moving one category higher means a reduction of 2–3% in the fuel consumption of an average car. Nokian Tyres has performed excellently in challenging development work. For example, Nokian Hakkapeliitta winter tyres have been in the top class with respect to rolling resistance in car magazine tests. In all this year's test reviews, the Nokian Hakkapeliitta R friction tyre had the lowest rolling resistance. Nokian Hakkapeliitta R tyres, can save up to 0.5 litres of fuel/100 km and at the same time reduce CO_2 emissions by 12 g/km.

Work for the environment – today and in the future

As climate change proceeds and extreme conditions become more common, tyre properties are increasingly emphasised. Nokian Tyres is prepared to respond to the challenges of climate change. New focus areas are actively being sought in tyre material development. New solutions will include a new generation of silica compounds and steel belt structures. They generate less heat in the tyre deformation process, which lowers the rolling resistance. Nokian Tyres estimates that in 2015 the best passenger car tyres will likely reduce fuel consumption by 5% more than the best tyres of today without deteriorating any safety properties. Nokian Tyres does its best to develop and manufacture products in a manner that can help slow down the greenhouse effect.

New life for old tyres

Jari Mäki, Sales Manager from Vianor Tampere, has a long professional history in the tyre business. His career started 16 years ago with the curing of heavy tyres, from where he proceeded to a supervisory position in passenger car tyre production and on to his current job.

– It is great to see the tyre business also from the perspective of sales and customer service. Vianor and Nokian Tyres share the aspiration to reduce environmental impacts. I used to be a link in the chain of manufacturing environmentally friendly premium tyres, and now I get to sell them. When a customer buys a high-quality tyre, it is a good deal for both parties because there is no need for complaints.

Vianor utilises an operational system based on quality and environmental standards. The system covers tyre sales, mounting services, repairs and retreading. Vianor is committed to the principle of continuous improvement: it strives to increase customer safety and prevent harmful environmental and safety effects.

– We recycle end-of-life tyres, and the containers of discarded tyres are emptied regularly. Not many people know that consumers can bring separated tyres and rims to us for recycling, free of charge.

Old tyres can get a new life at Vianor's retreading plants, in land construction or as noise barriers. In addition to the efficient recycling of tyres and rims, Vianor also recycles such waste as scrap iron, batteries, oily waste and cardboard.

– Our way of working also includes environmental training for our employees. We keep up with the development in environmental affairs. After all, we are all pulling together to make the world better for the generations to come.

Where do tyres go after use?

In Finland, a total of some 3.5 million end-of-life tyres are discarded every year. This equals approximately 40,000 tonnes. Fortunately for the environment, the discarded tyres are not worthless. They continue their service in a variety of reuse targets: they can, for example, block motorway noise as noise barriers or make a horse-back riding area more flexible as one of the surface materials.

> The majority of recycled tyres are used as material: they are crushed or granulated for various land construction purposes to replace stone materials.

In order to collect and utilise discarded tyres in a centralised, nationwide manner, a group of tyre-industry operators, including Nokian Tyres, established Finnish Tyre Recycling Ltd in 1995. This was done in response to the decision of the Finnish Council of State that obliges tyre manufacturers to arrange the utilisation of discarded tyres, as well as the related communication and information distribution. The recycling of end-of-life tyres is financed with a recycling fee collected when purchasing new tyres. This means that the actual tyre users pay the recycling costs.

Exemplary tyre recycling

If tyres were not appropriately recycled, they would end up in the environment or pile up in people's storages. In Finland, the tyre recycling rate is higher than in most other countries: in Finland, it is nearly 100%, whereas the corresponding figure for all of Europe is only 60%, and the non-recycled tyres are taken to landfill sites. In Finland it is forbidden to dump tyres in landfill.

The majority of recycled tyres are used as material: they are crushed or granulated for various land construction purposes to replace stone materials. The retreading of tyres is one of the best recycling methods. If the tyre frame is intact, a passenger car tyre can be retreaded once, and for bus and truck tyres, perhaps 2–4 times. Tyres can also be incinerated for energy generation, because their thermal value is almost as high as that of oil. New recycling methods and utilisation targets are sought all the time.

Finnish Tyre Recycling Ltd

Finnish Tyre Recycling Ltd organises the collection and management of end-of-life tyres and arranges the reception, storage, reuse, utilisation or processing of discarded tyres. In addition, it communicates and informs people in matters related to tyre recycling and environmental protection. The company does not aim to make profits but to implement the recovery and reuse of discarded tyres as stipulated in the government's decision as effectively, appropriately and cost-efficiently as possible. On 14 October, 2004, the Pirkanmaa Regional Environment Centre approved Finnish Tyre Recycling Ltd as the first Finnish producer association in accordance with the amended Waste Act.

Goals for 2013

The entire Nokia plant's VOC emissions in proportion to the solvents used

25%

Reduction of Heavy Tyres' VOC emissions from the relative level of 2008

60%

Waste utilisation ratio

> 95%

Proportion of mixed waste in total waste

< 2%

Responsible operations in all areas

The Nokian Tyres Group aims at responsible corporate citizenship in all of its activities. Environmental and safety features are key factors in the development, manufacture and marketing of our products. Apart from meeting the requirements and norms of society, Nokian Tyres wants to be a forerunner in environmental and safety matters related to its products, people, production and logistics.

At Nokian Tyres, the well-being of our employees is a key factor. The Hakkapeliitta Way development project initiated in 2009 aims at improving process management competencies in our organisation and responding to local and international management challenges. In addition, we intend to reinforce our corporate culture with the needs of international growth and change management in mind. We will continue to strive for industry leadership and a zero tolerance for accidents.

For years we have been carrying out sustained development work in questions related to tyre safety and eco-friendliness. Nokian Tyres was the first tyre manufacturer in the world to introduce a manufacturing method using only purified, low-aromatic oils. The tyre classification system defined by the European Union in 2009 further boosts the development of environmentally friendly tyres. The classification entails challenges, but we will tackle the challenges with our will to win. This is a great opportunity for a tyre manufacturer specialising in special products of high quality, such as Nokian Tyres.

We will do our best to develop and manufacture products that are good for the environment without compromising safety. Today and in the future.

Kim Gran
President and CEO

Abbreviations

EHSQ
Abbreviation from Environment, Health, Safety and Quality.

EMAS (Eco-Management and Audit Scheme)
EMAS is a voluntary environmental scheme for organisations. It is an environmental management tool for systematically accounting for the environmental aspects in all activities. So far, EMAS only concerns activities in EU or EEA member states.

HR
Human Resources, i.e. personnel issues.

ISO 14001
An environmental system standard of the International Organization for Standardization (ISO).

ISO 9001
An environmental system standard of the International Organization for Standardization (ISO).

Low aromatic oil
Purified oil that contains no harmful PAH compounds.

REACH (Registration, Evaluation and Authorisation of Chemicals)
Registration, Evaluation and Authorisation of Chemicals. REACH constitutes the EU's new chemicals legislation.

RASTU
A heavy transport research project led by the Technical Research Centre of Finland.

TKK (HUT)
Helsinki University of Technology

TUKES, the Safety Technology Authority
The authority controlling industrial processing and storage of chemicals. The Authority controls, develops and acts as an expert on technical safety and reliability.

VALVIRA
The National Supervisory Authority for Safety and Health, works to prevent the harmful health effects of chemicals, fire and explosion hazards.

VOC (Volatile Organic Compound)
Volatile organic compounds are generated in solvent processing. These may react with nitrogen oxides in the sun and form harmful ozone in the lower atmosphere.

VTT
The biggest organisation for applied research in northern Europe. VTT offers versatile technology and research services for Finnish and international customers in the business and public sectors.

Verification

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Keijo Salo
Main reviewer DNV Certification Oy Ab, FI-V-0002
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