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Norske Skog's **climate** measures

Norske Skog will assume its share of the responsibility for reducing global greenhouse gas emissions. **Norske Skog aims to reduce its total annual greenhouse gas emissions by 25 per cent, about 1 000 000 tonnes of CO₂, by 2020.** The climate ambitions of Norske Skog's management are fully in line with the goal of the Combat Climate Change (3C) initiative, of which Norske Skog is one of the founding members. The reductions will take place through reduced energy consumption, conversion to alternative sources of energy and other measures.



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Climate on the agenda

2007 was the year the world realised the gravity of the climate challenges the planet is facing. The situation is more serious than previously thought. No-one can now allow themselves to sit back and leave solving the climate problems to others. All of us must make an effort. he global environmental challenges affect Norske Skog. We are setting the bar for our environmental results higher and higher. It is also important for our customers that our production minimises the impact on the environment. Good environmental results are an important competitive advantage. In 2007, Norske Skog participated in the founding of the Combat Climate Change (3C) initiative, a global initiative taken by a number of the large industrial companies to combat climate change. Norske Skog aims to reduce the company's emissions of CO₂ by 25 per cent by 2020.

In 2008, we are also strengthening our effort in the field of bioenergy. In cooperation with Norwegian forest owners, we established a company which will start by building a pilot facility at Norske Skog Follum for the production of biodiesel based on forest based materials.

Norske Skog has also established a separate company for international trading in recovered paper. At present, we are the world's largest consumer of recovered paper for production of newspaper, and we have a global organisation with expert competence in this area.

We are strengthening our cooperation with non-governmental organisations and with authorities in the countries in which we operate, working continuously to ensure the best conditions for running our business in the most environmentally friendly way. It is the profits we earn that allow us to invest even further in environmental programmes and improvements. We all ultimately have the same target, a clean environment based on the sustainable use of limited resources. A balanced approach means seeing the big picture, not focusing on one single environmental target at the expences of others.

Norske Skog faces many challenges:

- 2007 was a demanding year, characterised by continued cost pressure, excess global production capacity and low prices in many markets.
- Our financial results were far from satisfactory. We must reverse this trend. This is the great challenge facing Norske Skog and me.
- The prices of raw materials, energy and transport have shown a strong increase in recent years, while excess capacity prevents us from achieving corresponding price increases for our products.
- The imbalance between production capacity and demand remains the industry's largest problem. Both Norske Skog and a number of our competitors have either implemented or announced permanent shutdown of newsprint production capacity.
- In connection with the reduction of production capacity and costs, many skilled employees will unfortunately become redundant. Norske Skog will help those affected find new work to the greatest extent possible.

From an environmental perspective 2007 was a good year for us. In spite of challenges we are currently facing we have solid foundations based on good environmental and social performance.

Christian Rynning-Touresen

Christian Rynning-Tønnesen President and CEO

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Norske Skog's environmental policy

Norske Skog's environmental policy is an integral part of the strategy to achieve the overall corporate goal. It shall support sustainable development of environment and natural resources. The environmental commitments shall be viewed in context with the company's commitments to health, safety and corporate social responsibility. Norske Skog's environmental strategy and policy applies to all its business units. Norske Skog will work for similar environmental values in joint ventures and partially owned companies.

- Norske Skog shall operate and develop its business units by continuously improving their en vironmental performance, and with a view to reducing the environmental impact to a minimum. The basic requirement is compliance with laws and regulations.
- Efficient production processes with high yield on raw material and energy utilisation shall be key objectives in all production units. Environmental aspects shall be integrated in strategic considerations and operational decisions.
- Environmental responsibilities and tasks shall be clearly defined and adhered to throughout the organisation. The business units shall educate and train employ-

ees to know and understand the policy, its requirements and the work performance expectations.

- Certifiable internationally acknowledged environmental management systems shall be actively applied in the management in all production units.
- Norske Skog's production units shall have environmental programmes with clear objectives and annually set targets supporting the company's environmental policy and strategic ambition.
- Norske Skog shall expect the same high environmental performance from suppliers of goods and services in the value chain as maintained in its own activi-

ties. Forest certification shall be encouraged and certified wood suppliers will be given priority.

- Norske Skog shall have an environmental performance that supports its customers in reaching their environmental objectives.
- Norske Skog shall operate and develop its business units with respect for, and understanding of, the social and cultural values that exist in the countries in which it operates.
- Norske Skog shall be open to and actively engage in dialogue with stakeholders and will communicate openly on environmental matters.

Organisation of environmental work in Norske Skog

• GLOBAL:

Norske Skog's chief executive officer has overall responsibility for the company's results, including its environmental performance. A separate corporate environment (CE) department is responsible for developing and maintaining the global environmental policy, and for specifying and following up strategic environmental targets on behalf of the chief executive officer. The CE department works to ensure that the mills (business units) and other functional units set their own environmental targets and perform in accordance with these. It receives monthly mill reports, which are collated and reported to the corporate management and quarterly to the board of directors. The department cooperates closely with other Norske Skog functions. It may also provide support or assistance to business units on specific issues.

 LOCAL: Most of Norske Skog's environment-related work takes place in the mills. Each Business Unit manager has operational responsibility for meeting environmental targets at the facility. This responsibility is passed down to departmental managers and to each employee. All the mills have a dedicated manager, responsible for environmental matters, who reports directly to the mill manager. All mills cooperate closely with the CE department. A meeting is held once a quarter between the CE department and all the mills, primarily as a teleconference, in connection with the quarterly reporting.

Seeing the whole picture

When the environmental sustainability of a product is discussed, often only one part of the value chain of the value chain is in focus. To make a fair evaluation of the environmental standing of products, we need to look at the issues along the entire value chain.

The main issues related to paper products are fibre supply, the efficiency of mill production processes and emissions, energy use and greenhouse gas emissions and the fate of the product at the end of its life.

Forestry plays an important part in the challenge to combat climate change. Deforestation in developing countries is presently responsible for 20 per cent of the world's greenhouse gas emissions. Forest biodiversity degradation through the logging of high conservation areas is another challenge. Forest certification is an important tool in the effort to manage the world's forests on a sustainable basis and to make sure that wood based raw materials come from sustainably managed forests. There are two main global forest certification systems - FSC and PEFC - that function as umbrellas for endorsed national schemes. In terms of land area, PEFC is currently the globally dominant certification umbrella, with a certified forest area twice as large as that of FSC. In terms of public recognition, the FSC scheme appears to dominate in many regions. Norske Skog regards these two systems as equally valuable and has no preferences to any one system. All wood used by Norske Skog comes from sustainably managed forests.

The main tool used to follow the fibre raw material through the whole value chain is 'chain of custody.' This certification process provides an assurance that claims of "certified wood" can be substantiated. All Norske Skog units will have chain of custody certification by the end of 2008. Currently a number of our customers are achieving certification. It is again our view that FSC and PEFC certificates are equally valuable.

A number of paper purchasers only want paper that is based entirely on recovered fibre. Perhaps they fail to realise that if all purchasers made the same demand, they would all be without paper in a short while. The loss of paper and the natural degradation of fibre through use, collection and reprocessing means that fresh fibre from timber must be added in order to maintain the supply and quality of the paper.

The product is environmentally friendly when fresh fibre comes from sustainably managed forests. Recovered paper provides 52 per cent of the fibre that Norske Skog uses in its paper manufacturing activities. This makes us the world's largest user of recovered paper for our line of products. A balanced approach to fibre supply is important.

In a world where increasing demands are being placed upon finite natural resources and the ecosystems which supply them, it is important that our production processes are efficient and continuously improving. Environmental management systems are an important management tool in this respect. Environmental certification like ISO 14001 not only assists in achieving compliance with laws and regulations, it also ensures that we have management tools and processes in place to identify and bring about continuous improvement. Sixteen of our eighteen mills



have ISO 14001 certification and the remaining two mills in China will attain this certification in 2009.

In addition, Norske Skog has developed an internal environmental index to set targets and review our work to improve our resource use efficiency and reduce our emissions. Our long term goal is for all our mills to operate at standards comparable to the limits defined in EU Best Available Technology documents.

Climate change is the environmental issue receiving the greatest attention today. Our emissions of greenhouse gases are primarily associated with our use of energy. Greenhouse gas emission rates differ considerably between our mills. The main reason for this lies in the different energy sources used both for externally purchased energy and for energy produced on-site. Energy is supplied from a variety of sources, including hydroelectric and nuclear power (which produce no greenhouse gas emissions), bioenergy (which is greenhouse gas neutral) and fossil fuels like gas, oil and coal (which emit greenhouse gases). Purchased energy is mainly electrical energy used for fibre processing and to operate machinery. On-site produced energy is mainly used to heat processes and to dry paper on the production line. In many cases we use energy several times. For example the thermo-mechanical process which uses electricity to separate wood fibres generates steam which can then be used to heat other processes or dry paper.

The choice of raw materials, the products made, process efficiencies and historical investments also influence the energy use of a mill and its greenhouse gas emissions. The main strategies available to reduce greenhouse gas emissions involve reducing the consumption of energy and/or changing the source of the energy we use. In 2007 Norske Skog established a greenhouse gas reduction target (a 25 per cent reduction in total emissions by 2020) in order to provide added focus on this issue.

Increased use of bioenergy is an important strategy to reduce the greenhouse gas emissions. Bioenergy presently accounts for about 14 per cent of Norske Skog's total energy consumption, and this share is steadily increasing. The source of the bioenergy is wood-based production waste, sludge from biological effluent treatment plants and demolition waste.

The use of recovered paper as a raw material resource is positive from a climate change perspective. It takes less energy to separate the fibres in recovered paper than from wood chips during fibre processing. The fibres from the recycling process which are no longer suitable for paper making may then be converted into renewable electricity or heat. Even at the end of its life cycle our product has a positive contribution to make to the environment. An increased focus on the environmental impact of our lifestyles and activities is both necessary and important if we are to become a sustainable society. When making these evaluations it is important that we see how the different parts interact and affect each other. Focussing on single issues is often counterproductive and can lead to poor decision making. So when we look at paper products and their alternatives we need to look at the 'whole picture'.

The forest-based industry has a unique position when it comes to the environment. The raw material is renewable, the products are highly recyclable and both raw materials and products store carbon. Sustainably managed forests will absorb the carbon dioxide from the combustion of forest-based material. At the end of their life cycle the products can be used to produce bioenergy, which is neutral with regard to climate change.

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BUSINESS AND SUSTAINABLE DEVELOPMENT

New commitments, new expectations

By Bjørn Stigson, President WBCSD

The world we inhabit today faces huge challenges of sustainability. This is no longer news; the awareness has entered the mainstream.

he science is clear, the literature abundant, and the evidence mounting. The world is faced with the seemingly conflicting objectives of meeting the demands of a growing population while at the same time reducing negative impacts on society and the environment.

The current global population of 6.5 billion is predicted to grow by half again by 2050 and to reach a staggering 9.2 billion, 85 per cent of whom will live in developing countries. The energy required to meet the needs of this growing number of people is forecast to increase by as much as 50 per cent between now and 2030 requiring investments of US\$ 20.2 trillion over the same period. Then there is demand for food and non-food crops which is also rising. At the same time, we are faced with the very real problems of resource depletion, ecosystem destruction and climate change. If we are to slow down and reverse resource destruction and climate change impacts, we will have to cut our carbon emissions - by some estimates by as much as 50 per cent by 2050.

What has changed is a new awareness that far-sighted business, spearheaded by the WBCSD membership, in which Norske Skog is an active player, is ready to work with concerned stakeholders to tackle these challenges.

Twenty years ago, the idea that large corporations, governments and civil society could actually seek to work together on challenging issues was largely unheard of. Large corporations were viewed as part of the problem, and were considered to only care about the quest for profits. Governments were billed as commercially ignorant and determined to stymie business efforts, while NGOs campaigned against both. The relationships were of course much more complex but this was the perception in many parts of society.

Then things began to change. In 1987, the Brundtland Report first coined the term "sustainable development". The report went further and proposed that business, governments and civil society work together to try to tackle global issues, notably environmental degradation and poverty alleviation. In 1992, the idea was taken one step further when business was invited to participate at the Earth Summit in Rio.

Twenty years down the road sustainable development is at a tipping point; there is an urgent need for action. Business is ready to step up to the plate. But this commitment also comes with new responsibilities and new expectations to business. Civil society, in particular, is waiting

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for business "to put its money where its mouth is" and take action.

The business commitment to action was proclaimed loud and clear at the WBCSD's recent council meeting in Brussels. During this meeting, many of my colleagues in the business world concurred with me that the sustainable development stakes are going up. Sustainable development in itself is becoming a competitive issue and creating growing tensions within the business community. Business is ready to do its part to tackle issues of sustainability. It makes good business sense: business cannot succeed in societies that fail.

The challenges we face today are as much a threat to business as they are to society. Business faces operational risks as availability of raw materials water, minerals - diminishes or costs rise in response to scarcity. Other risks include restricted access to capital in response to more stringent lending policies introduced by the financial community; greater insurance premiums to foot the bill for the rising number of natural disasters; increased regulatory measures, including new taxes or restrictions on access to key resources; not to mention damaged reputations and consumer backlash.

Part of the solution to mitigate the challenges we face today lies with

technology development. It also requires mobilising capital and resources, as well as sound financial and systems' management. Herein rests another very important motivating factor: these are all core functions of business.

Business has already harnessed its expertise and developed technologies that could go a long way towards tackling global challenges. In the energy sector, carbon-efficient technologies such as nuclear and large hydro already exist and are widely deployed in certain parts of the world, notably Western Europe. The technologies themselves are mature, what are largely missing are the conditions for their deployment. In Western Europe these conditions are mainly regulatory, whereas in developing nations they are both regulatory and infrastructural.

It is widely accepted also that fossil fuels – particularly coal – will be used for the foreseeable future, particularly in those developing countries where supplies are both abundant and cheap. At present, 40 per cent of power generation is fuelled by coal. The key here will rest with clean coal technologies. Some of these technologies, such as carbon capture and storage (CCS) or combined cycle gas turbine (CCGT), are mature. They are potentially ripe for deployment. Yet they are not widely



World Business Council for Sustainable Development

The World Business Council for Sustainable Development (WBCSD) 's mission is to provide business leadership as a catalyst for change toward sustainable development, and to support the business license to operate, innovate and grow in a world increasingly shaped by sustainable development issues

WBCSD is a CEO-led, global association of some 200 companies dealing exclusively with business and sustainable development.

The Council's objectives are to:

- Be a leading business advocate on sustainable development;
- Participate in policy development to create the right framework conditions for business to make an effective contribution to sustainable human progress;
- Develop and promote the business case for sustainable development;
- Demonstrate the business contribution to sustainable development solutions and share leading edge practices among members;
- Contribute to a sustainable future for developing nations and nations in transition.

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in use. Part of the reason for this is the cost of initial outlay required for their implementation which has served to deter their development and deployment in emerging economies but also in developed countries.

Similarly, many technologies are being studied that do have the potential to provide low-carbon solutions. Large-scale decentralised photovoltaic solutions, wind, wave and solar power are just a few of the options that spring to mind. Although promising, the competitiveness of these technologies on a large scale remains largely untested.

The energy sector is not the only area where business has the potential to supply technological solutions. The service sector - finance, banking and insurance - has the capacity to leverage its core competencies to provide solutions to mitigate resource depletion and ecosystem degradation, for example. Possible business solutions include brokerage for environmental services, trading in wetland mitigation credits, exchanging biodiversity offsets, etc. Some of these solutions are already operating, notably in the US where brokerage firms and accompanying legislation are at an advanced stage of development.

A company like Norske Skog – whose core activity relies on forest products – can and does integrate sustainability into all of its operations through concerns about energy efficiency and sourcing from certified forests.

The potential solutions outlined above throw into stark relief the urgent need for appropriate legislation and regulatory frameworks. Although many of the technologies and potential solutions that could contribute towards a sustainable future exist, the conditions for their wide-scale deployment are missing. Unless these conditions are met, business efforts to contribute towards a sustainable future may fail before they even reach the starting block.

To be effective these technologies require appropriate regulatory frameworks that only governments can deliver. Some of these may need to be technology-specific, while others may need to be regional in focus, but they all need to be integrated to ensure that they do not contradict one another or provide perverse incentives. For example, although large hydro and nuclear power exist as low-carbon options, in order for them to be deployed, legislation is required to ensure that environmental and biodiversity impacts are properly managed, in the case of the former, or that the appropriate safety mechanisms governing installations and waste disposal are in place, in

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the case of the latter. Similarly, where technologies are close to maturity but deployment scant, greater investment is needed to facilitate their deployment. End-use incentives are similarly needed to encourage implementation; these could include tax-based incentives, for example. Finally, where technologies are potentially promising but development is slow, investment is needed to speed up the pace to ensure that they are created swiftly and do not go into obsolescence before they reach the market-place.

Perhaps the biggest challenge confronting business in its efforts to tackle climate change rests in a lack of global integrated regulatory framework and agreed emission targets. Technology development takes times and money. Business is ready to make the investment. However, it cannot do so if the goal posts keep moving. Business needs firm targets if it is to develop the appropriate technology. It requires technology-lifetime guarantees and assurances that it will not be obsolete before it reaches the market place. Similarly, business seeks reasonable return on investments.

To avoid falling at the first hurdle, business needs governments to provide technology and locationspecific assurances. At the same time, it needs a global agreement about emissions targets and energy use if it is to develop technology at sufficient scale and roll it out across the globe. WBCSD Membership is ready to work with governments and civil society to create the necessary conditions to meet its commitments and fulfill expectations.

> The challenges we face today are as much a threat to business as they are to society.

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SUSTAINABLE RAW MATERIALS

Recovered and fresh fibre

The main raw materials for newsprint and magazine paper production are recovered paper, round wood and sawmill chips. Norske Skog has a good balance of recovered and fresh fibre in paper products, 49 per cent and 41 per cent respectively in 2007.



Some paper purchasers want paper based entirely on recovered paper. However, a value chain based only on recovered paper is not sustainable. Fresh fibre must be added. Factors such as consumer awareness, waste disposal and collection systems and alternative uses for used paper influence its collection rate. A large proportion may be lost from the recovered paper 'loop'. The structure and strength of the cellulose fibres in paper degrade with successive use. Recovered paper fibres that are no longer suitable for papermaking are rejected in our mill pulping processes and are generally used as a source of renewable energy. In Europe the EU target for paper collection is 66 per cent by 2010. As more paper is recovered, the quality of the recovered paper will ultimately be reduced. To make the recovered paper value chain sustainable, fresh fibre direct from forests, plantations or sawmill residues must therefore be added. Sawmill chips, the waste product from the sawmilling process, made up one third of the company's fresh fibre supply in 2007.

Some paper grades also contain substantial amounts of purchased chemical pulp (3 per cent of total raw materials) and inorganic fillers, mainly kaolin and calcium carbonate (7 per cent of total raw materials). This is particularly the case for magazine papers. The paper may also contain small amounts of binders, such as latex, starch and pigments.

The type of fibre source used at the different Norske Skog mills depends upon the availability of raw materials as well as economic considerations. The minimisation of transport distances and costs is an increasingly important economic and environmental consideration.

FRESH FIBRE

Norske Skog is not a significant forest owner. Less than 4 per cent of the wood we consume originates from our own forests in Australia. In Brazil, we are developing plantations to supply Norske Skog Pisa, and these are due to supply wood from 2009. In all countries where Norske Skog sources wood, with the exception of Brazil, the area of land under forest is increasing. In Brazil Norske Skog's wood supply comes only from plantations. In 2007 Norske Skog consumed 2.7 million tonnes of fresh fibre. The roundwood component of this fresh fibre came from both managed forests (65 per cent) and plantations (35 per cent).

We recognise our responsibility as a wood purchaser through our global wood purchasing policy, which states that all wood used in our paper originates from sustainably managed forests. Such forests are defined as:

- Certified forests we recognise the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC) systems
- Forests covered by a written declaration that they are managed according to national laws and regulations (when certified volumes are insufficient).
 While forest managers have sys-

tems for sustainable forest management (SFM), forest product traders rely on chain of custody (CoC) systems. These traceability systems play an important role in responsible purchasing. A CoC certificate provides an assurance that claims of "certified wood" can be substantiated. CoC systems also require responsible purchasing of non-certified wood. These systems have a crucial role to play in the global efforts to halt illegal logging.

Norske Skog encourages both SFM and CoC certification of our suppliers. These certificates are the most credible guarantees available to us to demonstrate our responsible purchase of wood fibre. Other important tools include environmental mana-



Percentage of certified wood fibre 2002-2007





gement systems such as ISO 14001, environmental clauses in purchase contracts, supplier self-declarations, and control systems for uncertified suppliers.

The main global challenges related to the management of forests are deforestation in developing countries (which is presently responsible for 20 per cent of the world's greenhouse gas emissions) and forest biodiversity degradation through the logging of high conservation areas. In order to meet these challenges we have to ensure that more of the world's forest areas are managed on a sustainable basis. Forest certification is an important tool in this context. We are currently experiencing fruitless discussion and debate on which of the two global certification systems, FSC or PEFC, is superior. In terms of land area PEFC is the globally dominant certification umbrella, with a certified forest area twice as large as the FSC umbrella. In terms of public recognition, FSC dominates Norske Skog regards these two systems as equally good. The criteria in both standards are more or less the same and both are based on inspection and auditing by independent third parties. In our opinion the resources spent debating the relative merits of certification systems would be better spent on addressing the underlying causes of deforestation and forest degradation,

and on increasing the area of forest under sustainable forest management certification.

Presently 59.3 per cent of Norske Skog's fresh fibre material comes from certified forests. The percentage of certified wood fibre has remained relatively static in Norway and the EU. Certified percentages increased significantly in Australasia and fell slightly in South America in 2007. Norske Skog actively encourages the certification of forests. The ability to achieve increased certified wood percentages on an ongoing basis depends to a large degree upon the decisions that forest owners make. The most environmentally friendly form of wood sourcing is to be supplied by locally certified wood sources. In the European countries where we are operating production units, the certified amount of the forest areas are as follows; PEFC 58.2 per cent and FSC 1.6 per cent. Many customers want paper based only on FSC certified wood. From a sustainability point of view it is the total amount of certified wood that is important.

All Norske Skog mills purchasing fresh fibre will have chain of custody certification in place by the end of 2008. Presently eight of the mills and the Norske Skog wood purchasing organisation in Norway have chain of custody certification. The choice of certification system (FSC, PEFC or both) is a local decision made by the mill based on a number of factors including the certification system used on the forests or plantations from which it purchases wood.

RECYCLED FIBRE

The twelve mills utilising recovered paper consumed 3.34 million tonnes in 2007. This makes Norske Skog the largest global user of recovered paper for publication grade paper.

On a tonnage basis, the largest consumption of recovered paper occurs in Asia and continental Europe. All the Asian mills except the Jeonju mill use recovered paper as the sole raw material. Jeonju consumes a small amount (4 per cent) of fresh fibre for speciality products.

The use of recovered paper is an important part of Norske Skog's energy and climate change strategies. Paper production based on recovered paper requires less energy than paper production based on fresh fibre. This is because the processing of fresh fibre consumes more energy than the separation and processing of the fibres in the recovered paper.



In 2007, Norske Skog established a new recovered paper collection and merchanting company called Reparco. It has offices in the United States, the Netherlands and China with global coordination being undertaken from the Norske Skog headquarters in Norway.



Use of recovered paper 1	996-2007
(1.000 tonnes)	



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Norske Skog Albury, Australia	34
Norske Skog Boyer, Australia	17
Norske Skog Bruck, Austria	85
Norske Skog Golbey, France	64
Norske Skog Parenco, The Netherlands	79
Norske Skog Skogn, Norway	25
Norske Skog Steti, The Czech Republic	50
Norske Skog Cheongwon, Korea	100
Norske Skog Jeonju, Korea	96
Norske Skog Singburi, Thailand	100
HNLC Hebei, PR China	100

SNP Shanghai, PR China

Recovered paper in newsprint production 2007 (%)

Energy consumption

Norske Skog has reduced its total energy consumption per tonne, while the proportion of fossil fuel consumption has fallen and the proportion of bioenergy consumption has increased.

The production of paper is an energy intense process. Energy is consumed for two main purposes:

- 1. to drive production equipment and electrical devices which separate, process and transport fibres and water (electrical energy)
- 2. to provide process heat and to dry paper (thermal energy).

The major use of electrical energy in mills which process fresh fibre is the thermomechanical pulping process (TMP) (which converts woodchips into fibre via mechanical means). The majority of electricity used in our mills (93 per cent in 2007) is purchased from the grid. Some mills have the capacity to generate a proportion of their electricity requirements themselves from biofuel, hydroelectric, natural gas or oil sources.

Thermal energy is used for heating and drying. In contrast with electrical energy, in most cases this thermal energy is generated within a mill. The sources of this energy include recovered heat from the thermomechanical pulping process, combustion of

mill residues, biofuel, oil, gas or coal. In some cases the source of thermal energy may be external to the mill or in the form of geothermal energy.

In terms of the total consumption of energy by the company, approximately half is purchased as electricity from the grid. The remaining energy sources in 2007 were fossil fuel 19 per cent, biofuel 14 per cent, heat recovery from TMP 8 per cent and other sources 7 per cent.

The total energy used per tonne of paper reduced from 12.5 GJ/t in 2006 to 12.3 GJ/t paper in 2007. The bioenergy share of the total energy increased from 13 per cent to 14 per cent while the share of fossil fuel decreased from 21 per cent to 19 per cent. Natural gas is the most commonly used fossil fuel, and the its share of total fossil fuel consumption increased from 51 per cent to 54 per cent in 2007.

There is significant variation in the thermal energy sources used





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ENVIRONMENT



between different geographic regions. South American mills use 41 per cent bioenergy and very little fossil fuel. Asian mills use a mixture of fossil or biofuel. Australasian mills mainly use fossil or geothermal energy. In Europe the mills use similar amounts of fossil fuel, biofuel and heat recovered from the production of thermo-mechanical pulp from fresh fibre.

Paper production based on recovered paper consumes less energy when compared with production from fresh fibre because the fibres from paper to be recycled are more easily separated than those within wood. However, when recovered paper is used as the raw material the absence of a TMP process means that heat cannot be recovered and bark and wood biofuels are generally not available for thermal energy generation. Alternative sources of thermal energy must be provided.

Organic wastes from the production processes are used as biofuel where

possible. A number of mills also purchase biofuel from external suppliers. Norske Skog is a leading producer of bioenergy.

ENERGY MANAGEMENT

Energy management is included in the company global optimisation program Norske Skog Production System and is also a vital part of the ongoing company Profitability Improvement Programme (PIP), which has the target of reducing energy consumption by 3 per cent by the end of 2008.

There is ongoing technical development work to achieve reductions in energy consumption in the TMP process. The combination of woodchip pre-treatment and refining techniques has delivered promising energy reductions and is now in an implementation phase.

NEW DEVELOPMENTS

The Korean mills have consistently reduced oil consumption in recent



years, shifting to alternative sources such as biofuel when possible. For example, when compared with 2006 the Jeonju mill reduced the quantity of oil consumed by 21 per cent, increased its biofuel consumption by 14 per cent and reduced its total energy use per tonne of paper by 5 per cent. The mill has also commenced work on a biofuel combustion project which will allow additional amounts of heat and electricity to be generated on the site.

The construction of a geothermal power station commenced in 2007 at the Norske Skog Tasman mill in New Zealand. The turbine-generator building has been completed and the installation of mechanical and electrical equipment is well underway. Start up is expected to occur at the end of 2008 and the finished project will see the plant generating approximately a third of the Eastern Bay of Plenty electricity requirements as well as providing electricity pricing stability to Norske Skog Tasman.

Norske Skog use of fossil fuels (kWh/tonne paper)



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Greenhouse gas emissions down by 25 per cent

Norske Skog made two important decisions regarding climate change in 2007. We decided to reduce our greenhouse gas emissions by 25 per cent by 2020 and to build a prototype plant for the production of biodiesel.



There is mounting evidence of the need for substantial and effective reductions in greenhouse gas emissions in order to avoid significant detrimental effects to nature and mankind. There is also a pressing need for the implementation of a truly global agreement in order to achieve these reductions. While it is difficult to find a solution to this problem that is acceptable to both the developed and developing countries, this should not be a reason for inaction. Industries must be proactive and lead the way without waiting for final political consensus.

On the political scene we are actively participating in local and regional industry associations, the World Business Council for Sustainable Development and in 3C, Combat Climate Change, which launched its roadmap in Washington in November 2007.

Norske Skog has worked for many years to reduce greenhouse gas emissions in our value chain through reducing our energy consumption and optimising our transport of raw materials and paper products. As part of the next step in our work to combat climate change, Norske Skog has set a greenhouse gas reduction target and decided to build a prototype biodiesel plant.

GREENHOUSE GAS REDUCTION TARGET

The Norske Skog greenhouse gas reduction target aims to achieve a 25 per cent reduction of our greenhouse gas emissions by 2020 compared with 2006 as a base year. This will be measured as absolute (total) production related emissions. We chose 2006 as a base year because this was the first full reporting year of our present mill portfolio, including the former PanAsia mills in China, Korea and Thailand.

This goal will be achieved through a combination of continuous improvement and investment projects which allow us to reduce the consumption of energy or change its source. Greenhouse gas emissions vary considerably between the mills, mainly due to the different energy sources being used. For example we are supplied by hydroelectricity and nuclear power without greenhouse gas emissions, but also from fossil fuels like gas, oil and coal, which emit greenhouse gases when burned. Our biofuels are considered to be climate 'neutral'. The choice of raw materials, the products made, process efficiencies and historical investments also influence the energy use of a mill and its greenhouse gas emissions.

All mills will reduce emissions through continuous improvement work, while the reductions based on investment projects will be decided on an individual basis, taking into consideration a variety of factors.

PILOT BIODIESEL PLANT

In 2006 Norske Skog and Hydro carried out a joint project to evaluate the potential for synthetic biodiesel production in Norway based on wood from Norwegian forests. The study concluded that there was sufficient forest based material available to supply a biodiesel facility on a sustainable basis and that a number of technical factors required further investigation. As a continuation of the project, Norske Skog has decided to build a prototype plant at the site of the Follum mill in Norway. There are further plans for full-scale investments. More information on the biodiesel project is presented in the energy section of this report.

3C – Combat Climate Change

Norske Skog is one of 46 international companies that have joined forces in 3C – Combat Climate Change.

The 3C initiative is a global opinion group consisting of business leaders demanding integration of climate issues in markets and trade, and supporting political leaders in taking action on climate change. Norske Skog has been active from the outset of the 3C initiative, which was started by the Swedish company Vattenfall.

The input to the policy debate supports a transition to a low-emitting economy as fast and cost-effectively as possible. Support is also given to the development of a global framework to come into force in 2013.

3C companies such as Norske Skog are actively involved in preparing policy suggestions, including work on proposing improvements and changes to emission trading systems.

The companies involved have committed to taking responsibility by acting to cut emissions.

The 3C initiative was founded in January 2007, and by November 2007 it had developed and published a roadmap report making a series of recommendations for combating climate change.

The 3C companies call on governments around the world to establish a global goal for a maximum acceptable temperature increase and to use this to derive emission targets, employ business and the global market economy to power the change to a lowemitting society, establish policies to enable a marketdriven change, share responsibility for adapting to the impact of climate change and show leadership in establishing effective and equitable global solutions.

For more information see www.combatclimatechange.org.

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Norske Skog Greenhouse Gas Emissions

A number of internal climate change related activities were undertaken by Norske Skog in 2007 in addition to external policy activities. These activities included:

- a review and evaluation of government policies and programs in the countries in which we operate mills.
- a review of the company greenhouse gas emissions data together with emission and estimation reporting methods in order to make reporting consistent with the World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol.
- an evaluation of energy and greenhouse gas emission reduction opportunities and costs for the Norske Skog mills. These activities

culminated in the establishment of our greenhouse gas emissions reduction target.

The adoption of the WRI/WBCSD Greenhouse Gas Protocol means that the greenhouse data presented in this report differs from previously reported data in two main ways.

Firstly, the emissions data now includes the emissions of methane (CH_4) and nitrous oxide (N_2O) from the combustion of fossil fuels. These greenhouse gases are converted to CO_2 equivalents (CO_2-e) . The total emissions inventory is subsequently expressed as CO_2 equivalents.

Secondly, the emissions data now includes 'indirect' emissions which are generated in the production of electricity and steam by third parties - energy which is purchased by Norske Skog mills as inputs to the pulp and paper production process.

The 'scope' of the greenhouse gas emissions reported covers:

- 1. Direct (referred to as 'Scope 1' in the Greenhouse gas Protocol) emissions from the combustion of fossil fuels in boilers, combined heat and power plants, infrared drying equipment, mobile machinery and other mill site based equipment, and
- **2.** Indirect ('Scope 2') emissions from the purchase of electricity or heat from external sources.

The inventory covers all 18 Norske Skog wholly owned mills for the 2007 calendar year. Calculations were undertaken with the aid of the WRI/ WBCSD Greenhouse Gas Protocol Pulp and Paper Workbook.



Norske Skog specific greenhouse gas emissions



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Based upon the above scope and emission estimation processes, Norske Skog operations emitted 4.098 million tonnes of fossil fuel derived CO_2 -e in 2007. More than two thirds of this amount came from externally purchased energy.

On a regional basis these emissions are reasonably evenly spread between the European, Australasian and Asian regions, with a smaller percentage (7 per cent) arising from the South American operations.

On a specific (per tonne of paper production) basis emissions ranged between 400 kg/tonne of paper (Europe) through to 1 355 kg/tonne (Australasia). There are a variety of reasons for these variations - the primary reason being the sources of energy used across the company. The CO_2 emissions arising from the combustion of biofuels / organic residues are deemed to be 'carbon neutral'. Direct emissions of biologically sequestered CO_2 from the combustion of wood and bark residues are estimated to be 805 000 tonnes. The emissions from effluent treatment and deinking plant organic biofuels have not been included in this figure.

The emissions inventory data presented in this report does not include supply chain transport emissions, landfill emissions or emission 'offsets' relating to carbon sequestration (sinks) from company owned plantations. These aspects of the company inventory will be evaluated in 2008.

In Australia, Norske Skog is a participant in a research program being undertaken by North Carolina State University in the USA to evaluate the fate of paper products in landfill. This research project will contribute to the international work currently being undertaken to better quantify landfill emissions from wood based products and to better understand the full impacts and opportunities associated with the use, disposal and recycling of the products we make.

EMISSION REDUCTION IN 2007

In 2007 we reduced our greenhouse gas emissions by approximately 150 000 tonnes of CO_2 -e. This is a 3 per cent reduction when compared with our 2006 base year emission.

Norske Skog Greenhouse Gas Emission Inventory 2007 (1 000 tCO ₂ equivalents)							
	C0,	CH4	N ₂ 0	CO ₂ -equiv			
Direct (Scope 1) Emissions							
Direct emissions from stationary fuel combustion	1 265	1	25	1 291			
Direct emissions from transportation and mobile sources	5	0	0	5			
Total direct emissions	1 270	1	25	1 296			
Indirect (Scope 2) Emissions							
Indirect emissions from steam and power imports	2 802	0	0	2 802			
Total Fossil Fuel Based Emissions (Direct & Indirect)	4 072	1	25	4 098			
Combustion-related releases of biomass-derived CO2 *	805						

* wood and bark residues only

BIODIESEL

We will build a prototype facility for the production of synthetic biodiesel

Norske Skog and Norges Skogeierforbund (Norwegian Forest Owners' Federation) signed a letter of intent in December 2007 to form a company for the production of wood-based Synthetic biodiesel.



Norske Skog owns 60 per cent of the new company and Norges Skogeierforbund owns the remaining 40 per cent. The company's organisation will be in place during the first half of 2008. Simultaneously, work will commence to plan and build a prototype facility for the production of synthetic biodiesel in connection with Norske Skog's mill at Follum near Hønefoss.

The pilot facility will have an energy capacity of 5-10 MW, based on the consumption of 20-40 000 cubic metres of wood per year. This will yield 1.5 - 3 million litres of synthetic biodiesel, corresponding to the annual consumption of 1,500 cars. Biodiesel from the pilot facility can be used in the existing fuel supply and distribution infrastructure, for example as fuel for timber trucks and paper to/from Follum.

ENVIRONMENTAL & SOCIAL BENEFITS

Synthetic biodiesel or BTL (Biomass To Liquid) is often called secondgeneration biodiesel. This designation separates the product from biodiesel based on agricultural raw materials, such as rape. Liquid biofuels derived from forest products and residues can have a number of advantages over those based on first generation biofuels derived from agricultural products. These advantages include:

- A significantly greater reduction in 'life cycle' CO, emissions. The CO, emissions linked to the agricultural activities required to produce the biofuel (such as the use of fuels and fertilisers) mean that the net CO₂ saving once used as a fossil fuel substitute is substantially less (a saving of typically 50 per cent) than that of synthetic biodiesel from forest products (typically 90 per cent). Although combustion of wood also causes CO₂ emissions, this is balanced out by a corresponding amount of carbon being removed from the atmosphere through photosynthesis as the tree grows. This makes the contribution of CO₂ to the atmosphere over the course of the life cycle of the tree until it becomes synthetic biodiesel almost nil.

- An assurance of sustainability. By utilising or building on existing forest certification and chain of custody (CoC) systems it will be possible to demonstrate using existing and accepted standards that the biofuel derived from forest biomass comes from sustainably managed forests. Not all biofuel sources can demonstrate this - as evidenced by the current debate around the environmental impacts of palm oil production.

- Avoiding social impacts on human food resources. Forest derived biofuels avoid the potential indirect (through competition for land) and direct (through competition for the same crop) social impacts associated with human food resources. This is emerging as a significant global and regional social issue.

Biodiesel produced from forest biomass will therefore be able to make an important contribution towards reducing man-made greenhouse gas emissions in an environmentally and socially beneficial way. Synthetic biodiesel can be used in all diesel engines and treated as ordinary diesel during transport and storage. It is also far cleaner than conventional diesel, and emits less soot, nitrogen oxide (NOx) and micro-particles when burnt.

GREAT POTENTIAL

Another advantage of synthetic biodiesel is that it can be produced from waste from other logging activities, such as branches, tree tops, bark and chips. The process can also use agricultural waste e.g. straw. The Norwegian Ministry of Petroleum and Energy's objective is to extract an additional 14 TWh of energy from the forest for the production of bioenergy, and an additional 4 TWh from agricultural waste. If this additional bioenergy resource took the form of synthetic biodiesel it would be possible to produce 650 million litres of diesel, or about a third of the annual diesel consumption in Norway.

Synthetic biodiesel has the potential to complement pulp and paper making operations whilst also yielding positive effects such as increased employment in the forestry industry, reduced greenhouse gas emissions and improved air quality.

THE PATH FORWARD

The work on planning, conducting concept studies and engineering of the pilot facility will get underway when the organisation of the new company is in place. The pilot facility is expected to start production in 2010-11. The study and planning of a large-scale facility will take place in parallel.

"Given Norske Skog's broad experience from wood-based processing industry and existing bioenergy facilities, we have a great basis for developing the production of synthetic biodiesel as well," according to Norske Skog Vice President for Energy, Klaus Schöffel.

"In a short-term perspective, it will be more expensive to produce diesel from biomass, compared with production from fossil energy sources. However, if you look at it over the longer term and from the point of view of the common good, where consideration for the environment is included, the result changes. We therefore hope that the Norwegian authorities follow up their declared objective and support a development towards increased use of environmentally friendly energy sources." Similar projects are already underway in our neighbouring countries. In Värnamo in Sweden, a biofuel pilot facility is being planned on the basis of already existing heat & power production, and in Finland, similar projects are under development.

The European Union's aim of achieving a 10 per cent biofuel component in all road transport by 2020 is also expected to provide incentives for the commercialisation of projects such as this.

It is also important to take a global view when looking at how this technology could be developed and established at other locations where Norske Skog operates.

Based on known technology

The principles for the production of synthetic biodiesel are known from coal-based diesel production but some adaptations are required.

The process takes place in four main stages: pre-treatment, gasification, gas purification and hydrocarbon synthesis. Using wood as a raw material instead of coal requires certain adaptations. These adaptations introduce a number of challenges and technological risks which need to be fully understood and overcome in order to establish a full scale commercial biodiesel plant. Whereas coal is relatively easy to break down into the desired particle size for gasification, the challenge in using wood or other organic material is primarily to develop a process which creates correspondingly small particles in an energy efficient way. The primary products of gasification are hydrogen and carbon monoxide (syngas), the key building blocks for synthesising diesel and naphtha in a Fischer-Tropsch reactor. The Fischer-Tropsch technology is currently used to make diesel from coal or natural gas.

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ENVIRONMENTAL PERFORMANCE

Continuously improving our production processes

Norske Skog's environmental policy commits us to achieve continuous improvement in the environmental performance of our mills.



Whilst the sourcing of fibre is an important part of our environmental performance, the largest part of our focus is on the environmental performance of our mills and their production processes. The desire to measure this continuous improvement in our mills and as a company over both the short and long term led us to develop an environment index (E-index) several years ago.

The E-index forms part of the regular reporting by the mills to corporate management and the board. In addition to being a performance reporting tool it allows us to:

establish and review mill specific targets
identify and target areas for additional investment

• demonstrate the environmental improvements derived from process changes or investments.

The E-index covers the following process related parameters:

water consumption

• quality of treated effluent discharges measured using chemical oxygen demand (COD) and suspended solids criteria

- air emissions of nitrogen oxides
- waste to landfills
- total energy use

Mill performance is measured in the index against a standard which should be attainable

with the use of best available technique (BAT) or best practice (as described in the European Union IPPC Reference document). An index value of 1.0 or less than 1.0 indicates that the mill in question has an environmental standard which satisfies the ambitious levels which can be attained with BAT or best practice. The attainment of BAT levels of performance is mill specific and is a function of age, technology, investment history and operational performance.

The environmental index for the whole company is calculated as an average of each mill's index score weighted by production volumes. Additional targets may also be set by each mill for other environmental parameters of particular significance to it. In 2007 Norske Skog achieved its group E-index target of 1.11. Eleven mills achieved their own mill based E-index targets and ten mills achieved a score of 1.0 or less.

The table below shows the targets set in 2007 and 2008 for the various parameters included in the E-index, as well as the results achieved in 2005, 2006 and 2007. These figures represent a production weighted average for all mills with the exception of Norske Skog Steti which operates on an integrated site with other pulp and paper manufacturing activities (making it difficult to identify mill specific performance for some parameters). The Steti mill sets and reports against its own targets for the environmental parameters which can be measured and allocated with a reasonable degree of accuracy.

Investments made in 2006 and 2007 in the effluent treatment capacity of the Norske Skog Bio Bio (Chile), Follum (Norway) and Boyer (Australia) mills have resulted in improvements in the effluent related E-index parameters. Further improvements in these parameters are expected in 2008.

A challenging target of 1.07 has been set for 2008.

Main figures for wholly-owned mills in 2007

Consumption of raw	materials	Emissions
Roundwood	4 605 000 m ³	CO ₂ equivale
Sawmill chips	2 362 000 m ³	SO ₂
Recovered paper	3 340 000 tonne	
Purchased pulp	287 000 tonne	Droduction
Inorganic fillers	499 000 tonne	Sludge (dry)
		Bark
Energy		Other
Electricity	11 600 GWh	
Heat	9 300 GWh	Products
		Newsprint g
Discharges to water		Magazine p
Water consumption	102 mill m ³	
Organic material (COD)	39 500 tonne	
Suspended solids (TSS)	3 780 tonne	

64 tonne

to air ents (direct) 1 296 000 tonne 2 390 tonne

n waste

Sludge (dry)	723 000 tonne
Bark	188 000 tonne
Other	84 000 tonne

rades 4 814 000 tonne aper 1 228 000 tonne

	Environmental Index								
		Achieved 2005	Achieved 2006	Target 2007	Target 2008				
Effluent discharge	(m3/tonne)	19.6	19.5	17.0	16.7	16.1			
COD	(kg/tonne)	8.81	8.65	6.59	6.43	4.31			
Suspended solids	(kg/tonne)	0.89	0.71	0.61	0.59	0.52			
Nitrogen oxides	(g/GJ)	113	104	124	118	117			
Waste to landfill	(kg/tonne)	19.6	19.5	18.5	20.8	19.1			
Total energy consumption	(GJ/tonne)	12.6	12.6	11.3	11.5	11.3			
Environmental Index		1.26	1.16	1.11	1.11	1.07			

Phosphorus (Tot-P)

Emissions and discharges

We are using numerous technologies to reduce and control the emissions from Our mills.

The manufacture of pulp and paper requires the input of raw materials and energy. The Norske Skog environmental policy and good business practices demand that we make efficient use of these inputs. However, not everything that is brought into the manufacturing process is converted to pulp or paper – a number of emissions and discharges are generated.

AIR EMISSIONS AND SOLID RESIDUES

Air emissions occur primarily from energy generation processes, and the majority of solid wastes arise from the processing of fibre inputs (wood or recovered paper) and from the treatment of effluent (fibre and biological solids).

Most of our mills have their own boilers or incinerators for producing thermal energy (heat) from these solid residues. Fossil fuels in the form of natural gas,

Total production waste generated by Norske Skog 2007 995 000 tonne (dry)



oil and coal may also be used. The main air emission loads associated with these activities include carbon dioxide, particulates, sulphur dioxide and nitrogen oxides. A number of technologies are used to reduce and control these discharges. Ash residues are produced as a result of the combustion processes involving solid fuels.

The total quantity of production waste generated by the company in 2007 was 995 000 dry tonnes. This amount is 25 000 dry tonnes less than the corresponding amount in 2006. In addition about 300 000 tonnes of ash from combustion was generated.

The residues from the production processes are used or disposed of in a number of ways. Where possible, process residues are used to generate energy for the pulp and paper manufacturing process. Other residues, for example ash, are recycled in concrete or brick making, or road construction. Agricultural reuse is also an option for some ash and organic materials (7 per cent in 2007). Approximately 6 per cent of the production residues were deposited in landfills in 2007 compared with 9 per cent in 2006. Hazardous waste made up less than 1 per cent of the production wastes generated in 2007 and is disposed of in accordance with national regulations – generally via government authorised collection systems.

WATER DISCHARGES

Water is used in a number of applications in the pulp and paper-making processes. It is primarily used to move fibre through the production process, but is also used to cool equipment and to generate steam. It is generally used and recovered multiple times through the pulp and paper-making processes before finally being discharged to a number of treatment stages. These treatment stages remove solid particles as well as dissolved organic material, making the water suitable for return to the natural environment.

In 2007 we continued to reduce our water use and improve effluent quality.

Norske Skog does not use chlorine containing bleaching chemicals in any of our mills. Chlorinated organic componds are therefore not created and AOX is not included in our emission reporting.

PERFORMANCE BY REGION EUROPE: The upgrade of the effluent treatment processes at the

Follum mill (completed in 2007)

Disposal of mill waste 2007 (%)



Discharges of organic substances (COD)



Water discharges



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means that all European mills now have discharge levels which are consistent with the use of best available techniques (BAT). During 2007 a number of minor permit limit exceedences relating to discharged water or air quality were reported to the authorities by the Bruck, Follum, Golbey, Skogn and Saugbrugs mills. The Saugbrugs mill also reported an incident relating to a significant exceedence of the permit level for phosphorus in its effluent discharge.

The Parenco mill continued its investigations related to vibrations being experienced in the neighbouring area. Discussions between the authorities and members of the local community have been held and further investigations will be undertaken in 2008.

AUSTRALASIA: During 2007 there were significant reductions in water use at the Boyer and Tasman mills. The Albury mill achieved and maintained a very low specific water use (8m³/tonne), partly as a result of the drought conditions being experienced in the regional water catchment area.

A secondary effluent treatment plant was commissioned at the Boyer mill in late 2007. This will contribute to further improvements in effluent quality (primarily BOD and COD) in 2008 and beyond. No breaches of permit conditions were reported.

SOUTH AMERICA: During 2007 the first stage of the Bio Bio mill secondary effluent treatment plant was installed. This has resulted in improved effluent BOD and COD removal. The second stage of this plant will be completed in early 2008. A short duration incident relating to air emissions from the standby boiler was investigated by the authorities without any further action being taken.

The Pisa mill exceeded its permit limits for COD periodically between August and November in 2007. Reviews of the effluent treatment and pulping processes were undertaken as a result of these incidents.

ASIA: Reductions in average water use, COD emissions and waste to landfill continued in 2007. Both of the Korean mills made investments to reduce noise. A desulphurisation facility and an online continuous emission monitoring system were installed in the SNP Shanghai Mill boiler.

The Jeonju mill has commenced work on a biofuel project which will allow the mill to further reduce its consumption of fuel oil, resulting in a substantial reduction in CO_2 emissions. No breaches of permit conditions were reported.

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Transport

TRANSPORT OF RAW MATERIALS

A number of different methods are used to deliver raw materials to our production sites, with considerable local variation. At a company level, trucks dominate the delivery method, accounting for more than 82 per cent of inwards transport in 2007 (up 1 per cent from 2006). Boat and train deliveries are also used to a smaller extent, 8 per cent and 10 per cent respectively. Europe has a larger proportion of its deliveries made by train or boat than the other regions.

TRANSPORT OF PRODUCTS

In 2007 we transported more than 6 million tonnes of paper products to our customers. The 'balance' of

distribution methods used to transport our finished products differs from the supply of raw materials.

At a company level, truck transport continues to be the dominant distribution method with close to half of our finished products using this method. Rail and boat transportation are also important methods of moving our products to the customer.

At a regional level, there was increase in the use of trucks and corresponding reductions in rail transportation in Europe, Australasia and South America. In Asia, however, the reverse occurred with an increased volume of products being shipped by rail and a corresponding reduction in truck transportation when compared to 2006. Our aim is to reduce transport related greenhouse gas emissions through optimising logistics and cooperation with our transport suppliers

Transport of raw materials (%)



Transport of products (%)



Investments

Environmental investments totalling NOK 279 million were made at our mills in 2007 and represent our largest environmental investments to date.

Most of this spending (two thirds) went to reduce the consumption of water and to improve its quality upon discharge. Measures to increase biofuel use and save energy also received significant funding.

The presentation of environmentrelated investments often only covers the expenditure side of the equation. While some investments are made to accommodate changes in regulations, a large proportion of investments are also made to provide financial or other business benefits. For example, investments in new equipment or technology to reduce water use will also reduce energy use through reductions in the volumes of water pumped, heated or treated. Investments in solid waste handling systems are often made to improve the suitability of the waste for combustion and heat recovery. Improvements in chemical handling often have an improved health and safety dimension.

The expansion of the biological effluent treatment plant at Norske Skog Follum was completed in 2007 at a cost of NOK 75 million. The basis for this investment was stricter discharge limits and a modernisation of the mill, including transfer of the TMP plant from the Union mill.

The construction of a new biological effluent treatment plant at Norske Skog Boyer was also completed in 2007, at a cost of NOK 62 million. Previous investments in a high-consistency bleaching plant have reduced water and chemical consumption. In Norske Skog Bio Bio, the first stage for the secondary effluent treatment was completed in 2007, at a cost of NOK 8 million. The second stage will be completed in 2008.

Norske Skog Parenco installed an iron and manganese removal process to treat groundwater supplies at a cost of approximately NOK 20 million. The metal oxides in this groundwater cause problems through the blockage of pipes and filters. Removal of these metals will improve process water quality, with a positive effect on chemical usage and cleaning demands.

Norske Skog Saugbrugs has invested NOK 22 million to upgrade its bleach plant for paper machines 4 and 6. There are a number of benefits associated with this project. From an environmental perspective, the new bleaching process has reduced the amount of hazardous chemicals to be transported and handled, in addition to reducing the COD load to the effluent treatment plant. The mill also invested NOK 8 million to reduce emissions of nitrogen oxide.

In Asia, the SNP mill in Shanghai invested NOK 5 million to reduce its emissions of sulphur dioxide and Norske Skog Jeonju completed a number of projects related to energy efficiency, heat recovery and bioenergy at a total cost of NOK 24 million.



ENVIRONMENT-RELATED OPERATING COSTS

Our environment-related operating costs totalled NOK 403 million in 2007, corresponding to approximately NOK 67 per tonne of product. This is a decrease of about 10 per cent compared to 2006. The cost of chemicals in treatment plants and sludge dewatering accounted for a third of this spending, while payroll costs and maintenance were responsible for 19 and 12 per cent respectively. Government taxes and various other charges relating to operating and monitoring treatment plants and waste management accounted for the remainder.

Environment-related costs include environmental investments and environment-related operating costs. Costs shown are based on best estimates, and on spending which we believe has primarily been undertaken to achieve environmental improvements.

Environmental investments are defined as costs relating to the installation of treatment plants and waste handling equipment, measures to reduce noise, energy conservation, environmental monitoring equipment and environment-related rehabilitation.

• Environment-related operating costs are defined as the cost of chemicals for treatment plants and sludge dewatering, maintenance of such facilities, salaries for employees involved in environment-related work and treatment plant operation, environment-related trials, investigations, fees and taxes, as well as operation and maintenance.



Environment-related operating costs (million NOK)



Environment-related operating costs by type of cost 2007



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We're listening

Norske Skog's activities affect many people, not just employees, trade unions, owners and investors. The voices of all stakeholders are heard in a variety of formal and informal ways. All input is welcome, from local communities, customers, suppliers, environmental organisations or others.

Please contact us at environment@norskeskog.com

Here, we have asked secretary general of WWF Norway, Rasmus Hansson, to comment on our 2006 sustainibility report: It is important that WWF not be perceived as cheerleaders for large companies. However, I believe that Norske Skog's environmental reporting is objectively good. It bears comparison well. This is also why Norske Skog's environmental report from a couple of years back placed very high on a ranking WWF made over the environmental reports from many paper producers all over the world.

I like its attention to detail and its openness about targets which have not been met and other weaknesses. But at the same time, it is openly ambitious. It is easy to check if Norske Skog actions and statements correlate.

The report does not deal with the specific environmental targets in detail. However, it is good that it refers to specific environmental targets in many parts of the company which can be verified if you want to look at Norske Skog in detail.

This is one of the most important aspects of all environmental reporting, that external parties can form a real impression of what the company actually does vis-à-vis the environment.

WWF has gotten to know Norske Skog well through direct cooperation.

But we see that Norske Skog is at the forefront as regards specific environmental targets and specific follow-up of environmental targets. It is easy to see that this is linked to the fact that the forest industry and the paper industry were among the first industries to be confronted with specific and strict environmental requirements. This is something they have a lot of experience with.

One of the lacking topics – which is common for nearly all environmental reports, also prize-winning reports – is an account of how Norske Skog conducts its political lobbying and other types of influence in important areas.

Large companies have a great influence on everything from energy prices, taxes and subsidies to infrastructure, road building etc. – matters which have a great indirect and direct importance to the national state of the environment. It's very interesting and important to know what the companies do behind closed doors, so to speak.

For the total environmental account of a company consists of all the nice things you write about and all the unknowns that you do not write about. Norske Skog has a job to do here. What kind of political objectives does the company have, objec-ives of importance for the national environmental standard? What does the company do to achieve these objectives?

This is what is really missing from all prize-winning and other environmental reports. Norske Skog should lead by example and show the entire spectre of its environmental impact. Only then have we reached our goals.

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Independent auditor's report

We have reviewed certain aspects of the Norske Skog Sustainability Report 2007 presented on pages 3 - 35as well as the UN Global Compact table and the Global Reporting Inititive (GRI) information presented on pages 47 - 48 (in total referred to as the "Report"). The Report is the responsibility of and has been approved by the management of the Company. Our responsibility is to draw a conclusion based on our review.

We have based our work on the international standard ISAE 3000 "Assurance Engagements other than Audits and Reviews of Historical Financial Information", issued by the International Auditing and Assurance Standards Board. The objective and scope of the engagement were agreed with the management of the Company and included those subject matters on which we have concluded below.

Based on an assessment of materiality and risks, our work included analytical procedures and interviews as well as a review on a sample basis of evidence supporting the subject matters. We believe that our work provides an appropriate basis for us to conclude with a limited level of assurance on the subject matters. In such an engagement, less assurance is obtained than would be the case had an audit-level engagement been performed.

CONCLUSIONS

In conclusion, in all material respects, nothing has come to our attention that causes us not to believe that:

- The environmental aspects presented in the Report comprise the most significant ones at corporate level.
- Norske Skog has applied procedures, as summarised on page 33, for the purpose of collecting, compiling and validating environmental data from its reporting units for inclusion in the Report.
- The aggregated information accumulated as a result of

the procedures noted above is consistent with the data reported from reporting units and appropriately reflected in the Report.

- The environmental information for 2007 reported from a sample of two reporting units visited (Norske Skog Jeonju and Norske Skog Chongwon) was reported according to the procedures noted above and was consistent with the source documentation presented to us.
- Norske Skog applies a reporting practice for its environmental reporting aligned with the GRI reporting principles. The GRI Index referred to on page 48 in the Report appropriately reflects where relevant information on each of the elements and performance indicators of the GRI Sustainability Reporting Guidelines is to be found within the Norske Skog Sustainability Report 2007 and the Norske Skog Annual Report 2007. References made in the UN Global Compact table on page 47, appropriately reflects where relevant information is presented in the Norske Skog Sustainability Report 2007.

Oslo, 12 March, 2008 Deloitte Statsautoriseret Revisionsaktieselskab

Preben J. Sørensen State Authorised Public Accountant Environment & Sustainability Services

About the environmental reporting

The environmental report contains information which Norske Skog believes to cover the most important environmental aspects of the company's business. The environmental accounts cover the wholly-owned paper mills which formed part of the company at 31 December 2007. Data for the environmental accounts have been collected from the mills in accordance with established reporting routines. These consist of monthly standardised reporting of the most relevant environmental data, as well as supplementary information collected annually – again in accordance with standardised routines. The monthly reporting includes production volumes, consumption of raw materials, use of energy, emissions and waste handling. Figures from the reports are compared and compiled by the corporate environment department into standardised monthly reports for the corporate management and quarterly reports to the board. Data on greenhouse gas emissions are based on the methodology described on pages 20-21.

The figures in the environmental report are compared and compiled with a view to presenting the data as uniformly and relevantly as possible. Although great efforts have been made to ensure that information is complete and correct, some uncertainty may attach to parts of the statistical material. In keeping with Norske Skog's efforts to ensure open communication on environmental issues, the company wants the report to be reliable and quality-assured. As a result, the environmental report has for several years been reviewed by Deloitte. Norske Skog takes the view that such a review increases the report's credibility. It also provides greater assurance within the company that the data in the report are based on information which has been collected and collated on a systematic basis, and that the necessary documentation is available.

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Mill figures 2007

		BRUCK	FOLLUM	GOLBEY	PARENCO	SAUGBRUGS	SKOGN	STETI
Production								
Paper	1 000 tonnes	388	387	589	424	492	567	127
. i .								
Consumption								
Roundwood	1 000 m ³	200	718	259	46	620	815	145
Sawmill chips	1 000 m ³	0	143	348	193	81	226	0
Recovered paper	1 000 tonnes	210	0	482	426	0	169	/4
Purchased pulp	1 000 tonnes	36	14	0	0	53	3	8
Pigments and fillers	1 000 tonnes	95	41	5	9	168	0	1
Electric power	MWh/tonne	1.15	2.83	1.70	1.40	2.71	2.55	1.42
T I I 1	GVVN	447	1 093	1001	595	1 330	1 444	180
Thermal energy_	GJ/tonne	4.91	5.83	5.01	4.96	5.60	5.82	4.40
	IJ	1 906	2 254	2 949	2 105	2 / 53	3 298	558
Discharge to water								
Water consumption	m ³ /tonne	12.0	15 3	94	11.2	17.6	13.4	25.2
water consumption	1000 m ³	4 700	5 900	5 500	4 700	8 700	7 600	3 200
Organic material (COD)	ka/tonne	3 4	13.8	2.0	2.6	6.8	3.2	5 200
organic material (COD)	tonnes	1 308	5 348	1 177	1 086	3 362	1 813	
Suspended solids (SS)	ka/tonne	0.3	0.7	0.2	0.1	0.5	0.4	
	tonnes	97	267	94	40	236	238	
Phosphorus (tot-P)	a/tonne	3.7	5.6	14.0	10.3	11.0	15.5	
	tonnes	1.4	2.2	8.2	4.4	5.4	8.8	
Air emissions								
CO ₂ -e (fossil) (direct)	kg/tonne	0.54	0.01	0.05	0.47	0.04	0.02	0.00
CO ₂ -e (fossil) (indirect)	kg/tonne	0.06	0.02	0.13	0.34	0.02	0.02	0.88
CO ₂ -e (fossil) (total)	1 000 tonnes	234	11	103	345	30	22	111
Waste ²								
Waste to landfill	ka/tonne	0.0	9.7	57	1 /	16.0	26.4	3.0
	tonnes	0.0	3 735	3 355	581	7 865	14 959	384
	tomics	0	5755	5555	501	7 005	14 555	504
Management systems ³								
Environmental MS	Certificate	ISO	ISO	ISO	ISO	ISO	ISO	ISO
CoC-systems	Certificate	PEFC	PEFC		PEFC	PEFC	PEFC	PEFC
Forestry certification ⁴								
Cartified (PEEC or ESC) fibro	0/_	70	00	50	22	70	67	67
	70	19	90	50	55	12	07	07

Includes heat recovered from the production process.
 Production waste (organic and inorganic)
 ISO = ISO 14001 EMAS = EU Eco management and audit scheme
 Of the quantity roundwood + sawmill chips + purchased pulp

400	200	205	204	110	170	10/	077	124	269	1/2	
400	290	295	204	110	179	104	022	124	200	145	
0	341	511	199	308	332	0	109	0	0	0	
435	66	46	475	0	79	0	270	0	0	0	
0	157	0	0	0	0	239	906	161	342	174	
66	0	58	4	10	9	0	28	0	0	0	
144	0	9	6	1	0	0	20	0	0	0	
1.99	2.41	2.19	3.24	2.32	3.10	0.95	1.11	0.87	0.97	0.92	
/9/	/1/	644	920	275	556	1/5	914	108	259	132	
6.11	6.20	1./3	9.68	4.75	7.00	4.24	4.12	4.54	3.98	5.61	
2 446	1 847	22//	2 /52	562	1 255	/80	3 385	565	1 066	800	
1/1 3	8.0	35.5	525	36.5	22.6	15 5	12.4	16.0	10.7	18.2	
5 700	2 400	10 500	1/ 900	4 300	4 100	2 900	10.200	2 000	2 900	2 600	
3.8	2 400	54.0	8.4	15.9	55	0.8	10 200	2 000	2 500	0.7	
1 529	626	15 889	2 391	1 883	986	155	978	505	370	103	
0.2	0.1	4.3	2.5	1.5	0.1	0.1	0.4	0.5	0.3	0.7	
64	42	1 272	705	178	9	15	288	61	83	94	
5.8	1.8	41.6		78.0	12.7	17.7	3.0	7.8			
2.3	0.5	12.3		9.2	2.3	3.3	2.5	1.0			
0.06	0.26	0.77	0.24	0.02	0.00	0.13	0.25	0.35	0.37	0.40	
1.23	2.15	0.11	0.51	0.97	0.96	0.25	0.44	0.47	0.82	0.79	
516	719	258	211	117	171	98	562	102	318	169	
				40 -							
0.0	9.6	90.6	26.8	43.7	2.9	2.6	1.1	256.6	4.8	11.3	
0	2 857	26 684	/ 626	51/4	520	475	928	31 904	1 285	1 609	
	ISO	ISO	ISO	ISO		ICO	ISO	ISO			
DEEC	UCI	Uci	061	150	ECC 130	130	150	UCI			
TLIC					130						
76	71	27	53	4	62	n a	0	n.a	n.a.	n.a	
				• ;							

WALSUM ALBURY BOYER TASMAN BIO BIO PISA CHONGWON JEONJU SINGBURI HNLC SNP

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YOUNG READER

More than 30 million young newspaper ambassadors

Over 30 million young people from more than 70 countries participated in Young Reader activities in 2007, sponsored by Norske Skog.

The cooperation between the World Association of Newspapers (WAN) and Norske Skog reached its fifth year in 2007, and the program has achieved noteworthy results. The number of participating students, teachers, schools and nations is rising steadily, as is the interest and commitment from newspaper publishers all over the world. Young Reader activities have been initiated in several new countries in 2007, including Jordan, Lebanon and Sri Lanka.

"Young Reader is by far the best marketing strategy we have had through my more than 30 years in Norske Skog," says the manager of Norske Skog's sales office in London, Douglas Brown. He was the company's representative during the Young Reader/Newspapers in School roundtable conference for publishers from several African countries held in connection with WAN's world congress in South Africa in June.

"Everyone knew of Norske Skog's involvement, the response was quite simply overwhelming," Brown reports.

Some of the largest successes for the program in 2007 took place in South Africa, where more than 200 000 students have participated in activities in connection with The World Reading Passport. Brazil is another country where Young Reader has gained a solid foothold. More than one million Brazilian students participated in more than 60 Newspapers in School projects in 2007.

ENTERING A NEW PHASE

Young Reader entered a new phase at the turn of the year. The work to spread reading skills and stimulate democratic development in third-world countries continued undiminished, but the activities in more mature markets are also being strengthened. For even if the number of daily newspaper readers is higher than ever before - about 1.6 billion people worldwide - reading skill levels are actually dropping in the western world.

At the same time, Norske Skog is working to make Young Reader better known among its own employees. The purpose is twofold; to create pride and ownership for the activities, and to use the program in targeted customer campaigns.

In 2007, Young Reader was presented to employees at two of our business units, Norske Skog Follum and Norske Skog Bruck, as well as our sales offices in Portugal and London. In addition, we held a customer seminar in Portugal.

"A new aspect in 2007 is that we contact large customers in a one-toone setting, rather than approaching groups of publishers," says Pål Stensaas, responsible for the group's Young Reader activities.

"This enables us to bring in knowledge from the entire WAN system and adapt to the needs of the individual customer for greater effect. At the same time, this is a two-way process, where the customers learn from us and we from them. We define our own role today as a catalyst in the work to help the customers learn as much as possible about the best method to recruit new generations of readers," says Stensaas.

The nature of the subject makes it hard to measure the direct market



effect Young Reader has for Norske Skog. However, it can be concluded that the number of customer inquiries and the attention Norske Skog as a supplier receives have increased considerably following the company's participation in the program.

YOUNG READER AND WWF

Also in 2007, a pilot project was established where Young Reader activities are coupled with environmental work in cooperation with the World Wide Fund for Nature (WWF).

The pilot project is implemented in Thailand and focuses on the environment along the Mekong River. The river is of tremendous importance to species diversity, environment and the living conditions of the more than 60 million people living along its banks.

150 schools have participated in the activities, which include use of newspapers in the classroom and a specially prepared environment workbook. At the same time, students are encouraged to get actively involved in environmental efforts. The purpose is to improve both reading and writing skills and stimulate positive attitudes to consideration for the environment, both in a global and local perspective.

WELL DOCUMENTED EFFECT

The programme's effect as a catalyst for increased reading skills and stimulation of future newspaper reading is by now well documented. In 2007, the Newspaper Association of America

(NAA) carried out a new study of newspaper reading among more than 30 000 students. Previous NAA studies had shown that youths using newspapers as a supplement in their education were not only more involved in social and political affairs, but also were more likely to remain newspaper readers as adults. The new study established that when the youths' exposure to newspapers increases, e.g. through work on the school newspaper, yearbook etc., their grades also improve considerably, regardless of subject. A similar study made among several thousand Finnish students shows corresponding results.

Social objectives

- Encourage children to become good citizens, improve their reading skills and stimulate their interest in newspaper reading.
- Contribute to promote freedom of expression and the development of new democracies.
- Strengthen the educational role of newspapers.

Commercial goals

- Further sales activities through increased goodwill and building relations.
- Strengthen the reputation of the company.
- Contribute to ensure that the newspapers have a customer base in the new generations.
- · Build pride and commitment internally.

Local success in Australia

The opportunities in the Young Reader program can also be seen in our own business units, as shown in this example from Norske Skog Albury in Australia.

In November 2007, the Albury mill started up a pilot project in cooperation with local authorities. The program was named News 'vember and included 12 schools and 1300 students. It is based on experience which shows that only ten minutes of daily newspaper reading is all that is needed to substantially strengthen the reading skills of small children.

The participating children and their families read newspapers together, or at school or on the bus to school. At the same time, a workbook encouraged the students to discuss the news and look at how newspapers cover different aspects of society. In addition, the children could choose among a number of weekly tasks, as for example going through the letters to the editor and find topics which interested them and then write their own letters.

"The response was overwhelmingly positive," says Andrew Garret at Norske Skog Albury, who was the initiator of the project. He says that the programme is already being developed with a view to including even more schools.

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SOCIAL RESPONSIBILITY

Ten mills achieve zero time injuries

The number of lost time injuries increased somewhat in 2007, following the record low in 2006. At the same time, the number of mills that were of mills that were completely free of lost time injuries has never been as high. Nor were there any fatal accidents.

In 2007, it was ten years since the health and safety work was raised to the highest priority level in Norske Skog, equal to e.g. productivity and profitability. Since then, the development has been tremendous. This applies to both our original mills, and even more to the units which have later been acquired. At some of the latter, the number of lost time injuries per million working hours could be as high as 30 and 40 prior to their inclusion in the group.

Previously, health and safety work in Norske Skog was also both unstructured and unsystematic, with no common platform for transfer of knowledge and best practice, and no common policy and framework. Today, Norske Skog is a world leader in the wood processing industry as regards health and safety, and the company is often held up as an innovator and an example of what can be achieved through conscious and continuous efforts.

The development of the principles in the Take Care 24 Hours program is the most important precondition for the present high safety and health level. The program focuses on, for instance, the fact that health and safety is not just something to be concerned with at work, but 24/7.

SLIGHT INCREASE IN LOST TIME INJURIES

There were no fatal accidents in connection with any of the group's units in 2007, but there were several serious incidents. The group result,



Sickness absence 2007



We have much to be proud of, but also much to improve.

Jens Borge, director for health and safety in Norske Skog

with 1.7 lost time injuries per million working hours is among the best in the industry, but it is still an increase from 1.2 in 2005, which is the year with the fewest lost time injuries in Norske Skog so far. On the other hand, never have so many of our business units completely avoided injuries as in 2007, ten out of 18.

"We have much to be proud of, but also much to improve," comments Jens Borge, vice president of health and safety. He believes that the slight increase in absence due to injuries can be ascribed in part to the strong focus on improvement and reorganisation processes, and refers to the fact that the units which have done the best preparatory work in this area also generally have the best H&S statistics.

TEAMWORK WITH MANY SUPPORTERS

The H&S work in Norske Skog is primarily teamwork, headed at the group level by a vice president of health and safety. The VP is supported by an H&S engineer who quality assures figures, analyses and information in Synergi, which is the global management system for Norske Skog's safety work.

In addition, each business unit has its local H&S officers. The health and safety work is a collective line management responsibility. Local safety delegates, employee representatives and safety committees are also important team members in this work. Their preventative efforts and constructive feedback can hardly be overrated.

There is also reason to emphasise the effort made by the local industrial emergency teams set up at each business unit. This effort is mostly voluntary, and represents a very high degree of safety for the employees should an accident occur.

CULTURAL DIVERSITY IS A STRENGTH

There is particular reason to call attention to the quality of the health and safety work being done at our units in Asia, especially in China and

Our vision

A safe environment and healthy people. This can only be achieved if the entire organisation is committed to working together in the spirit of our core values and beliefs.

Our beliefs

- Everyone has the right to a healthy and safe working environment. We believe health and safety is a 24 hour responsibility. We will encourage the same attitude and behaviour when people are at work, home or leisure.
- We will advocate similar health and safety values with our suppliers, in joint ventures and partially owned companies.

LTI frequency per mill 2007



LTI frequency per continent 2002-2007



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Korea. Over the last couple of years, these units have established H&S work standards which are among the highest in the world. This has taken place partly on the basis of experiences previously gained in Europe and Australasia. However, this has been a two-way process, as experiences from Asia and South America have made a positive contribution to health and safety work in other regions. This shows the full strength of the group's great diversity of people and cultures, and demonstrates that further improvements can be achieved through mutual exchange of attitudes and experiences.

TOTAL RISK LEVEL SCRUTINISED

The H&S work was taken to a new level in 2007, when a process was started which does not just measure lost time injuries, but which also evaluates the total risk level at the business units. The results have provided a good basis for analysing the risk profile at each individual business unit, as well as implementing measures where they are needed the most, adapted to local needs. Such measures were initiated at several units during the course of the year.

Furthermore, there was a strong focus on adapting the H&S management tool Synergi to the current needs in 2007. This work was finalised during the course of the year.

NEW CHALLENGES

The H&S work will continue undiminished in 2008, with continued focus on individual units and departments where special needs for improvements have been identified. Simultaneously, the efforts to raise the general H&S level will continue as before at all units. The work to utilise all available tools for sharing best practice between units continues and is expected to yield good results.

HONOURED FOR GOOD H&S

Two of Norske Skog's mills received awards for their H&S work in 2007: Norske Skog Walsum in Germany and Norske Skog Jeonju in Korea.

The award presented to Jeonju was awarded by the Korean industry association for the best H&S results in the country's entire industry sector.

Walsum's award was for the best H&S results among Germany's top 100 paper producers. The overview is based on measurements carried out by the German employers' national insurance company.

None of the two mills had any lost time injuries in 2007 and they are among the mills which H&S director Jens Borge wants to draw attention to as model mills.

FROM POOR TO BEST

The CEO's 2007 award for good H&S work was awarded to Norske Skog Parenco in the Netherlands. In the grounds for the award, it is stated that the health and safety work at the unit has gone from poor to world-class over the last five years.

"Mill director Per Ivar Berg and his team have demonstrated professional H&S leadership in an open and inclusive manner. Open and honest discussions have been their basic method for finding the best solutions for their business unit in discussions with the group's H&S department," is an excerpt from the grounds given by CEO Christian Rynning-Tønnesen for presenting the award to Parenco.

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Cooperation with our employees

Cooperation with our employees 2007 offered up some great challenges in communication with our employees. Weak results in a global market under pressure required countermeasures which affected many of our employees in different ways. As a result of surplus capacity, reducing newsprint production capacity in Europe became a relevant measure.

This production adjustment was distributed among the units, but at the same time, significant production curtailments were announced for Follum and Skogn in 2008. The decision generated some media attention and discussion, but through cooperation between the management and employee representatives, ways were found to implement the curtailments without laying off employees.

The implementation of the new, decentralised group structure which was initiated in October 2006 has continued in 2007 in parallel with the implementation of the "Turnaround" improvement program. The work to achieve the goal of a reduction of 1000 full-time positions during 2008 was ahead of schedule at yearend 2007. This is an important, but difficult part of the improvement program, which aims to improve the result by NOK 3 billion.

A major challenge during such difficult reorganisation processes is to communicate the long-term goal, and not least the message to our employees that Norske Skog is a leading global player which is investing proactively in the future, and which will remain an attractive employer with opportunities for development well worth investing in.

NEW EMPLOYEE REPRESENTATIVES IN ASIA

After the purchase of the remaining 50 % of the shares in Pan Asia Paper Co., contact has been established with the employee representatives at the new mills.



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In those places where no cooperation forums previously existed, such forums have been established in line with the prevailing agreements and traditions in Norske Skog. Elected employee representatives from the Asian mills participated in the Global Employee Forum for the first time in September 2007.

COOPERATION AGREEMENTS

In 2002 Norske Skog entered into an agreement with ICEM (International federation of Chemical, Energy, Mine and General Workers), which establishes global minimum standards for employment terms, health and safety and human rights. The agreement was the first of its kind in the wood processing industry and has later been extended, most recently in May 2007. On all levels of its organisation, Norske Skog has established formal agreements with employee representatives as regards exchange of information and employee participation.

- The Global Employee Forum is a global cooperation forum with employee representatives from all mills. The second meeting of this global forum was held in September 2007.
- We have agreements for special forums for employee representatives

for Australasia, South America and Europe (European Works Council).

- Arrangements are in place at all mills for structured and open processes in connection with cooperation, informationand employee participation on the basis of local agreements and laws.
- Norske Skog has furthermore entered into an agreement for a joint group committee with all local trade unions, handling information and cooperation in issues of common interest which applies to our activity in Norway.

Sponsorship

Norske Skog is continuing its involvement in local communities through the sponsorship of projects that assist local needs.

Our mills are often the cornerstone of the local communities where they are located, in many cases the largest employer in the area. It is necessary to show sensitivity to the needs of local communities and to be aware of the impact mill operations have on the surroundings, at all levels. We believe in social responsibility, and even during challenging times we have managed to continue a level of support to the local communities of

our employees. Some examples of the projects we have assisted in 2007 are:

- Boyer supports the healthy living campaign "Move Well, Eat Well" in 14 schools, as well as charity events to support disadvantaged and unwell children.
- Parenco supports education in the local community with sports and cultural projects and also co-sponsors an annual Dutch journalism award
- Tasman supports the local Newspapers In Education programme involving local schools and also supports projects of local Maori tribes.
- Bio Bio supports a non-profit institution to bring, develop and teach culture and the arts to San Pedro citizens.

BUSINESS UNIT	LOCAL COMMUNITY
Bio Bio	USD 18 000
Boyer	AUD 119 599
Bruck	EUR 35 000
Follum	NOK 297 377
Golbey	EUR 24 000
Parenco	EUR 34 000
Saugbrugs	NOK 275 000
Singburi	USD 18 167
Skogn	NOK 500 000
Steti	CZK 243 000
Tasman	NZD 102 000
Walsum	EUR 5 470
Corporate	EUR 420 000

Employee figures

MILL – UNIT	NUMBER OF EN	MPLOYEES (FTE)			MALE AND FEMALI EMPLOYEES IN % MEN	WOMEN	% OF EMPLOYEES TRADE UNIONS COVERED	AVERAGE HOURS TRAINING/YEAR/ EMPLOYEE
	ORDINARY	TEMPORARY	OTHER EMPLOYEES	TOTAL	END 2007	END 2007	END 2007	END 2007
Albury	233	31	10	273	93.6	6.4	75.6	12.4
Boyer (incl. BSC and TFM)	333	41	-	374	91.0	9.0	71.0	40.0
Tasman	388	6	12	406	92.0	8.0	68.0	90.0
Sydney	27	-	6	33	74.0	26.0	0.0	0.0
Australasia total/average	980	77	28	1 086	91.5	8.5	68.9	52.1
BioBio	250	5	-	255	92.0	8.0	68.0	90.0
Pisa	312	18	2	332	91.0	9.0	100.0	6.7
South-America total/avera	ge 562	23	2	587	91.4	8.6	85.8	43.8
Follum	475	37	4	516	89.0	11.0	90.0	32.0
Saugbrugs	638	45	14	697	92.0	8.0	93.0	33.0
Skogn	505	40	-	545	95.5	4.5	92.0	58.0
Union (incl. Klosterøya AS)	19	1	5	25	95.0	5.0	0.0	0.0
Corporate + corp. functions	151	2	40	193	69.2	30.8	0.0	25.0
Norway total/avrage	1 788	125	63	1 976	90.3	9.7	83.1	38.8
Bruck	444	12	17	473	91.0	9.0	100.0	41.0
Golbey	434	16	17	468	87.5	12.5	100.0	37.0
Parenco	422	-	7	429	97.0	3.0	99.0	22.1
Steti	204	14	-	218	89.5	10.5	0.0	20.7
Walsum	527	-	3	530	93.2	6.8	88.0	10.0
Sales offices Europe+US	113	-	-	113	49.0	51.0		
Antwerp (BSC, LOG, RP)	45	4	-	49	62.0	38.0	0.0	3.0
Reparco	70	12	-	82	86.5	13.5	0.0	10.0
Europa total/average	2 259	58	44	2 361	89.0	11.0	77.9	23.9
Korea - JJ	553	1	56	610	98.6	1.4	0.0	42.4
Korea-CW	140	2	10	152	98.3	1.7	0.0	58.9
China - SNP	239	-	-	239	90.8	9.2	0.0	20.1
China - Salg	26	-	-	26	61.5	38.5	0.0	16.0
China - HNLC	252	-	-	252	89.5	10.5	0.0	20.7
Thailand - Singburi/Bangkok	264	2	-	266	72.9	27.1	79.7	51.3
Singapore - NSPA	17	-	1	18	29.0	71.0	0.0	40.0
Asia total/average	1 491	5	67	1 563	89.8	10.2	14.1	37.8
Totals/average	7 080	288	203	7 572	90.0	10.0	65.2	36.1

Gender equality report

The issue of gender equality also concerns, to a greater degree other European countries and other regions where the group is active. Norske Skog wants to facilitate an increase in the percentage of female employees in general and not least in leading positions. The group belongs to a traditionally male-dominated industry sector with far more male than female employees. There is still just one female mill director at our 18 mills.

2007 statistics

- Number of women on the board of directors: 3 of 9
- Number of women among shareholder-elected board members:3 of 6
- Number of women among group employees in: 10 per cent

CODE OF CONDUCT

Revision of ethical guidelines

Norske Skog's ethical guidelines (code of conduct) were reviewed and revised during the course of 2007 following an initiative from the company's board of directors.



Norske Skog's ethical guidelines are based on our core values transparency, honesty and cooperation. These values are equally relevant and important for all of the company's employees, regardless of cultural background and where in the world they work. The main purpose of the guidelines is to ensure that everyone acting on the company's behalf does so in a manner which complies with high ethical standards and applicable laws and provisions. The same is expected of our customers and partners.

OVERALL REGULATIONS

The Norwegian Working Environment Act was expanded in 2006 to include provisions for whistle-blowing in connection with possible censurable matters (see separate article). With a view towards facilitating such activities, the company's board of directors decided to carry out a review of other ethical guidelines. This was desirable also in connection with the changes in the organisational model, where more responsibility was transferred to each individual business unit.

The work was finalised in 2007, and resulted in joint ethical behaviour regulations in Norske Skog This is the platform for how the company's employees are expected to behave when conducting business activities, internally as well as externally, regardless of geography and cultural differences.

EASILY ACCESSIBLE

In order for the regulations to be easily accessible and easy to understand for all employees and business connections, a special folder was prepared where the rules are listed in full, accompanied by a detailed description of how to interpret them.

Norske Skog's standards and policies for ethical behaviour are also available on the company's website, www.norskeskog.com as well as on the intranet through TheOne.

INTERNATIONAL AGREEMENTS

Through an agreement with the international workers' organisation ICEM (the International Federation of Chemical, Energy, Mine and General Workers' Unions), Norske Skog is committed to complying with the 10 principles in the UN's rules for Global Compact. These rules deal with basic human rights, the freedom of association and freedom to enter into collective wage negotiations, combating all forms of forced labour and child labour, safeguarding the environment and opposing corruption in all its forms.

CORRECT BEHAVIOUR

All employees in Norske Skog, regardless of where in the world they work, are expected to behave in accordance with applicable international and national laws and regulations and to ensure that everyone acting on behalf of the company does the same. All transactions, appendices and assets shall be correctly reflected in the company's accounts.

Furthermore, it is assumed that all employees take the necessary steps to avoid any conflict between their own and the company's interests. Any form of bribe is in breach of the company's rules and interests, and amounts spent on entertainment shall be kept at a moderate level and be commercially prudent. Larger events must always be approved in advance by the responsible manager.

The regulations also include guidelines concerning gifts or benefits in connection with the employee's role as a representative of Norske Skog. Gifts given or received shall be of symbolic value and withstand scrutiny, and must never be given or received in order to achieve benefits.

The consideration for confidentiality is also included in the rules for how the company's employees are expected to behave. Sensitive information must only be given to those who require such information in connection with their work, and all employees are responsible for ensuring that confidential information is not revealed to external parties. All employees are furthermore obligated to refrain from misusing such information through share trading or similar activities.

During the course of 2008 there will be conducted courses and seminars on the understanding of the company's the ethical guidelines.

Facilitating whistle-blowing

In 2007, Norske Skog established separate procedures and reporting channels for people who report unethical business behaviour.

The company's basic attitude is that whistle-blowing generally has positive consequences for the company and society in general, and that employees who are willing to report unethical conduct are important assets to the company. The reporting of unethical behaviour is encouraged, and the company guarantees that this will not have any adverse effects for the reporter.

An employee who discovers or in good faith suspects that a questionable matter has taken place shall first report this to his/her immediate supervisor. The supervisor is then obligated to report this further, either locally or to the group's ethical monitoring body, for further investigation. The company's ethical monitoring body was established in August 2007, and consists of two representatives from the group management, well as the Vice President, legal.

It is an important principle in Norske Skog that anyone who in good faith reports questionable matters shall be secure against any form of retaliation. Furthermore, those who wish to report anonymously shall have the opportunity to do so, with protection of identity and confidentiality.

The reporting procedures and the reporting channel will during the course of 2008 be implemented in the entire Norske Skog group, following involvement of both employee representatives and local representatives.

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Doing the right thing

To become recognised as a world leader in our industry means earning the respect and recognition of our stakeholders. This involves not only complying with law and regulations, but also adhering to our policies and guidelines. All employees and others that represent the company should preserve and enhance Norske Skog's reputation through their actions.

Norske Skog's global policies and ethical guidelines apply across our organisation and define behavioral guidelines for our business conduct. The purpose of our global policies and ethical guidelines is to ensure that all personnel acting on behalf of the company perform their activities with high ethical standards, in accordance with our core values and in compliance with all applicable laws and regulations. We also expect the same from our customers and business partners. Operating on five continents and working in different cultures, it is essential that our company's business practices are based on simple and understandable values. Norske Skog's values are openness, honesty and cooperation. We live by these values through compliance with our policies and guidelines.

We are committed to operate our business in accordance with the 10 principles of UN Global Compact as well as in accordance with the principles laid down in the ICEM-agreement (International Federation of Chemical, Energy, Mine and General Workers' Unions).

Christian Ryuning-Tomesen

Christian Rynning-Tønnesen CEO AND PRESIDENT

The UN Global Compact is a

voluntary international corporate citizenship network initiated to support the participation of both the private sector and other social players in advancing responsible corporate citizenship and universal social and environmental principles to meet the challenges of globalisation.



Advancing the Global Compact

Norske Skog is committed to contributing to sustainable development. Customers, suppliers and the world at large can rely on us. We take work on issues relating to the environment and social responsibility seriously. Our core values of openness, honesty and cooperation as well as our policies and guidelines build on the UN Universal Declaration of Human Rights and the 10 principles of UN Global Compact.

 We were accordingly the first international pulp and paper company to sign a global agreement on employee rights with the International Federation of Chemical, Energy, Mine and General Workers' Unions (ICEM).

 We have a close and good collaboration with our unions through several channels – reinforced most recently through the creation of a Global Employee Forum. The latter provides a common meeting place for employees and management, where we can give and receive information and discuss relevant issues relating to Norske Skog.

- We accept our social responsibility to the local communities in which our operations are pursued. Business units and employees involve themselves in a number of areas in these communities, supporting activities which help to improve the quality of life, health and knowledge.
- Education is defined as our contribution to the UN's millennium

UN Global Compact Principles	Corresponding on GRI Indicators	Sustainability report 2007 page
Principle 1 Human Rights: Business should support and respect the protection of internationally proclaimed human rights within their sphere of influence	HR 1-9	4, 41-47
Principle 2 Human Rights: Make sure that they are not complicit in human rights abuses	HR 1-2 HR 8	4, 41-47
Principle 3 Labour: Business should uphold the freedom of association and the effective recognition of the right to collective bargaining	HR 5, LA4-5	4, 41-47
Principle 4 Labour: The elimination of all forms of forced and compulsory labour	HR 7	4, 41-47
Principle 5 Labour: The effective abolition of child labour	HR 6	4, 41-47
Principle 6 Labour: The elimination of discrimination in respect of employment and occupation.	HR4, LA2 LA 13-14	4, 41-47
Principle 7 Environment: Business should support a precautionary approach to environmental challenges	Profile disclosure 4.11	3-35
Principle 8 Environment: Undertake initiatives to promote greater environmental responsibility	EN2, EN5-7, EN10 EN13,14,18,21,22, 26,27,30	3-35
Principle 9 Environment: Encourage the development and diffusion of environmentally friendly technologies	EN 2,5,6,7 10,18,26,27	3-35
Principle 10 Anticorruption: Business should work against all forms of corruption, including extortion and bribery	SO4	4, 41-47

development goal, and has been visualised through our commitment to improving the reading skills of young people through the use of newspapers in education. A particular effort is being made in new democracies where the free press has achieved better conditions.

 We and the World Association of Newspapers have established a close relationship in developing Young Reader programmes in both developing and mature markets. Originally a five-year programme, this work has been expanded for another five years from 2008 to 2013.

- We are a member of the Global Compact Nordic network (GCNN), where participants from Denmark, Finland, Norway and Sweden discuss the implementation of the 10 principles and common challenges.
- Understanding and living our values, corporate conduct and CSR commitments form part of our leadership

programmes, and of the Norske Skog Spirit programme which embraces all our employees.

• We promote diversity through our leadership planning process, and are one of the few Norwegian companies to have a board of directors with a 50-50 split between men and women.

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Global Reporting Initiative (GRI)

The GRI s guidelines for sustainability reporting have been developed through a process involving a broadbased group of interests. Intended for voluntary use, the guidelines cover reporting under the three pillars for sustainable development: economic growth, environmental performance and social responsibility.

Norske Skog supports the work of establishing a global standard for sustainability reporting. Norske Skog sustainibility report is created in cooperation with relevant departements in the company and is also based on feedback from stakeholders, and the GRI guidelines have been used since 2003 as a tool in the work of developing such reporting. Norske Skog has sought as far as possible to report in accordance with the guidelines. In the company's view, its reporting practice is almost wholly in line with the GRI s principles.

Nevertheless, the company does not report fully on all the elements and indicators specified in the GRI guidelines. That applies primarily to issues which have little relevance to its operations. A GRI table can be found on our internet site (www.norskeskog.com/gri.aspx) The table indicates where relevant information on the various items and core indicators can be found in the annual report and sustainability report. This information may be provided in several places, and will overall meet the GRI guidelines fully or in part. In our opinion our reporting for 2007 meets the requirement for application level B.

For more information on the GRI, see www.globalreporting.org.



*Sector supplement in final version



*3rd Party checked referes to environmantal reporing only

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