

NORSKE
SKOG
1962 - 2012

50



Norske Skog



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A vital fifty-year-old

Nordenfjelske Treforedling, the predecessor to Norske Skog, was founded on March 1 1962. Now, fifty years later, the group has 5 100 employees and sells paper in more than 80 countries.

Fifty years is a decent age, but Norske Skog is actually older than that. Many of the mills which have been included in the group throughout the years have long traditions.

For example, the paper production at the mill which today is Norske Skog Saugbrugs in Halden, Norway was founded in 1859. And on the other side of the globe, the mill which now is Norske Skog Boyer, was the first newsprint mill in Australia when it opened in 1941.



Norske Skog thus has historic flair. But we do not live in the past. During recent years, Norske Skog has executed change to remain a significant player also in the paper market of the future.

Publication paper most certainly has a future. In the years to come, there will be a need for newsprint and magazine paper alongside digital media. The efficiency of paper advertising still surpasses radio, TV and digital media according to recognized surveys. In addition, the carbon footprint of paper is limited. A Swedish survey showed that the CO₂-emissions from reading a newspaper on paper amounted to the same as reading it on an electronic tablet.

There are also significant geographical differences when it comes to the development of publication paper usage. While the circulation has declined in western countries, there is growth in newspaper readership in Asia.

It is, however, clear that we cannot expect to benefit from growth in the markets. Therefore, we need to make sure that we are the best and most efficient producer. That way we also ensure our living in the publication paper market in the future.

In a changing world, enterprises have to adapt. To achieve this, we need motivated and versatile employees. That is what we find at Norske Skog. I would like to take the opportunity to thank our employees, both those who, in the early stages, took part in developing Norske Skog into a world leader in the paper industry, and to those who in recent years have pushed through in a turbulent period for the industry and Norske Skog.

Those efforts bound well for our next fifty years!

A handwritten signature in black ink that reads "Sven Ombudstvedt". The signature is fluid and cursive.

Sven Ombudstvedt
President and CEO

Norske Skog's 50th anniversary

Background

Many paper mills have been established on the basis of available raw materials, not because there was an obvious market for the products. This was also the case for Norske Skog: There were large amounts of poorly exploited timber in Central Norway, in the sense that there was little local processing capacity for the thin top of the log, which could not be used for lumber. Forest owners in the region had therefore for quite some time been considering various processing industry alternatives.

Norske Skog's predecessor was called Nordenfjelske Treforedling and was established on 1 March 1962.

The investors were mainly forest owner associations in Norway, supported by agriculture associations.

The established forest industry in southern Norway was sceptical of the new arrival, as were Norwegian financial institutions in general. Many predicted that the company Nordenfjelske Treforedling would not last long, but they were proven wrong.


Expansion in Norway, up to 1990

The brief version is that Norske Skog was pulled in two directions in this period.

The owners, with the forest owners completely dominating the governing bodies with their 60 per cent combined shareholding (almost 70 per cent when including agricultural associations), pulled in one direction. They wanted to merge other industrial assets in their ownership with Norske Skog. This was mostly what happened, primarily with mergers with particle board industry and saw mills.



The management pulled in the other direction, focusing more on paper and working for cooperation and later mergers with other Norwegian paper companies. As early as 1973, a joint sales organisation had been established with what was then called Follum Fabrikker, followed by cross-ownership between the two companies. In 1989, Norske Skog merged with Follum and Tofte, and acquired Saugbrugsforeningen later that same year. This meant that the Norwegian publication paper industry had to all intents and purposes merged into one company. The newsprint producer Union in Skien was, however, a separate company, but its paper sales and timber purchases were handled through Norske Skog. Union became part of the Norske Skog Group in 1999.

Norske Skog's logo, a stylised spruce twig shaped like the letter N , was created in 1976. At the end of 1989, Norske Skog had 24 production units in Norway, distributed as follows:

- The three current paper mills Skogn, Follum and Saugbrugs.
- Four other paper mills producing fine paper, special grades and packaging.
- Three mills producing paper pulp.
- Seven saw mills.
- Seven mills producing construction boards, parquet flooring, laminate flooring and furnishing.
- In addition, there were multiple sales companies.

Norske Skog's activities abroad consisted primarily of a large number of sales offices for both publication paper and other exports. The only two production units outside of Norway were a fine paper mill in the UK and a newsprint mill under construction in France, the mill currently known as Norske Skog Golbey, in which Norske Skog had an initial ownership interest of 49 per cent.

With the exception of the publication paper mills, all the activities mentioned above were sold and to some extent shut down in the period leading up to 2002, following the redefining of Norske Skog's strategy in the second half of the 1990s.

In many ways, Norske Skog's modern history started in 1989, when the Norwegian production of newsprint and magazine paper for all practical purposes was gathered in one company, and the first steps towards internationalisation were taken.

Norske Skog through the 1990s

Golbey and Skogn shared one characteristic: they were both built due to locally available timber, in Golbey's case in the Les Vosges district in eastern France. The original plan called for construction of a mill in Strasbourg, but this plan was abandoned when a Finnish company established a new paper machine there. Then Golbey became an alternative, and the main issue was whether there would be enough raw materials for both machines. The answer was yes, construction started and the machine started operations in 1992.

Generally, all forest industry companies were thinking along those lines, and 18 new paper machines started production in Europe and North America in the three years from 1989 to 1991. Naturally, this resulted in surplus capacity and low prices, but strong growth in demand quickly improved the market balance, with paper prices

MYTH

Making paper destroys forests.

Fact:

INCORRECT. In 2009 there were nearly twice as many trees in Norwegian forests compared with the latter half of the 1960s. During the same period, the annual growth rate increased from 13 to 25 million cubic meters (Statistics Norway 2009). Forest areas in Europe have grown by over 30 per cent since 1950. The annual growth is equivalent to 1.5 million football pitches (CEPI, 2008).

and results improving significantly over a short period of time. In addition to Golbey, Norske Skog also built the current paper machine PM 6 at Saugbrugs in the early 1990s.

A long-term boom started in 1995, yielding very good results for Norske Skog up to 2002. The company's strategy was redefined to make internationalisation its main priority. However, the core area would remain publication paper (in addition to paper pulp and wood-based construction materials, a business which was later sold off). The internationalisation was primarily based on the acknowledgment that there were few growth opportunities in Norway, due to limited raw material and energy resources. In addition, there was a real



FACTS Oldest and newest paper machine

Oldest: Boyer PM2 from 1952
Newest: Golbey PM2 from 1999

risk of steadily increasing costs in general and a strong NOK, which would weaken the competitiveness of the Norwegian mills.

Based on the redefined strategy, Norske Skog acquired the Bruck mill in Austria in 1995, the first acquisition made abroad. Bruck produced light-weight coated magazine paper (LWC), a product that belongs naturally with newsprint and super-calendered uncoated magazine paper (SC).

The newsprint mill Steti in the Czech Republic was acquired in 1997. This provided a market position in Eastern Europe, where the growth in consumption was anticipated to be much higher than in Western Europe. Steti was a large mill based on a communist approach, with production of many different paper grades and an outdated centrally controlled organisation. Several people from Norway worked at Steti during Norske Skog's ownership, until it was shut down in 2008.

A second paper machine was also built at Norske Skog Golbey, starting production in 1999. This put the mill in a very favourable position as regards economy of scale and resulting low fixed costs per tonne.

So far, Norske Skog had expanded in Europe from its Norwegian base. In 1998 and 1999, the company also established footholds in South America and Asia. This took place through a cooperation agreement in Brazil and the purchase of one-third of the company PanAsia Paper, which had newsprint mills in Korea, Thailand and China.

The expansion was mostly financed through own funds. The net profit in the years 1995 – 1999 was almost NOK 6 billion, and the cash flow from operations in the same period was almost NOK 12 billion. In spite of the acquisitions, the debt was still moderate at the end of 1999. The work to transfer the activities in construction materials and special paper to new owners had started.

MYTH

Paper is destructive to the environment.

Fact:

INCORRECT. On the contrary, paper is a natural, renewable product that is produced by trees from sustainable forests. Trees absorb CO₂ from the atmosphere and the paper stores this CO₂ during its lifetime. The paper can be recycled - several times.

The years 2000-2005

Unlike many other industries, the globalisation of the paper industry came late. Companies in the US and Canada mainly stayed in North America, and the industry in Continental Europe was mainly taken over by Nordic companies. This meant that there was a development towards larger corporations at a regional level, but not globally. One reason may be that there is generally little trading in paper products between continents, nor are there major global coordination gains to be made.

Norske Skog became the first global paper industry company with the acquisition of Fletcher Challenge Paper in New Zealand in spring 2000. With a total value of about NOK 21 billion, this was the largest acquisition made by a Norwegian company ever at the time. Fletcher had very interesting market positions by being the only producer in Australia and New Zealand, and by being the largest producer in South America. Fletcher also owned 50.8 per cent of a company in Canada. This shareholding was first diluted to 35 per cent and later sold in 2006.



The company's first door plate from 1962.



This was when Norske Skog's debt really started growing. The financing of the Fletcher acquisition consisted of fresh equity only to a small extent. The company's net interest-bearing debt increased by NOK 13 billion through 2000, but both due to previously low debt and sound cash flow, the management did not consider the debt growth a problem at the time.

The following year saw the acquisition of the mills Walsum in Germany and Parenco in the Netherlands from German company Haindl, and Norske Skog's shareholding in PanAsia Paper increased from 33 to 50 per cent. The acquisition of Walsum was based on a desire to grow in LWC magazine paper. Financing of the acquisition took place partly through new share capital. The large acquisitions resulted in a doubling of the sales from 1998 to 2001, from NOK 15 to NOK 30 billion.

In the early 2000s, Norske Skog was in many ways considered a successful company, resulting in CEO

Jan Reinås being awarded the Norwegian Executive of the Year award for 2000. Summaries were prepared for several financial market and media presentations, describing the events through the 1990s and up to 2001:

The situation in 1990	The situation in 2001
Activities only in Norway	Global company – production in 15 countries on five continents
Third largest newsprint producer in Europe	Second largest newsprint producer and third largest magazine paper producer globally
Production of many different wood-based products – publication paper generated 48 per cent of operating revenues	Focus on publication paper, generating around 95 per cent of operating revenues
Publication paper capacity of 1.3 million tonnes	Publication paper capacity of 7.9 million tonnes*)
Market value of shares NOK 3 billion	Market value of shares NOK 20 billion

*) Includes 100 per cent of what was then Norske Skog Canada.

The 2001 annual report summarised Norske Skog's vision, goal and strategy as follows:

Vision

Norske Skog shall be a leading international company in the pulp and paper industry.

Goal

Norske Skog shall create value for the owners on a par with the best companies in the industry.

Strategy

Concentrating on the core area publication paper (newsprint and magazine paper), profitable growth in important markets and cost-efficient production.

Extensive resources were used internally in Norske Skog to build a team spirit and create systems for transfer of expertise and exchange of key personnel between the various units. Global cooperation bodies for the employees were also established, while emphasising the importance of maintaining local cultures.

In parallel with the high-speed expansion through acquisitions, activities deemed to fall outside of the core focus area were sold off. This concerned primarily several mills producing wood-based construction material in Norway, mills that produced paper pulp and Norske Skog's forest properties and power plants. In total, about 40 businesses were sold in the years 1999 – 2002.

The objective of the sale of the businesses was mainly to concentrate all attention on newsprint and magazine paper. Part-financing of the acquisitions was also an important reason, especially for the sale of forest properties and power plants. Productive forest areas



totalled 130 000 hectares, of which 45 per cent was in Brazil and the rest in Norway and Sweden. The sold power plants were in Norway and had an annual normal production of 700 GWh.

The desire for expansion was strong also after the acquisition of Walsum and Parenco, and the 2004 annual report quotes the CEO at that time that the company intended to grow to increase profitability. This could take place within existing activities, but new acquisitions could also be relevant.

2005 saw the so far last expansion in Norske Skog: A newsprint machine in China was started, and Norske Skog's shareholding in PanAsia Paper was increased from 50 to 100 per cent.

With severely declining results after 2001, it was no longer possible to continue to finance acquisitions from own coffers, and the amount paid for half of PanAsia – by many considered to be too high – was financed through a large equity issue.

The background for the strong interest in Asia was a desire to be present in the world's most important growth region. This had been an objective for ten years, following the redefining of the strategy in the second half of the 1990s and the further concretisation a few years later. Unfortunately for Norske Skog, what often happens in growth markets happened again: The production capacity



far outgrew demand, and the surplus capacity caused low prices and poor results.

As early as the mid-1990s, electronic media were discussed as a threat to paper-based media. However, few considered that this development would make itself felt outside of the US. The prevailing view of the market in the early 2000s in brief:

- Europe: Mature market for newsprint in Western Europe, but little risk of serious drop in demand as seen in the US. Expectations of growth in demand in Eastern Europe.
- Australasia: Mature market, but low risk of major decline.
- South America: Expectations of continued growth in demand.
- Asia: Expectations of continued growth, in particular in China and India.
- Magazine paper: Expectations of general growth in demand.

Region	Mills with Norske Skog as the majority owner	Production capacity, million tonnes	Described as
Europe	4 in Norway, 5 on the Continent	3.8	Important «home market». Three of the mills were characterised as low cost.
Australasia	2 in Australia, 1 in New Zealand	0.9	Only producer. Good cost position.
South America	1 in Brazil, 1 in Chile	0.3	Largest producer. Good cost position.
Asia	2 in South Korea, 2 in China, 1 in Thailand	1.8	Biggest producer in the world's most important growth region.
Total	19 mills in 13 countries	6.8	



Paper production requires high energy consumption.

Fact:

INCORRECT. Annual average paper consumption is 200 kg per person, and to produce this, not more than 500 kWh is used, which is equal to one year of normal use of the dishwasher. Meanwhile, the paper industry is among the largest consumers of renewable energy. In fact, more than half of the energy for paper production in Europe comes from renewable sources.

At the end of 2005, Norske Skog had activities in the following regions:

After 2005

Some warning signals had emerged already before Norske Skog acquired all the shares in PanAsia Paper, primarily in the form of a number of new competitors in China. But it also became increasingly clear that demand in Europe and Australasia was stagnating and could fall. At the same time, the prices of important input factors such as timber, recovered paper and energy, rose.

In retrospect, it may seem as Norske Skog paid too much for the companies and mills acquired during the expansion in 2000 and 2001, and perhaps even more when looking at the acquisition of the remaining shares of PanAsia in 2005. This became very visible in the accounts, which suffered under large write-downs.

Key figures from the accounts for the years 2000 – 2011:

Year	Operating revenues NOK billion	Gross operating margin, %	Net result NOK billion	Cash flow NOK billion
00 - 03	104.5	23.8	6.4	18.6
04 - 07	107.0	15.8	-3.9	10.9
08 - 11	84.7	9.3	- 9.2	4.5

In the four-year period from 2000 through 2003, Norske Skog had an average gross operating margin (operating result before depreciation and write-downs as a percentage of operating revenues) of 24 per cent (28 per cent in the peak year 2001), while the corresponding margin in the years 2004 - 2007 was 16 per cent. For the period 2008 to 2011, the margin declined further to 9 per cent.

As a consequence of the result development, the share price has also plummeted.

The financing, which appeared solid, increasingly became a challenge. But Norske Skog has avoided raising new share capital in the market after the share issue in 2005.

To counter the negative developments mentioned above, a number of measures have been implemented in recent years: Comprehensive cost reductions, shutting down capacity to improve the balance between supply and demand, sale of activities to raise funds, reduction of investments and assessment of other business opportunities using timber as raw material. The measures in chronological order:

Shut-down of capacity:

- March 2006: Union in Norway. The process was started in the autumn of 2005, and caused a lot of negative attention. PM 7 from Union was originally planned to be moved to Pisa in Brazil, but the project was stopped as it turned out to be much more costly than originally estimated.
- July 2006: PM 1 at Tasman on New Zealand. This was part of the streamlining of the activities in Australasia.
- June 2008: Steti in the Czech Republic and PM 2 at Follum in Norway.
- June 2009: PM 2 at Parenco in the Netherlands.
- December 2011: Decision to shut down the remaining two paper machines (PM 1 and PM 7) at Follum. This will be implemented on 31 March 2012.

MYTH

Paper-based advertising accounts for a large proportion of household CO₂ emissions.

Fact:

INCORRECT. Printed advertisements account for only 0.1 per cent of total household CO₂ emissions. In practice, this corresponds to emissions from a 70 km car journey.



Going forward

Norske Skog believes that paper will play a major role as a news and advertising medium in the long term. Newsprint and magazine paper are not dying products, although there is reason to believe that demand in mature markets such as Europe and Australasia will continue to decline. The prices for raw materials and other input factors will most probably be high.

Under such conditions, can acceptable profitability be achieved again? The answer is yes. There is no reason for paper prices to remain at a historically low level when costs are much higher than before, as long as there is balance in the markets. The market balance has always been important for the paper industry, and if capacity continues to be removed in line with demand, the paper prices could rise to new levels and yield better results for the industry. Further consolidation of the paper industry is also important, and this has been high on Norske Skog's list of priorities for a long time.

Sale of businesses:

- June 2008: The two mills in Jeonju and Cheongwon in South Korea.
- 2009: The two mills in Shanghai and Hebei in China.
- 2010: Sale of parts of long-term energy contract in Norway.
- 2011: Sale of forest properties and a long-term energy contract in Brazil
- 2011: Process started to sell Parenco in the Netherlands.

In addition, a number of properties have been sold off.

Other business opportunities:

In the years 2006 – 2010, Norske Skog worked to develop synthetic biofuel based on wood, with the aim of developing a pilot facility at Follum and possibly a full-scale facility later. The project was cancelled in October 2010 as a result of changed framework conditions from the authorities. There was no interest in the project from other investors.

MYTH

Electronic communication is less harmful to the environment than paper-based advertising.

Fact:

INCORRECT. In Europe, 10.3 million tonnes of electric waste is generated annually. Paper-based advertising generates 3.4 million tonnes, of which a substantial proportion is recycled. A PC is responsible for two per cent of the total CO₂ emissions in a household, while paper-based advertising accounts for only 0.1 per cent. In addition, a Swedish study showed that CO₂ emissions from a printed newspaper are of the same magnitude as those if the same is read on the internet.

Highest and lowest production per paper machine

Highest capacity: Golbey PM2 350 000 t/year
Lowest capacity: Saugbrugs PM4 120 000 t/year

Environment, corporate social responsibility and HSE

Going back to the 1980s, pollution from the paper industry was considerable, primarily due to the processing water not being treated. The water carried dissolved organic material which affected the water quality of the lakes and rivers where it was discharged, and some paper and pulp types also involved discharge of chemicals. In time, environmental requirements were introduced which, in a relatively short time, made the paper industry a clean industry.

With the large discharges to water coming to an end, the attention has been on the social responsibility of the individual company, sustainable use of resources and, in recent years, emission of greenhouse gases.

Norske Skog has maintained a strong focus on health and safety at the mills for a long time. The objective is to have zero lost-time injuries. The H value (lost-time injuries per million working hours) was 1.99 in 2011. In a longer perspective, the H value has had a very positive development in Norske Skog, and it is very low compared to other paper industry.

MYTH

Most of the paper that comes in the mailbox goes in the bin.

Fact:

INCORRECT. Two thirds of paper in Europe is recycled. Recycled paper now constitutes half of the raw material in new paper, and paper industry is working continuously to increase this proportion.



Norske Skog was one of the first Norwegian companies to publish its own environmental report, as early as 1992. The report has later been renamed the sustainability report, and Norske Skog has won several awards both in Norway and abroad for its environment, sustainability and climate reporting.

CEOs and chairs of the board of Norske Skog

Norske Skog has had the following CEOs:

Name	Periode
Rolv Lindseth	1 March 1962 – 31 December 1981
Arnfinn Hofstad	1 January 1982 – 17 April 1994
Jan Reinås	18 April 1994 – 31 December 2003
Jan Oksum	1 January 2004 - 20 March 2006
Christian Rynning-Tønnesen	6 June 2006 – 31 December 2009
Sven Ombudstvedt	From 1 January 2010

Norske Skog has had the following chairs of the board:

Name	Periode
Reidar Due	1 March 1962 – 20 May 1983
Torkel Wetterhus	20 May 1983 – 16 May 1984
Jan Jenssen	16 May 1984 – 22 March 1989
Lage Westerbø	22 March 1989 – 29 April 2002
Lars W. Grøholt	29 April 2002 – 12 April 2007
Kim Wahl	12 April 2007 – 23 April 2009
Eivind Reiten	From 23 April 2009

The individual mills

by date of incorporation.



Skogn

The mill was Norske Skog's cradle, and started production on PM1 in 1966. PM2 came the next year and PM3 in 1981. The mill has undergone several technical upgrades. A recovered paper plant was built in 1999, and the mill now uses 25 per cent recovered paper and 75 per cent timber. For many years, the mill was a very important contributor to Norske Skog's consolidated accounts. The good results have been caused by several factors, including economies of scale (560 000 tonnes of newsprint from three machines), relatively low prices on power up to recent years and good port facilities.

Skogn's profitability has declined in recent years, due to general cost increases and an increasingly strong NOK. However, Skogn is considered to be a mill for the future, due to its size and sound investments.

Follum

Wood processing has taken place at Follum near Hønefoss since 1873. The mill was Norway's biggest newsprint producer before Skogn built PM 3 in the 1980s, and also owned considerable power resources. In the early 90s, comprehensive studies concluded that a new newsprint machine in southern Norway should be located at Follum, but the project was never realised.

Over time, Follum was converted from standard newsprint to publishing paper and magazine paper. PM 2 at the mill was shut down in June 2008, reducing the production capacity to 290 000 tonnes. In December 2011, a decision was made to shut down the remaining two paper machines. This will take place in late March 2012.

FACTS Fastest paper machine

Golbey PM2 1800+ m/minute



Golbey

This mill was Norske Skog's first expansion abroad. PM 1 started production in 1993, and PM 2 in 1999. The raw material is mainly recovered paper, but about one-fourth is timber. Golbey has a production capacity of 620 000 tonnes standard newsprint, and is considered to be one of the most efficient units in the world for this paper type.

Golbey uses water from the Moselle river for its production. The river's water flow is relatively modest, but the mill's efficient treatment plants have ensured that there have never been any environmental problems.

Saugbrugs

The mill, or rather the production location, has a history going back to 1859. A number of different woodbased products have been produced at the mill including fine paper, newsprint, packaging and dissolving pulp. Magazine paper production started in 1937. In time, this became the main product, and the mill currently has three machines producing super-calendered (SC) magazine paper. The most recent paper machine (PM 6) started production in 1993, and is still one of the most cost-efficient units for SC paper in the world. Saugbrugs has a production capacity of 545 000 tonnes, and has, like Skogn, suffered declining profitability in recent years.

Saugbrugs discharges processing water to the closed water system in Iddefjorden, where the inner part was more or less without life until the production of dissolving pulp ended in the early 1990s and a modern treatment plant was built. Since then, the water quality has improved substantially, and the production at Saugbrugs currently has a negligible effect on the environment, like most other paper industry.

MYTH

Electronic media will take over from paper in the communication of knowledge.

Fact:

Recent research in several countries shows that it is easier to absorb and understand a text on paper rather than on a computer screen. Several studies have shown that it is quicker and less stressful to read on paper than on a screen.



Bruck

The mill, in Steiermark in Austria, was bought by Norske Skog in 1995. Paper has been produced at Bruck since 1881. The mill currently has two paper machines producing newsprint and LWC magazine paper. The newsprint machine is from 1953, and was the largest in the world in its time. In 1973, it became the first to use recovered paper as a raw material for newsprint. The LWC machine is from 1988, and Bruck was the first mill to produce this paper type with some recovered paper mixed in. The total production capacity at Bruck is 405 000 tonnes.

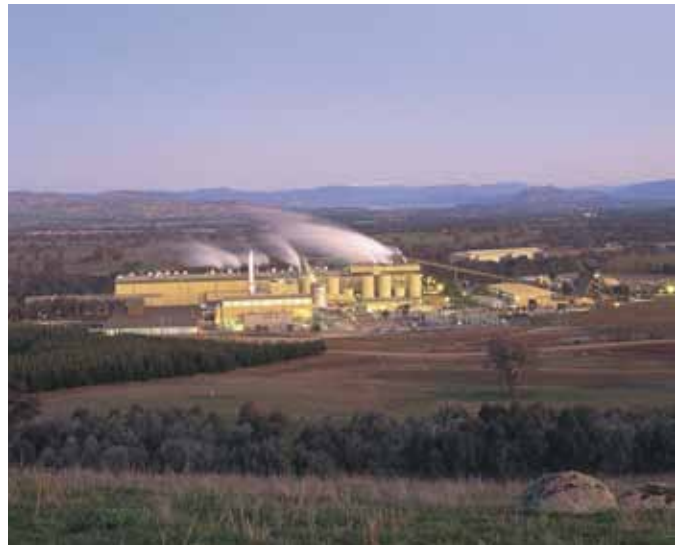
The next six mills were acquired from Fletcher Challenge in 2000. At the time, this was the largest ever acquisition abroad by a Norwegian company - totalling NOK 21 billion.

Tasman

The mill is in Kawerau on New Zealand's North Island, and was bought by Norske Skog in 2000. Like Skogn and several other mills, the available timber was the original basis for the mill, neighbouring the world's largest man-made forest area, totalling more than 100 000 million hectares. The first paper machine started operation in 1955. In time, two additional paper machines were built, but one was closed down in 2006 in connection with the restructuring of the business in Australasia. This mill has a production capacity of 315 000 tonnes.



The Tasman mill lies in a volcanic area, and has long used geothermal energy to dry paper. In recent years, a power station has been built to exploit the geothermal energy in production of electric power.



Albury

The mill is located in New South Wales and is one of two newsprint mills in Australia. It has a paper machine built in 1981 with a production capacity of 280 000 tonnes. The mill uses a significant amount of local recovered paper as raw material and has been through several comprehensive upgrades.



Boyer

Boyer, in Tasmania, was the first newsprint mill in Australia and started operations in 1941. Due to the raw material situation, some eucalyptus was used as raw material for several years, necessitating a so-called semi-chemical process with major discharges. Boyer was, to our knowledge, the only newsprint mill in the world to use deciduous wood forest as raw material. The mill has later been converted and currently uses pine and some recovered paper as raw materials. The production capacity is 270 000 tonnes.

Boyer is the world's southern-most newsprint mill. The next two southern-most mills, Tasman and BioBio, are also part of the Norske Skog Group.

MYTH

Other products are recycled to a larger extent than paper.

Fact:

Paper accounts for more than half of all the packaging material recovered for recycling. More than glass, metal and plastic combined. (Source Eurostat).



Singburi

The mill is the only newsprint producer in Thailand, and is based completely on recovered paper as its raw material. The mill was acquired in 1998 and marked the beginning of Norske Skog's expansion in Asia. Only Singburi now remains of the Asian mills. The mill has a paper machine with a production capacity of 130 000 tonnes and started production in 1994.



Pisa

The mill is located in the Parana province in south Brazil, and uses rapidly growing plantation pine as its raw material. Like Skogn and Tasman, easily available timber was the rationale for the localisation. The mill is the only newsprint producer in Brazil, and has a paper machine with a production capacity of 185 000 tonnes that started production in 1984. Pisa became part of Norske Skog's mill portfolio through the Fletcher acquisition in 2000, as Fletcher owned 49 per cent. Norske Skog acquired the rest of the shares shortly afterwards.



BioBio

The mill is located in the town of Concepcion in Chile and has been named after Chile's second longest river, which flows nearby. The mill started operations as early as 1957, and became a Norske Skog asset through the Fletcher transaction. It has a minor newsprint machine with a production capacity of 130 000 tonnes.

BioBio was struck by a major earthquake in winter 2010, followed by a long-term production stop. No employees were physically injured in the earthquake.



Walsum

The mill was acquired from the German Haindl Group in 2001 and produces high-quality LWC magazine paper on two machines, with off-machine coating. The mill

is located in the Ruhr region in Germany and started production in 1962. The two current machines are from 1985 and 1991 and have a total production capacity of 435 000 tonnes.



Parenco

Parenco was acquired from Haindl at the same time as Walsum and is located near Arnhem in the Netherlands. The mill's profitability has been generally weak and one of the two paper machines were shut down in 2009. Efforts are underway to sell off the remaining activities. Parenco's production capacity is 265 000 tonnes.



The paper industry is the biggest consumer of forest.

Fakta:

The paper industry uses only 11 percent of all harvesting of forest in the world. The rest goes to energy (50%+) and other wood-processing industry.

Wood for paper production:

- 50 % comes from recycled paper
- 50 % is fresh timber of which:
 - 13 % from excess cutting, sawdust, treetops
 - 25 % from the required thinning of the forest.

Widest paper machine

Widest: Golbey PM2 970 cm



Anecdote

In the 1970s and 1980s, electricity prices in Norway were very low, and it was profitable for Skogn to import timber from Russia and refine the timber into paper for export to Taiwan and other distant markets. The timber arrived by Russian ships, and the captain of one of these ships was invited to the office of the CEO at the time, Rolv Lindseth.

The captain looked out at the parking lot and commented that there sure had to be a lot of directors at the mill. "Not at all," Lindseth replied. "There is only one director and that's me." "Really?" said the Russian. "Well, who owns all these cars, then?"

Results Norske Skog

Accounting rules and principles have changed on several occasions, and the figures are therefore not directly comparable between the years.

Year	Revenue mill. kr	Gross OE mill. kr	Gross margin %	Net result mill. kr	Cash flow mill. kr	ROCE %	ROA %	Revenue/Avg. assets
1970	227	47	20.7					
1971	358	59	16.5					
1972	592	85	14.4					
1973	725	134	18.5					
1974	851	168	19.7					
1975	904	68	7.5					
1976	983	101	10.3					
1977	996	115	11.5					
1978	1 145	142	12.4					
1979	1 450	202	13.9					
1980	1 726	227	13.2	7	172		9.3	1.29
1981	1 862	242	13.0	3	180		7.1	1.11
1982	2 006	309	15.4	-1	213		9.3	1.11
1983	2 007	353	17.6	19	240		14.4	1.13
1984	2 229	404	18.1	45	365		18.3	1.10
1985	2 863	449	15.7	61	390		17.5	1.22
1986	3 018	450	14.9	77	407		15.4	1.08
1987	3 465	429	12.4	76	462		14.6	1.03
1988	3 480	481	13.8	92	522		14.9	0.85
1989	9 455	1 678	17.7	802	918		17.0	1.09
1990	9 879	1 676	17.0	773	1 001		15.0	0.99
1991	8 640	1 183	13.7	246	1 405	7.2	8.0	0.79
1992	7 557	728	9.6	-516	256	-0.6	0.4	0.64
1993	7 338	851	11.6	-47	492	3.4	5.0	0.62
1994	9 170	1 348	14.7	206	866	8.3	7.1	0.78
1995	12 548	3 332	26.6	1 699	2 555	25.4	21.4	0.94
1996	13 265	3 136	23.6	1 317	2 616	15.9	13.2	0.84
1997	13 312	2 223	16.7	590	1 615	8.4	7.0	0.78
1998	14 908	3 103	20.8	1 020	2 859	11.7	9.4	0.72
1999	18 054	3 818	21.1	1 300	2 162	11.0	9.2	0.73
2000	26 635	6 599	24.8	2 184	4 922	13.1	10.6	0.62
2001	30 354	8 419	27.7	2 660	7 052	13.7	9.5	0.52
2002	23 471	5 198	22.1	1 168	3 687	3.2	2.3	0.46
2003	24 068	4 686	19.5	406	2 973	3.6	3.0	0.53
2004	25 302	4 303	17.0	629	2 948	2.5	1.9	0.56
2005	25 726	3 957	15.4	-848	3 061	2.8	-0.1	0.53
2006	28 812	4 704	16.3	-3 017	2 763	3.6	-4.7	0.59
2007	27 118	3 932	14.5	-683	2 166	3.0	1.8	0.61
2008	26 468	2 725	10.3	-2 765	1 977	0.3	-2.8	0.60
2009	20 362	2 185	10.7	-1 400	1 697	-1.2	-3.1	0.52
2010	18 986	1 413	7.4	-2 469	397	-3.1	-7.5	0.61
2011	18 904	1 515	8.0	-2 545	455	-0.9	-8.7	0.74

Gross OE: Gross operating earnings

ROCE: Return on capital employed
ROA: Return on total assets

Revenue/Avg. assets: Total revenues divided by average total assets 1.1 and 31.12 in the same year.



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