Financial Report

Part of Stora Enso's Annual Report 2016

THE RENEWABLE MATERIALS COMPANY

storaenso

Everything that's made with fossil-based materials today can be made from a tree tomorrow.

Stora Enso is a leading provider of renewable solutions in packaging, biomaterials, wooden constructions and paper on global markets. Our aim is to replace fossil-based materials by innovating and developing new products and services based on wood and other renewable materials. We employ some 25 000 people and our shares are listed on the Helsinki (STEAV, STERV) and Stockholm (STE A, STE R) stock exchanges.

Stora Enso's Annual Report 2016 consists of four reports: Progress Book, Sustainability Report, Financial Report, and Corporate Governance Report.

The Progress Book explains Stora Enso's strategy, how we create value, and how our work is progressing. The publication is available in English, Finnish, and Swedish.

The Sustainability Report covers Stora Enso's social, environmental, and economic sustainability performance.

The Financial Report consists of Stora Enso in capital markets, a summary of our sustainability performance, the Report of the Board of Directors, and the financial statements.

The Corporate Governance Report covers Stora Enso's governance policy, practices, and actions as well as remuneration in 2016.

You can find the highlights of the year and the online Financial Report at storaenso.com/annualreport, where all reports can be downloaded.

Contents

Unaudited

In this report:

This publication consists of both audited and unaudited contents. The audited parts include the financial statements and notes. The unaudited parts – such as Stora Enso in 2016, Stora Enso in capital markets, the Sustainability summary, and the Report of the Board of Directors – are marked with grey on the top of the page. The official audited Financial statements (in Finnish) can be found on the company's website:

storaenso.com/about/download-center

Unaudited

Stora Enso in 2016

Why to invest in Stora Enso

Stora Enso is a leading provider of renewable solutions in packaging, biomaterials, wooden constructions and paper on global markets. Stora Enso is transforming from a traditional paper and board producer to a global renewable materials growth company.

Our key competitive differentiators are:

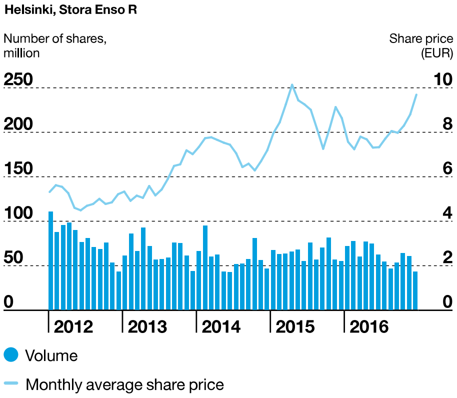
- Faster profitable growth than relevant markets[1]
- Successful transformation journey
- Strong focus on customers and innovation
- Strong cash generation
- Strong balance sheet
- Sustainability in business focus

[1] Excluding Paper

Stora Enso divisions are Consumer Board, Packaging Solutions, Biomaterials, Wood Products and Paper. In 2016, group sales totalled EUR 9.8 billion and operational EBIT EUR 884 million.

Stora Enso shares are listed on Nasdaq Helsinki Oy (STEAV, STERV) and Nasdaq Stockholm AB (STE A, STE R). In addition, the shares are traded in the USA as ADRs (SEOAY).

Share price performance and volumes



Dividend proposal

EUR

0.37

The Board of Directors' dividend proposal for the year 2016

Key figures

	2016	2015	Change	Target
Sales, EUR million	9 802	10 040	-2.4%	
Operational EBITDA[1], EUR million	1 371	1 408	-2.6%	
Operational EBIT, EUR million	884	915	-3.4%	
Operational EBIT margin	9.0%	9.1%		
Operating profit (IFRS), EUR million	783	1 059	-26.1%	
Net profit for the period, EUR million	407	783	-48.0%	
Net interest-bearing liabilities, EUR million	2 726	3 240	-15.9%	
Operational ROCE	10.2%	10.6%		>13
EPS (basic), EUR	0.59	1.02		
Net debt/last 12 months' operational EBITDA, ratio[1]	2.0	2.3		<3.0x
Debt/equity ratio	0.47	0.60		<0.8
Fixed costs to sales	25.3%	25.0%		<20%

[1] The data for the comparative periods have been restated according to the new reporting structure, see Report of the Board of Directors.

Unaudited

Divisions in brief

Consumer Board division

Consumer Board division develops and provides consumer packaging boards for printing and packaging applications. A wide board and barrier coating selection is suitable for the design and optimisation of packaging for liquid, food, pharmaceutical and luxury goods. We serve brand owners globally and are expanding in growth markets such as China and Asia Pacific to meet rising demand.

Operational ROOC (2016)

12.7%

(Target: >20%)

Packaging Solutions division

Packaging Solutions division develops fibre-based packaging, and operates at every stage of the value chain from pulp production, material and packaging production to recycling. Our solutions serve leading converters, brand owners and retailer customers helping to optimise performance, reduce total costs and enhance sales.

Operational ROOC (2016)

7.6%

(Target: >20%)

Biomaterials division

Biomaterials division offers a variety of pulp grades to meet the demands of paper, board, tissue, textile and hygiene product producers. We also develop new ways to maximise the value extractable from wood, as well as other kinds of lignocellulosic biomasses. Sugars and lignin hold potential for use in applications in the specialty chemical, construction, personal care and food industries.

Operational ROOC (2016)

8.5%

(Target: >15%)

Wood Products division

Wood Products division provides versatile wood-based solutions for building and housing. Our product range covers all areas of urban construction including massive wood elements, wood components and pellets. We also offer a variety of sawn timber goods. Our customers are mainly construction and joinery companies, merchandisers and retailers.

Operational ROOC (2016)

16.8%

(Target: >18%)

Paper division

Paper division provides best-in-class paper solutions for print media and office use. The wide selection covers papers made from recycled and fresh wood fibre. Our main customer groups include publishers, retailers, printing houses, merchants, converters and office suppliers. Three of the mills produce paper based on 100%-recycled fibre.

Cash flow after investing activities to sales (2016)

8.5%

(Target: >7%)

Sales 2016

- Consumer Board **24%**
- Packaging Solutions **11%**
- Biomaterials **14%**
- Wood Products **16%**
- Paper **33%**
- Other and eliminations **2%**

Operational EBIT 2016

- Consumer Board **29%**
- Packaging Solutions **7%**
- Biomaterials **25%**
- Wood Products **10%**
- Paper **24%**
- Other and eliminations **5%**

Unaudited

Stora Enso in capital markets

Stora Enso ensures that all material information that has an impact on Stora Enso's share price is available to the general public and financial community simultaneously in order to ensure the right share price level in relation to the company's value, history and future prospects. In its communication with the capital markets Stora Enso's Investor Relations aims to support brand with accurate, consistent and credible financial communications.

Shares and shareholders

Shares and voting rights

The shares of Stora Enso Oyj (hereafter the "Company" or "Stora Enso") are divided into A and R shares, which entitle holders to the same dividend but different voting rights. Each A share and each ten R shares carry one vote at a shareholders' meeting. However, each shareholder has at least one vote.

On 31 December 2016, Stora Enso had 176 507 090 A shares and 612 112 897 R shares in issue, of which the Company held no A shares or R shares. The total number of Stora Enso shares in issue was 788 619 987 and the total number of votes was 237 718 380.

Share listings

Stora Enso shares are listed on the Nasdaq Helsinki and the Nasdaq Stockholm. Stora Enso shares are quoted in Helsinki in euros (EUR) and in Stockholm in Swedish crowns (SEK).

American Depositary Receipts (ADRs)

Stora Enso has a sponsored Level I American Depositary Receipts (ADR) facility. Stora Enso ADRs are traded over-the-counter (OTC) in the USA. The ratio between Stora Enso ADRs and R shares is 1:1, i.e. one ADR represents one Stora Enso R share. Citibank, N.A. acts as the depositary bank for the Stora Enso ADR programme. The trading symbol is SEOAY and the CUSIP number is 86210M106.

Share registers

The Company's shares are entered in the Book-Entry Securities System maintained by Euroclear Finland Oy, which also maintains the official share register of Stora Enso Oyj.

On 31 December 2016, 105 066 591 of the Company's shares were registered in Euroclear Sweden AB and 15 452 802 of the Company's R shares were registered in ADR form in Citibank, N.A.

Distribution by book-entry system, 31 December 2016

Number of shares	Total	A shares	R shares
Euroclear Finland Oy	668 100 594	165 330 870	502 769 724
Euroclear Sweden AB[1]	105 066 591	11 176 220	93 890 371
Citi administered ADRs[1]	15 452 802	-	15 452 802
Total	**788 619 987**	**176 507 090**	**612 112 897**

[1] Share registered in Euroclear Sweden and ADRs are both nominee registered in Euroclear Finland.

Ownership distribution, 31 December 2016

	% of shares	% of votes	% of shareholders
FAM AB	10.2%	27.3%	0.0%
Solidium Oy[1]	12.3%	25.1%	0.0%
Social Insurance Institution of Finland (KELA)	3.3%	10.1%	0.0%
Finnish institutions (excl. Solidium and KELA)	13.3%	11.8%	2.8%
Swedish institutions (excl. FAM)	6.6%	5.2%	2.0%
Finnish private shareholders	4.3%	2.6%	44.6%
Swedish private shareholders	3.7%	2.4%	47.9%
ADR holders	2.0%	0.7%	1.6%
Under nominee names (non-Finnish/non-Swedish shareholders)	44.3%	14.8%	1.1%

[1] Entirely owned by the Finnish state.

Ownership distribution, % of shares held

- FAM AB **10.2%**
- Solidium Oy[1] **12.3%**
- Social Insurance Institution of Finland (KELA) **3.3%**
- Finnish institutions (excl. Solidium and KELA) **13.3%**
- Swedish institutions (excl. FAM) **6.6%**
- Finnish private shareholders **4.3%**
- Swedish private shareholders **3.7%**
- ADR holders **2.0%**
- Under nominee names (non-Finnish/non-Swedish shareholders) **44.3%**

[1] Entirely owned by the Finnish state.

Share capital

On 31 December 2016, the Company's fully paid-up share capital entered in the Finnish Trade Register was EUR 1 342 million. The current accountable par of each issued share is EUR 1.70.

Conversion

According to the Articles of Association, holders of Stora Enso A shares may convert these into R shares at any time. The conversion of shares is voluntary. The conversions of a total of 25 000 A shares into R shares during the year were recorded in the Finnish Trade Register on 15 January 2016.

Changes in share capital 2009–2016

	No. of A shares issued	No. of R shares issued	Total no. of shares	Share capital (EUR million)
Stora Enso Oyj, 1 Jan 2009	**177 152 481**	**612 386 018**	**789 538 499**	**1 342**
Conversion of A shares into R shares, Dec 2008–Nov 2009	-2 397	2 397	-	-
Stora Enso Oyj, 31 Dec 2009	**177 150 084**	**612 388 415**	**789 538 499**	**1 342**
Conversion of A shares into R shares, Dec 2009–Nov 2010	-300	300	-	-
Stora Enso Oyj, 31 Dec 2010	**177 149 784**	**612 388 715**	**789 538 499**	**1 342**
Conversion of A shares into R shares, Dec 2010–Nov 2011	-1 012	1 012	-	-
Stora Enso Oyj, 31 Dec 2011	**177 148 772**	**612 389 727**	**789 538 499**	**1 342**
Conversion of A shares into R shares, Dec 2011–Nov 2012	-1 000	1 000	-	-
Stora Enso Oyj, 31 Dec 2012	**177 147 772**	**612 390 727**	**789 538 499**	**1 342**
Cancellation of shares owned by the Company, 15 May 2013		-918 512	788 619 987	-
Conversion of A shares into R shares, Dec 2012–Nov 2013	-51 568	51 568	-	-
Stora Enso Oyj, 31 Dec 2013	**177 096 204**	**611 523 783**	**788 619 987**	**1 342**
Conversion of A shares into R shares, Dec 2013–Nov 2014	-40 000	40 000	-	-
Stora Enso Oyj, 31 Dec 2014	**177 056 204**	**611 563 783**	**788 619 987**	**1 342**
Conversion of A shares into R shares, Dec 2014–Nov 2015	-524 114	524 114	-	-
Stora Enso Oyj, 31 Dec 2015	**176 532 090**	**612 087 897**	**788 619 987**	**1 342**
Conversion of A shares into R shares, Dec 2014–Nov 2015	-25 000	25 000	-	-
Stora Enso Oyj, 31 Dec 2016	**176 507 090**	**612 112 897**	**788 619 987**	**1 342**

For more historical data about the share capital, please visit storaenso.com/investors

Stora Enso's activities in capital markets during 2016

Stora Enso's Investor Relations activities cover equity and fixed-income markets to ensure full and fair valuation of the Company, continual access to funding sources and stable bond pricing. Investors and analysts are met on a regular basis in Europe, North America, and parts of Asia and Latin America. In 2016, the IR team conducted a number of individual and group meetings with equity investors, whilst maintaining regular contact with equity research analysts at investment banks and brokerage firms. There were also meetings with fixed-income analysts and investors. In addition, Stora Enso arranged a webinar for ESG investors and analysts on its sustainability strategy and activities.

The group arranged site visits to mills in Scandinavia, Poland and Brazil for the members of the investment community. In addition, visits to innovation centres in Helsinki and Stockholm were arranged. Senior management and IR personnel also gave presentations at equity and fixed-income investor conferences in Scandinavia, Continental Europe, the United Kingdom and North America. During the year, the group arranged four large group presentations for private investor in Finland and Sweden.

Capital markets day (CMD) took place on 17 November 2016 in London. At the event, the CEO, CFO and the Divisional heads of Biomaterials and Wood Products gave their presentations, which were followed by break-out sessions with the CEO, CFO and divisional heads providing an opportunity for further discussion with the management. In addition, Intelligent Packaging, Microfibrillated Cellulose (MFC) and Lignin were shown on demo stations during the event. The CMD was attended by sell-and-buy side analysts, equity and fixed income investors, and relationship bank representatives.

In June, Stora Enso was ranked at best investor relations in Finland in Extel investor relations ranking.

Shareholdings of other group-related bodies at 31 December 2016

E.J. Ljungberg's Education Foundation owned 1 780 540 A shares and 2 336 224 R shares, E.J. Ljungberg's Foundation owned 39 534 A shares and 101 579 R shares, Mr. and Mrs. Ljungberg's Testamentary Foundation owned 5 093 A shares and 13 085 R shares and Bergslaget's Healthcare Foundation owned 626 269 A shares and 1 609 483 R shares.

Shareholders

At the end of 2016 the Company had approximately 83 854 registered shareholders, including about 42 462 Swedish shareholders and about 1 325 ADR holders. Each nominee register is entered in the share register as one shareholder.

The free float of shares excluding shareholders with holdings of more than 5% of shares or votes is approximately 570 million shares, which is 72% of the total number of shares issued. The largest single shareholder in the Company is FAM AB based in Sweden.

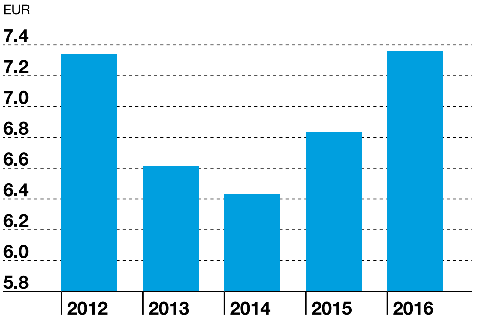
Major shareholders as at 31 December 2016

By voting power	A shares	R shares	% of shares	% of votes
1 FAM AB[1]	63 123 386	17 000 000	10.2%	27.3%
2 Solidium Oy[2]	55 595 937	41 483 501	12.3%	25.1%
3 Social Insurance Institution of Finland	23 825 086	2 275 965	3.3%	10.1%
4 Varma Mutual Pension Insurance Company	15 572 117	140 874	2.0%	6.6%
5 MP-Bolagen i Vetlanda AB, (Werner von Seydlitz dödsbo)	4 803 000	3 507 000	1.1%	2.2%
6 Ilmarinen Mutual Pension Insurance Company	3 492 740	13 781 189	2.2%	2.0%
7 Erik Johan Ljungberg's Education Foundation	1 780 540	2 336 224	0.5%	0.8%
8 Swedbank Robur Funds	-	11 032 722	1.4%	0.5%
9 The State Pension Fund	-	8 500 000	1.1%	0.4%
10 Bergslaget's Healthcare Foundation	626 269	1 609 483	0.3%	0.3%
11 Nordea Investment Funds	-	6 879 179	0.9%	0.3%
12 Unionen (Swedish trade union)	-	5 297 200	0.7%	0.2%
13 Keva (Local Government Pensions Institution)	-	5 251 101	0.7%	0.2%
14 SEB Investment Management	-	4 701 297	0.6%	0.2%
15 Investment Fund Nordea Suomi	-	4 063 211	0.5%	0.2%
Total	**168 819 075**	**127 858 946**	**37.8%[3]**	**76.4%[3]**
Nominee-registered shares	74 514 851	442 620 022	65.6%[3, 4]	50%[3, 4]

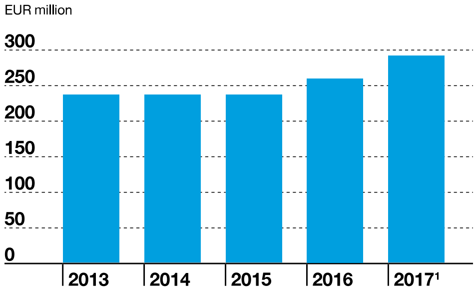
[1] As confirmed to Stora Enso.
[2] Entirely owned by the Finnish State.
[3] As some of the shareholdings on the list are nominee registered, the percentage figures do not add up to 100%.
[4] According to euroclear Finland.

The list has been compiled by the Company on the basis of shareholder information obtained from Euroclear Finland, Euroclear Sweden and a database managed by Citibank, N.A (Citi). This information includes only directly registered holdings, thus certain holdings (which may be substantial) of shares held in nominee or brokerage accounts cannot be included. The list is therefore incomplete.

Equity per share



Distributed dividend



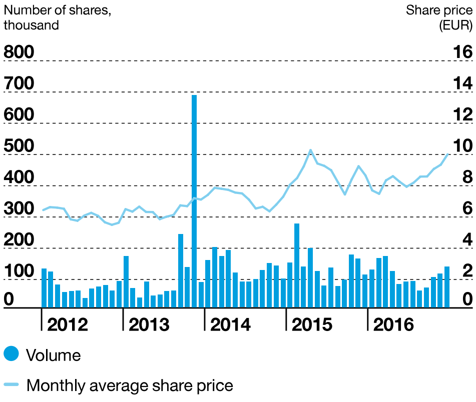
[1] Board of Director's proposal to the AGM for the distributed dividend.

Share price performance and volumes

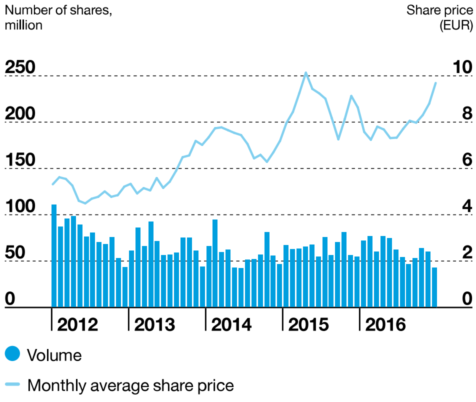
Helsinki

The Stora Enso R (STERV) share price increased by 22% during 2016 (13% increase in 2015). Over the same period, the OMX Helsinki Index increased by 4%, the OMX Helsinki Benchmark Index by 10% and the OMX Helsinki Basic Materials Index by 37%.

Helsinki, Stora Enso A



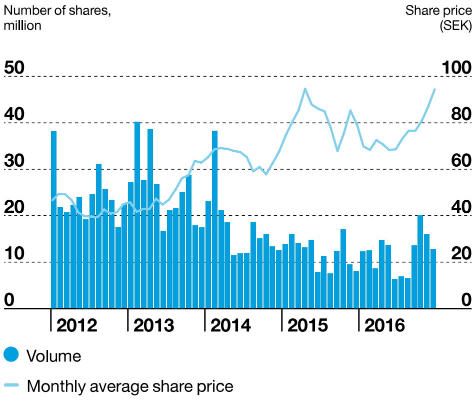
Helsinki, Stora Enso R



Stockholm

The Stora Enso R (STE R) share price increased during 2016 by 28% (9% increase in 2015). Over the same period, the OMX Stockholm 30 Index increased by 5% and the OMX Stockholm Basic Materials Index increased by 32%.

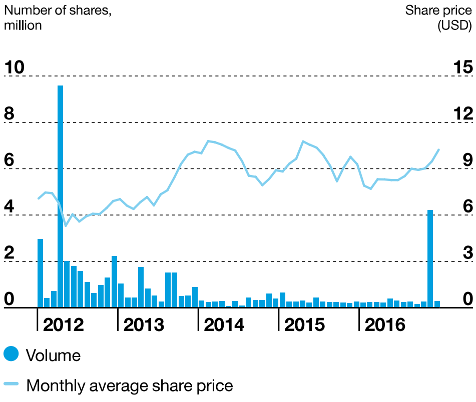
Stockholm, Stora Enso R



OTC

Stora Enso ADR (SEOAY) share price increased by 17% during 2016 (3% increase in 2015). Over the same period, the Standard & Poor's Global Timber and Forestry Index increased by 10.6%.

New York, Stora Enso ADR



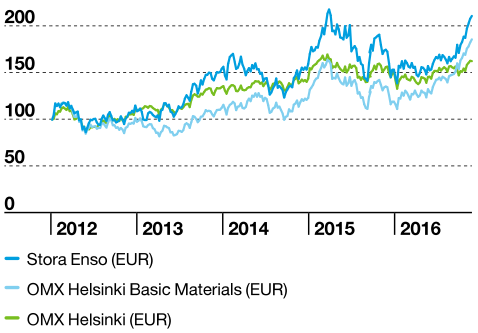
Share prices and volumes 2016

		Helsinki, EUR	Stockholm, SEK	OTC, USD
	A share	10.45	102.90	-
High	R share	10.28	98.90	10.66
	A share	6.56	62.50	-
Low	R share	6.50	61.80	7.13
	A share	10.40	101.20	-
Closing, 31 Dec 2016	R share	10.21	97.95	10.65
	A share	24%	31.6%	-
Change from previous year	R share	22%	28%	17%
	A share	1 254 108	1 504 057	-
Cumulative trading volume, no. of shares	R share	765 122 056	142 426 460	6 375 341

The volume-weighted average price of R shares over the year was EUR 7.88 in Helsinki (EUR 8.70 in 2015), SEK 76.63 in Stockholm (SEK 81.43 in 2015) and USD 9.66 on the OTC in the USA (USD 9.62 in 2015). The percentage of R shares traded was 58.2% (56.1% in 2015) in alternative trading venues, 35.0% (37.1% in 2015) in Helsinki, 6.5% (6.7% in 2015) in Stockholm and 0.3% (0.1% in 2015) on the OTC in the USA. Total market capitalisation on the OMX Helsinki at year-end was EUR 8.1 billion.

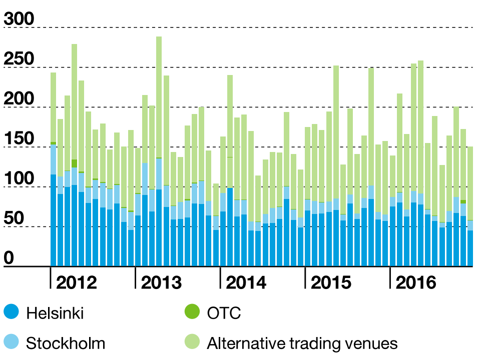
Stora Enso R Share vs Nasdaq Helsinki indices

1.1.2012 = 100



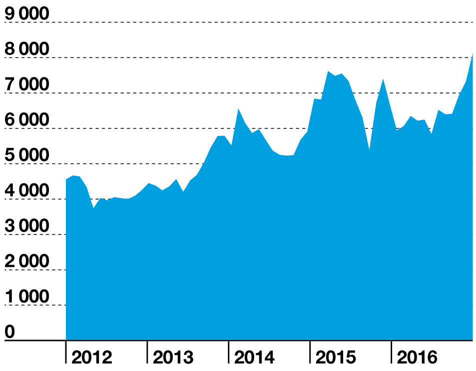
Monthly R shares trading volumes

Number of shares, million



Market capitalisation on Nasdaq Helsinki

EUR million



Alternative trading venues

Stora Enso shares can be traded outside Nasdaq Helsinki and Nasdaq Stockholm, where the shares are listed. During 2016, the largest alternative trading venues included BATS OTC, BATS BXE, BATS CXE, Turquoise, BOAT, Posit, Paris, and UBS MTF. The alternative trading venues' market share of monthly turnover in Stora Enso shares varied between 38% and 67%. Of the alternative trading venues, BATS OTC had the biggest share of the volume with 23% on an annual basis (BATS OTC had the biggest share of the volume in 2015 with 31%).

Stora Enso is included in at least the following indices

OMX INDICES	STOXX INDICES	FTSE INDICES	MSCI INDICES	SUSTAINABILITY INDICES
OMX Helsinki	STOXX Global 1800	FTSE RAFI All-World 3000	MSCI Finland	CDP's Climate A list
OMX Helsinki 25	STOXX Europe 600	FTSE RAFI Developed 1000	MSCI Europe	FTSE4 Good Index
OMX Helsinki Large Cap	STOXX Europe Mid 200	FTSE RAFI Europe	MSCI World	UN Global Compact 100 Stock Index
OMX Helsinki Benchmark	STOXX Nordic	FTSE Finland 25 Index		STOXX® Global ESG Leaders Indicies
OMX Helsinki Basic Materials	EURO STOXX			ECPI EMU Ethical Equity index
OMX Helsinki Basic Resources	EURO STOXX Basic Materials			OMX GES Sustainability Nordic Index
OMX Helsinki Forestry & Paper	EURO STOXX Basic Resources			Ethibel Sustainability Index (ESI) Excellence Europe and Excellence Investment Register
OMX Stockholm				Euronext Vigeo - Europe 120
OMX Stockholm Basic Materials				
OMX Stockholm Forestry & Paper				
OMX Nordic				
OMX Nordic Large Cap				

Read more about sustainability indeces in the Sustainability Report 2016.

In 2016, Stora Enso shifted its strategy regarding the provision of ESG information to its stakeholders. The emphasis is to keep sustainability information widely available on the group website to benefit and serve different stakeholders in equal manner. As a consequence, Stora Enso simultaneously reduces the number of sustainability index survey questionnaires in which it participates. The group is targeting its participation in those questionnaires and enquiries that it has assessed to be the most material. The Company continues with this chosen strategy also in 2017.

Trading codes and currencies

	Helsinki	Stockholm	OTC
A share	STEAV	STE A	-
R share	STERV	STE R	-
ADRs	-	-	SEOAY
Segment	Large Cap	Large Cap	-
Sector	Materials	Materials	-
Currency	EUR	SEK	USD
ISIN, A share	FI0009005953	FI0009007603	
ISIN, R share	FI0009005961	FI0009007611	
CUSIP	-	-	86210M106
Reuters			STERV.HE
Bloomberg			STERV FH Equity

Key share data 2007-2016, total operations (for calculations see Calculation of Key figures)

According to Nasdaq Helsinki	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**
Earnings per share, EUR	0.59	1.02	0.13	-0.07	0.61	0.43	0.97	-1.12	-0.85	-0.27
– diluted, EUR	0.59	1.02	0.13	-0.07	0.61	0.43	0.97	-1.12	-0.85	-0.27
– excl. IAC, EUR	0.65	1.24	0.40	0.40	0.33	0.63	0.79	0.19	0.19	0.88
Equity/share, EUR	7.36	6.83	6.43	6.61	7.32	7.45	7.87	6.50	7.09	9.63
Dividend and distribution/share, EUR	0.37[1]	0.33	0.30	0.30	0.30	0.30	0.25	0.20	0.20	0.45
Payout ratio, %	63	32	231	-429	49	70	26	-18	-24	-167
Dividend and distribution yield, %										
A share	3.6	3.9	4.0	4.1	5.3	5.9	3.2	3.4	3.6	4.4
R share	3.6	3.9	4.0	4.1	5.7	6.5	3.3	4.1	3.6	4.4
Price/earnings ratio (P/E), excl. IAC										
A share	16.0	6.8	18.7	18.3	17.3	8.0	10.0	30.8	29.6	11.6
R share	15.71	6.8	18.6	18.3	15.9	7.3	9.7	25.7	29.1	11.6
Share prices for the period, EUR										
A share										
– closing price	10.40	8.40	7.48	7.31	5.70	5.03	7.90	5.85	5.63	10.19
– average price	8.50	8.87	7.29	6.82	6.15	7.73	6.47	5.03	7.48	12.71
– high	10.45	11.01	8.35	7.49	7.15	9.80	7.94	7.55	11.20	14.65
– low	6.56	6.70	5.73	5.42	5.10	4.70	5.30	2.82	5.16	9.80
R share										
– closing price	10.21	8.39	7.44	7.30	5.25	4.63	7.69	4.88	5.52	10.24
– average price	7.88	8.70	7.16	5.79	5.08	6.28	6.03	4.27	7.32	12.67
– high	10.28	10.95	8.38	7.54	5.95	8.99	7.79	6.16	10.44	14.56
– low	6.50	6.58	5.71	4.76	4.14	3.73	4.15	2.65	5.10	9.99
Market capitalisation at year-end, EUR million										
A share	1 836	1 483	1 324	1 295	1 010	891	1 400	1 036	997	1 809
R share	6 250	5 135	4 547	4 464	3 212	2 835	4 709	2 989	3 381	6 267
Total	8 085	6 618	5 871	5 756	4 222	3 726	6 109	4 025	4 378	8 076
Number of shares at the end of period, (thousands)										
A share	176 507	176 532	177 056	177 096	177 148	177 149	177 150	177 150	177 152	177 479
R share	612 113	612 088	611 564	611 524	612 391	612 389	612 389	612 388	612 386	612 059
Total	788 620	788 620	788 620	788 620	789 538	789 538	789 538	789 538	789 538	789 538
Trading volume, (thousands)										
A share	1 254	1 641	1 553	1 656	831	1 402	1 887	2 536	1 712	5 409
% of total number of A shares	0.7	0.9	0.9	0.9	0.5	0.8	1.1	1.4	1.0	3.1
R share	765 122	798 507	731 067	828 401	977 746	1 237 898	1 194 245	1 297 668	1 231 605	1 263 658
% of total number of R shares	125.0	130.5	119.5	135.5	159.7	202.1	195.0	211.9	201.1	206.5
Average number of shares (thousands)										
basic	788 620	788 620	788 620	788 620	788 620	788 620	788 619	788 620	788 620	788 599
diluted	789 888	789 809	789 210	788 620	788 620	788 620	788 619	788 620	788 620	788 751

[1] Board of Directors' proposal to the AGM for distribution of dividend.

IAC = Items affecting comparability

Read more about incentive programmes in Note 21 and management interests in Note 7 .

Unaudited

Debt investors

Funding strategy

Stora Enso's funding strategy is based on the group's financial targets. Stora Enso should have access to sufficient competitively priced funding at any time to be able to pursue its strategy and achieve its financial targets. In order to accomplish this, the emphasis is on capital markets funding. Stora Enso strives to build confidence and a track record with fixed-income investors by being informative and transparent.

The debt structure of Stora Enso is focused on capital markets, whereas banks are utilised primarily to provide back-up facilities. To balance exposures, funding is obtained in the currencies of the group's investments and assets (primarily USD, EUR and SEK). Commercial paper markets are used for short-term funding and liquidity management.

Debt structure as at 31 December 2016

	EUR	USD	SEK
Public issues	EUR 212 million 2018	USD 300 million 2036	SEK 480 million 2017
	EUR 428 million 2019		SEK 2 060 million 2017
	EUR 300 million 2023		
Private placements	EUR 175 million	USD 50 million	
Financial institutions	EUR 430 million	USD 990 million	
Pension commitment loans	EUR 6 million		
Debt Programmes and Credit Facilities			
Commercial paper programmes	Finnish Commercial Paper Programme EUR 750 million		Swedish Commercial Paper Programme SEK 10 000 million
EMTN (Euro Medium-Term Note programme)	EUR 4 000 million		
Back-up facility	EUR 700 million Syndicated Revolving Credit Facility 2019[1]		

[1] Undrawn committed credit facility EUR 700 million.

Rating strategy

The present ratings and outlooks from Moody's and Standard & Poor's (S&P) are shown below.

Ratings as at 31 December 2016

Rating agency	Long/short-term rating	Valid from
Standard & Poor's	BB (positive)/B	23 August 2016
Moody's	Ba2 (positive)/NP	4 August 2016

Stora Enso's goal is to ensure that rating agencies continue to be comfortable with Stora Enso's strategy and performance. The Company's strategy is to achieve liquidity well in line with the comfort level of the agencies. Review meetings are arranged with the Stora Enso management annually, and regular contact is kept with the rating analysts.

Read more about:
Debt and loans in Note 26
storaenso.com/debt

Unaudited

Sustainability summary

This is an unaudited summary of sustainability topics material to Stora Enso's long-term success. The contents are derived from related sections of Stora Enso's Sustainability Report 2016. The full report can be downloaded from storaenso.com/sustainabilityreport

Sustainability strategy and governance

In 2016 Stora Enso introduced a new framework for the company's sustainability work, to build on all the work done over many years in this field. The new framework is based on the classic Triple Bottom Line model widely used in corporate responsibility work.

Stora Enso's Sustainability Agenda encompasses the social, environmental, and economic responsibility of Stora Enso's operations throughout the value chain. The agenda addresses ten sustainability topics identified as material to Stora Enso: Employees and wider workforce; Community; Business ethics; Materials, water, and energy; Carbon dioxide; Forests, plantations, and land use; Customers; Suppliers; and Investors. Human rights are considered to be so integral to Stora Enso's long-term success that these topics are progressed as an overarching theme.

In line with Stora Enso's Sustainability Agenda the group has set ambitious targets and selected key performance indicators (KPIs) for its work. Progress is monitored in group-level and division-level business reviews.

Consolidated results on all material sustainability indicators are reported annually in the Sustainability Report. Selected sustainability indicators are also reported quarterly in Interim Reports.

Stora Enso acknowledges the United Nations' Sustainable Development Goals as part of a global ambition to end poverty, protect the planet, and ensure prosperity for all. Stora Enso is in the process of assessing how best to reflect these long-term goals in its Sustainability Agenda.

Sustainability embedded in strategy

Stora Enso's sustainability strategy is incorporated into the wider company business strategy.

Stora Enso's Sustainability Policy describes the group's overall approach and governance model. At the same time, Stora Enso's Code of Conduct and other policies, guidelines, and statements on specific topics all further elaborate the group's approach, while also guiding employees in their everyday work. These documents are available at storaenso.com/sustainability. In order to ensure alignment with the group's Sustainability Agenda, Stora Enso conducted a comprehensive review of the company's existing sustainability policies, guidelines, and statements in 2016. This alignment will continue in 2017.

Sustainability governance

Sustainability is a key element of Stora Enso's corporate governance, promoted by the Board of Directors, the CEO and the Group Leadership Team (GLT). The CEO carries the ultimate responsibility for the successful implementation of the sustainability strategy.

The Board of Directors' Sustainability and Ethics Committee oversees the implementation of Stora Enso's Sustainability Strategy and Ethics and Compliance Strategy. The committee met four times in 2016. It has reviewed the disclosures in Stora Enso's Sustainability Report 2016. The main focus areas of the committee in 2016 are described in Stora Enso's Corporate Governance Report.

Work on sustainability issues is led by the Executive Vice President, Sustainability, who reports directly to the CEO. Everyday sustainability topics are managed by the group Sustainability function together with the Legal, Human Resources, Sourcing and Logistics, and Wood Supply functions, and the divisions (Consumer Board, Packaging Solutions, Biomaterials, Wood Products, and Paper). Each of the business divisions has its own Head of Sustainability, who reports directly to the Executive Vice President of the division.

Other key units, such as Wood Supply, and Sourcing and Logistics, each have sustainability organisations to support their management teams. The everyday implementation of Stora Enso's Sustainability Agenda is the responsibility of line management supported by functional experts at all levels.

Stora Enso's sustainability work is steered by its Sustainability Council, whose members come from the five divisions, the Sourcing and Logistics function, and the group Sustainability team. Chaired by the Executive Vice President, Sustainability, the council met nine times in 2016. Their work involves sharing good practices and identifying longer-term opportunities and challenges that may require a group-wide response. The Group Leadership Team is periodically informed of developments, as is the Board of Directors, when appropriate, via its Sustainability and Ethics Committee.

Sustainability governance of joint ventures

Stora Enso's joint operations in Brazil (Veracel) and Uruguay (Montes del Plata) and the group's equity-accounted minority investment in Pakistan (Bulleh Shah Packaging) have their own sustainability teams, and sustainability topics are regularly discussed by their boards, which include representatives from their parent companies. Sustainability topics are also regularly discussed by Stora Enso's joint venture steering committees for Veracel and Montes del Plata. Stora Enso has a corresponding representation in the boards of the forestry companies Tornator and Bergvik Skog in Finland and Sweden, and one of the aims of the group's internal joint venture guidelines is to follow up on sustainability in the companies where Stora Enso acts as owners. The Board of Directors of Stora Enso's equity-accounted minority investment in Pakistan, Bulleh Shah Packaging, has a Sustainability Committee formed by representatives of top management and parent companies.

External assurance

Stora Enso's Sustainability Report 2016 contents have been assured by an independent third-party assurance provider with a level of Limited Assurance. For the second year running a level of Reasonable Assurance has been provided for Stora Enso's direct and indirect fossil CO_2 emissions (scopes 1 and 2). Stora Enso is one of the few companies in the world that assures its CO_2 reporting for stakeholders at Reasonable Level. The company is developing a roadmap to help further improve the external assurance of its sustainability reporting.

About this summary

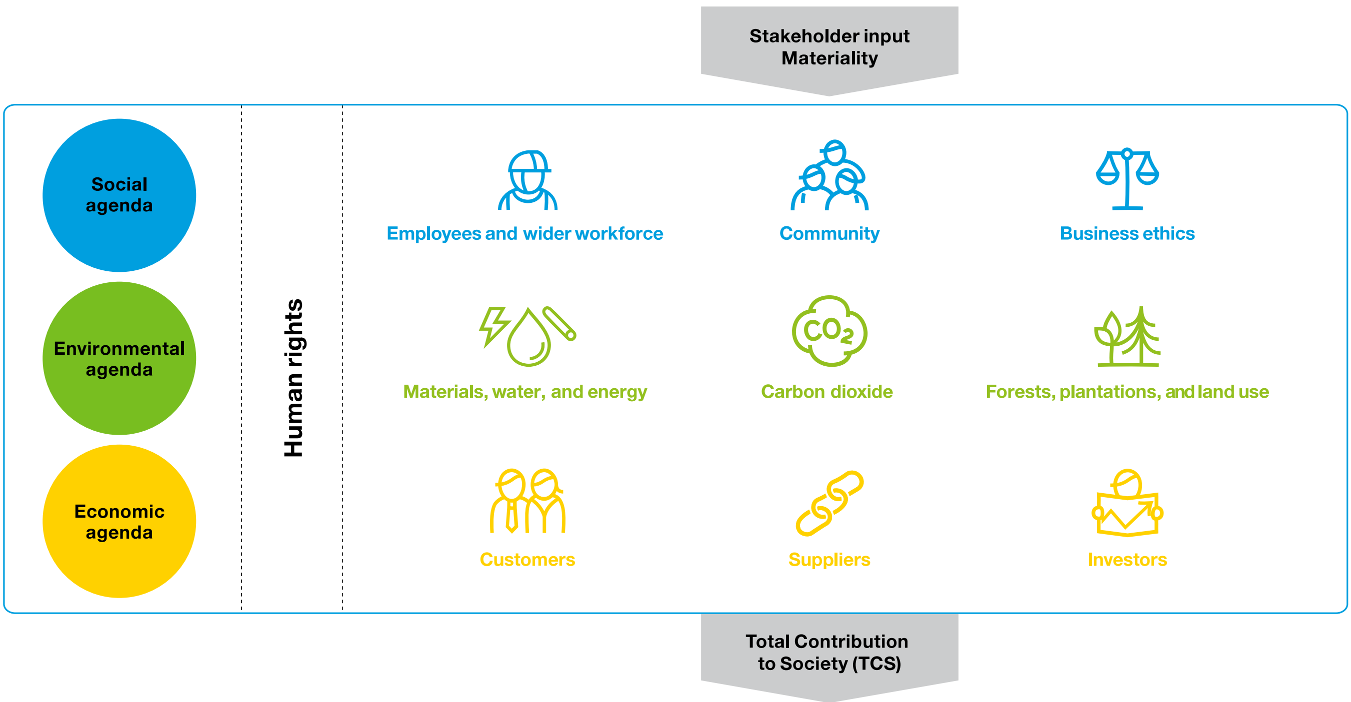
This summary is structured to reflect Stora Enso's Sustainability Agenda, with the agenda's ten elements addressed through a common four-level framework:

Opportunities and challenges: These sections examine the external factors and global trends currently affecting the topics included in Stora Enso's Sustainability Agenda. Please note that the group's corporate risk management assessment appears in the Report of the Board of Directors and in the parallel Progress Book.

Our policies: These sections set out the relevant strategies and policies the group uses to address key opportunities and challenges.

How we work: These sections describe the processes, procedures, and systems Stora Enso deploys to realise its strategies and policies.

Progress: These sections report on the group's progress on related topics during 2016.



Unaudited

Human rights

Opportunities and challenges

When it comes to human rights, Stora Enso's operations extend to challenging markets such as China, Pakistan, Laos, and Brazil. Many of the human rights challenges the group faces are deeply rooted in local society, and can only be effectively addressed through long-term commitment and close cooperation with global and local stakeholders.

The UN Guiding Principles on Business and Human Rights emphasise that companies have an ongoing responsibility to respect human rights, even where government actions and regulatory frameworks are deficient. They encourage companies to implement human rights due diligence procedures that identify, assess, and address the human rights risks and impacts of their operations, products, and services.

Our policies

Stora Enso's human rights commitment extends from employees and on-site contractors, through external suppliers of materials and services and business partners, to communities living near the group's operations. In addition to Stora Enso's commitment to the UN Guiding Principles on Business and Human Rights the group's Sustainability Agenda is aligned with the ten principles of the UN Global Compact, including its principles on human rights. Stora Enso also respects and follows the legal reporting requirements of the UK Modern Slavery Act.

Relevant Stora Enso policies and statements on human rights include:

- Code of Conduct, which expresses respect for international human and labour rights
- Supplier Code of Conduct, which imposes strict contractual requirements regarding human rights on suppliers
- Human Rights Statement, which expresses respect for international and regional human rights instruments including
  - » The UN International Bill of Human Rights
  - » The core labour rights conventions of the International Labour Organisation (ILO)
  - » ILO Convention no. 169 on the Rights of Indigenous Peoples, including the principle of Free, Prior, and Informed Consent and Participation
  - » The OECD's Guidelines for Multinational Enterprises
  - » The Children's Rights and Business Principles developed by UNICEF, the UN Global Compact, and Save the Children.

How we work

Human rights risks are taken into account across Stora Enso's operations from investment decisions onwards, including mergers, acquisitions, and divestments. The group's investment guidelines stipulate that environmental and social risks and impacts, including those related to human rights, must be duly identified, assessed, and addressed prior to any investments in projects with business critical risks. Business ethics risks and specific investments' compliance with Stora Enso's Code of Conduct and Business Practice Policy are also assessed.

Stora Enso's human rights due diligence procedures include:

- Environmental and social impact assessments (ESIAs)
- Human Rights Assessment conducted in cooperation with the Danish Institute for Human Rights and used to define related human rights action plans
- Appropriate grievance and remediation mechanisms
- Accountability through transparent reporting.

Stora Enso is currently developing a human rights strategy using a best practice methodology. The strategy will be further refined during 2017 and will define a set of prioritised human rights that are the most relevant for Stora Enso.

Progress

In 2016 Stora Enso's focus was on implementing the Human Rights Action Plan that resulted from the group-wide Human Rights Assessment conducted in 2014 and a related report published in 2015.

Progress on the implementation of preventive and remediation actions as of 31 Dec 2016

	Completed	On track	Not on track	Closed[1]	Regular review[2]
Implementation progress, % of all actions	86%	3%	1%	7%	3%

[1] Issues that were identified in the Human Rights Assessment but closed following reassessment of their validity in specific local contexts.

[2] Longer-term actions without a targeted end-date that require continuous review.

By the end of 2016 86% (69% at the end of 2015) of the preventive and remediation actions were completed. Actions were based on the UN Guiding Principles on Business and Human Rights and criteria created in collaboration with the Danish Institute for Human Rights. By the end of the year a small number of actions remained open. These will be progressed to an appropriate conclusion during 2017 and the reporting on Human Rights Action Plan progress will be stopped.

Child labour in supply chains in Pakistan remains a challenge for Stora Enso's equity-accounted minority investment Bulleh Shah Packaging (BSP). BSP does not employ children in its own operations, and does not accept child labour in its suppliers' operations. BSP has put processes in place to identify and eliminate child labour in the operations of its direct suppliers. BSP combats child labour through a rigorous supplier auditing programme, awareness-raising and sensitising measures, and BSP's Child Labour Remediation Policy. BSP also works with suppliers through its public-private partnership with the International Labour Organisation (ILO).

During 2016 BSP's audit team conducted a total of 108 supplier audits (395 during 2015). Out of these audits 56 (82) were audits of suppliers of recycled paper products (old corrugated cardboard). Out of all the audits 12 were follow-up audits. Due to a sufficient stockpile of biomass and less sourcing, suppliers of agricultural by-products were not audited during 2016. Mainly for this reason the audit coverage of the direct suppliers of domestic fibre and agricultural by-products was lower in 2016 compared to the previous year.

In addition to the audits conducted by BSP's in-house audit team, the external assurance provider SGS realised nine further third-party audits during 2016 (30).

Unaudited

Employees and wider workforce

Opportunities and challenges

Different demographics affect Stora Enso's workforce in different regions. In new markets where Stora Enso is growing, the group has a new, younger workforce, while in Europe Stora Enso's employees tend to be older on average. Carefully planned people management, starting with responsible leadership, is important wherever the group operates.

Differences in operating contexts, such as the availability of a suitable workforce, challenge Stora Enso's operations; but at the same time, the higher educational level of emerging middle classes in growing markets provides an expanding pool of potential employees. Increasing public awareness of health and well-being issues can help us to enhance employees' health and safety globally. Digitalisation also offers opportunities to make working conditions safer by using new applications and innovations.

Our policies

Stora Enso's Occupational Health and Safety (OHS) function works to realise the group's Health and Safety Policy and OHS Mode of Operation. These policies define how Stora Enso manages OHS topics in practice and integrates them into annual planning and reporting. Stora Enso's People Strategy guides efforts to provide employees with a safe work environment where they are engaged and able to perform. Other key policies applied in people and safety management include:

- Code of Conduct
- Supplier Code of Conduct
- Minimum requirements for labour conditions
- Diversity Policy.

How we work

In OHS Stora Enso's main goals are to have a workforce that is motivated, healthy and cabable; and to become a workplace free from accidents and work-related illness. Local OHS committees and working groups at Stora Enso's units provide forums for taking up safety-related topics. The country-level OHS networks in Finland, Sweden, Germany, and China also share good practices and organise training to enhance safety procedures and competencies. The OHS Management Team, consisting of division representatives, acts as a cross-functional body, developing and aligning group-wide OHS programmes. The OHS Steering Group directs strategic long-term planning at group-level, and steers the implementation of the OHS roadmap.

The units report monthly on safety performance data including lost-time accident (LTA) rates, absenteeism statistics, and the numbers of safety observations.

Leadership on topics such as safety management is a top priority for Stora Enso, since it is the strongest driver behind company performance and winning culture. Stora Enso measures its progress in this area using an overall Leadership Index, which measures employees' perceptions of their leaders.

Stora Enso makes every effort to hire locally wherever possible, especially for senior management positions. The group also has a set of minimum labour conditions to ensure that all employees are treated with respect and fairness.

Progress

Occupational health and safety

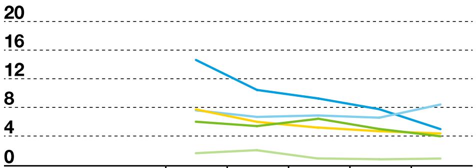
Stora Enso's short-term milestone for the LTA rate was 3.8 by the end of 2016. In 2016, the group-wide LTA rate decline further to 4.4 (4.7 in 2015). The milestone for 2017 will be communicated in the Q1 Interim Report. Since the beginning of 2016 Stora Enso has been measuring illness-related absenteeism. In 2016 the illness-related absenteeism was 2.9% (3.0%) of the total theoretical working hours. In 2016, Stora Enso's Total Recordable Incident (TRI) rate rose to 11.7 (11.0).

Human resources

Stora Enso's key performance indicator (KPI) for leadership, the Leadership Index, measures employees' perceptions of their leaders. The index is calculated based on the annual employee survey. The goal has been to reach an index of 80/100 by 2018. In 2016 this target was reached ahead of schedule, with a Leadership Index of 80 (79 in 2015).

Lost-time accident rates (LTA)

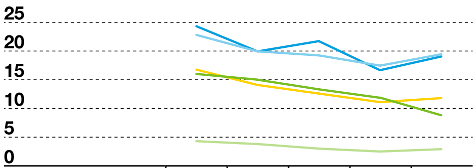
Number of lost-time accidents among our own employees per one million hours worked



	2012	2013	2014	2015	2016
Finland	14.7	10.5	9.3	7.8	5.0
Sweden	7.6	6.7	6.9	6.6	8.4
Central Europe	6.0	5.4	6.4	5.0	4.0
China	1.6	2.0	0.9	0.8	0.9
Group	7.7	6.0	5.2	4.7	4.4

Total recordable incident rates (TRI)

Number of incidents among our own employees per one million hours worked



	2012	2013	2014	2015	2016
Finland	24.3	19.9	21.7	16.6	19.0
Sweden	22.8	19.9	19.2	17.4	19.4
Central Europe	16.0	15.0	13.3	11.8	8.7
China	4.2	3.7	2.9	2.4	2.8
Group	16.7	14.0	12.5	11.0	11.7

Unaudited

Community

Opportunities and challenges

Local communities living near Stora Enso's mills and forestry operations form one of the group's most important stakeholder groups. In many localities Stora Enso is a major employer, tax-payer, and partner for local entrepreneurs. To ensure that Stora Enso's production, raw material sourcing, and labour supply remain both sustainable and competitive, the communities which the group depends on must be able to thrive economically, socially, and environmentally.

Stora Enso's mills are heavily dependent on energy and raw materials, and they generate emissions that may impact adjoining communities. The group's tree plantations in China, Brazil, and Uruguay influence local land use, livelihoods, and ecosystems. The group's socio-environmental impacts must be managed responsibly, in order to maximise their positive influence, maintain cooperative community relations, and ensure a long-term license to operate.

Our policies

- Code of Conduct
- Social Responsibility Guidelines
- Stakeholder Guidelines
- Business Practice Policy
- Human Rights Statement
- Tax Policy
- Sponsorship and Donations Policy.

The group's joint operations have each developed formal procedures for their respective community investment work.

How we work

Stora Enso implements various precautionary management actions in response to the potential environmental and social impacts that the group´s activities may have on neighbouring communities. These include:

- Environmental and social impact assessments (ESIAs) for all new projects that could cause significant adverse effects in local communities
- Due diligence assessments invariably realised as part of Stora Enso's acquisition and investment processes. Conducted prior to any decision, these assessments cover relevant factors related to environmental, social, and business practices.
- Environmental management systems such as ISO 14001 for production units
- Sustainable forest management certification of Stora Enso's own forestry operations and suppliers
- Restructuring processes planned in cooperation with the authorities.

Contributing to the vitality of the communities around the company's operations is high on Stora Enso's agenda. This is done through various actions, including investments in capacity building, local nature conservation, agroforestry programmes, and socio-economic development projects.

Progress

Building on the local community investment work the group has done over the years, Stora Enso has put in place a new group-level framework for community investments. The framework incorporates systematic monitoring and later careful evaluation of outcomes of the group's activities. This work started in 2016 with global baseline mapping, covering all production units and other key functions. During 2017 Stora Enso will implement the new corporate community investment framework and related guidelines.

Guangxi, China

Stora Enso's field staff and social engagement officers speak regularly with people living in areas impacted by Stora Enso's plantations and mill, as well as along the transportation routes, to inform them about Stora Enso's operations and to enable them to express their concerns and contribute ideas. During 2016 Stora Enso conducted socio-economic profiling of local villages in order to better understand and address their gender and ethnic structures, opportunities for development, and other characteristics that can help Stora Enso to optimise the positive impacts of its operations, and mitigate any negative impacts.

During the year Stora Enso also worked to develop its Free, Prior, and Informed Consent (FPIC) system for use in relation to indigenous communities.

Veracel, Brazil

During 2016 Veracel continued to engage in dialogue with the Government of the State of Bahia, the National Institute of Colonisation and Agrarian Reform (INCRA), and the representatives of six officially recognised landless people's social movements. Through the Sustainable Settlement Initiative the social movements have pledged to leave areas occupied since July 2011, while Veracel has agreed not to seek to repossess areas occupied before that date. The initiative relates to a total of 16 500 hectares of Veracel's lands designated for the settlements. At the end of 2016, additional areas of Veracel's land totalling 3 499 hectares (5 461 ha at the end of 2015) were occupied by landless groups not involved in the Sustainable Settlement Initiative.

Veracel and the state government have continued the Pact for the Development of the Discovery Coast. By the end of 2016 this pact had resulted in investments benefiting local communities amounting to EUR 660 000 (EUR 490 000 by the end of 2015). The pact's projects contribute to the sustainable development of family farming by forming associations for small producers and indigenous communities.

During 2016, Veracel has also continued supporting local livelihoods by making some of its land available for family farmers for cultivation and beekeeping. Altogether 229 family farmers are supported through the Agrovida and Roça do Povo family farming programmes.

Montes del Plata, Uruguay

Montes del Plata has continued to create strategic alliances with local rural producers through the Alianzas cooperation. By the end of the year 350 farmers with lands totalling approximately 54 939 hectares, of which 43 857 are planted with eucalyptus, had joined the programme, enabling forestry plantations on their lands to be leased and managed by Montes del Plata. By the end of the year, 170 farmers were keeping cattle on Montes del Plata's lands while 31 farmers produced honey.

Montes del Plata also finances local projects targeting increased cohesion, social participation, and local development in nearby communities. During 2016, Montes del Plata supported 22 projects (19 in 2015) focusing on heritage conservation, sports, social integration, health, and education.

In 2016 Montes del Plata also continued its long-term strategy for the sustainable transportation of wood, including annual action plans involving truck drivers, transport companies, and local communities.

Bulleh Shah Packaging, Pakistan

Stora Enso supports six local schools in cooperation with the Pakistani non-governmental organisation Idara-e-Taleem-o-Aagahi. Since 2015 these schools have been providing education for children previously identified as child workers in Bulleh Shah Packaging´s (BSP) supply chain. The schools have the capacity to educate up to 640 children. The pupils also receive free school uniforms and medical checks. BSP is additionally providing vocational training for the children's parents, to improve their life skills and ability to find work.

Laos

In Laos Stora Enso has continued to develop an agroforestry model that enables local farmers to grow rice and cash crops between the trees. The company has also established a village development fund to share benefits among local villagers, and to further support local development and livelihoods. Most of the funding allocated during 2016 was directed to infrastructure projects such as electricity and water supply connections, road upgrading, and purchases of livestock to enhance food security.

Chennai, India

In June 2015 Stora Enso announced the permanent closure of the group's corrugated packaging converting unit in Chennai, India, due to its long-term unprofitability and declining demand. Stora Enso provided support during 2015–2016 for Save the Children's local work. This aims to improve children's quality of life and improve water sanitation and hygiene. The project resulted in several outcomes, such as improving the personal hygiene of 3 000 children.

Unaudited

Business ethics

Opportunities and challenges

For Stora Enso, business ethics means much more than merely complying with regulations. Stora Enso operates in locations including high-risk emerging markets which offer good business opportunities, but may also entail exposure to serious risks relating to corruption or fraud, for instance. Various governments and authorities have shaped effective legislation to combat corruption, such as the UK Bribery Act and the US Foreign Corrupt Practices Act.

New legislation such as the EU Data Protection Regulation additionally sets requirements concerning the processing of personal data, with heavy fines imposed for infringements. In this context Stora Enso also increasingly needs to acknowledge and address the emerging threat of cybercrime.

Our policies

The Stora Enso Code of Conduct is a single set of values defined for all employees in all locations. Other policies relevant to ethics and compliance include:

- Business Practice Policy
- Stora Enso Data Privacy Policy
- Supplier Code of Conduct.

How we work

Stora Enso's Ethics and Compliance function is a sub-function operating under the Legal team, headed by the General Counsel, who reports directly to the CEO. Stora Enso's Ethics and Compliance Board, a governance body appointed by the CEO, monitors Stora Enso's legal compliance and ethical business conduct by following up on the Ethics and Compliance Action List.

Stora Enso's Ethics and Compliance Strategy forms the basis for annual action plans. The strategy has five focus areas:

- Top level commitment
- Improved communication and training
- Intensified efforts in countries with heightened concerns
- Developing grievance channels
- Ethics and compliance as a competitive edge.

Progress

Stora Enso has developed an index that enables the group to monitor and evaluate employees' perceptions on topics covered by Stora Enso's Code of Conduct. The index is based on employees' responses to related questions in the annual employee survey. In 2016 this index improved to 81 (80[1] in 2015). The goal is to maintain this positive trend.

[1] Restated (+1)

During 2016 Stora Enso has continued to intensify communications efforts to make ethics and compliance topics more visible among employees, while also enhancing internal and external grievance mechanisms. In order to restructure, clarify, and simplify various internal policies and guidelines on ethics and compliance, eight related policies were merged into a single Business Practice Policy (BPP). To protect personal data throughout the group's operations and ensure compliance with all applicable laws, the new Stora Enso Data Privacy Policy was launched in April 2016.

In 2016 a total of 58 reports received through Stora Enso's various grievance channels were identified as potential non-compliance cases (67 in 2015). Proven misconduct leading to disciplinary and/or legal actions was identified in 18 of the completed investigations (10), while five further complaints were found to be valid without involving misconduct. None of the proven misconduct cases were related to child labour, forced labour, or discrimination.

Breakdown of potential non-compliance cases

	2016	2015
Fraud	5	8
Corruption	20	26
Anti-trust	2	2
Conflict of interest	7	6
General human resources	13	17
Health and safety	0	0
Miscellaneous	11	8
Total	**58**	**67**

Unaudited

Materials, water, and energy

Opportunities and challenges

Replacing the use of fossil-based resources with renewable raw materials is the foundation for a sustainable bioeconomy. Stora Enso's products also contribute to a low-carbon circular economy, in which materials are reused and recycled, while waste is minimised, to maximise environmental and financial added value.

The European Commission (EC) has adopted a Circular Economy Package containing proposals for legislation designed to reduce waste, as well as an action plan aiming to optimise product life cycles through recycling and re-use. The benefits of sustainably sourced renewable materials are recognised by the EC, providing great business opportunities for Stora Enso.

Water plays a central role in Stora Enso's production, heating, cooling and cleaning processes, and in the generation of the renewable hydroelectricity that Stora Enso purchases. The group's forests and plantations also need rainwater. Though most of Stora Enso's production units are located in regions where water is relatively abundant, global water scarcity may still impact the group's operations in the long term through supply chains, and as controls on pollution, recycling, and water pricing are toughened. At the same time, such developments give Stora Enso opportunities to reduce costs by using water more efficiently.

The EU's 2020 Climate and Energy Package and 2030 Climate and Energy Framework, currently under revision, map out the way forward for industrial energy. The forthcoming revisions may include changes in the Emissions Trading System and tougher requirements on industrial energy efficiency. An increase in the global demand for biomass can additionally be expected.

Most of Stora Enso's mills use substantial amounts of biomass in their internal energy production. This renewable energy is generated from by-products and residuals from their own production processes, harvesting residues, recovered wood, and wastes.

Our policies

- Code of Conduct
- Supplier Code of Conduct
- Practical Instructions for Stora Enso's Suppliers
- Purchasers' Instructions
- Policy on Wood and Fibre Sourcing, and Land Management
- Statement on Water and Water Use
- Energy Guidelines.

How we work

The environmental work realised at Stora Enso's mills, including water and energy management and resource efficiency, is supported by third-party certified environmental management systems. All Stora Enso's board, pulp, and paper mills are certified to the ISO 14001 environmental management system standard. All Stora Enso´s sawmills and corrugated packaging facilities are certified or are in the process of being certified under ISO 14001. By the end of 2016, 33 of Stora Enso's production units were certified to the ISO 50001 energy efficiency management system standard (36 in 2015), corresponding to 92% of the group's total energy consumption in 2016 (90%). In addition, seven units are expected to be certified to the ISO 50001 standard in early 2017.

The emissions generated by Stora Enso's mills are regulated by the relevant authorities, with limits set through environmental permit processes taking into account local conditions and legislation.

Stora Enso continuously works to improve resource efficiency by driving material, waste, water, and energy efficiency, and by developing new business opportunities from residuals and by-products. Residuals and by-products are used in internal bioenergy generation and pulp production, or supplied to partners for use in agriculture, brick manufacturing, or road construction, for instance.

While Stora Enso handles relatively large amounts of water, of this water only around 4% is consumed in the production processes and almost 96% is returned to the local environment. Process water is discharged after being purified by Stora Enso's treatment plants, whereas cooling and other non-contact water can be safely released without treatment.

Stora Enso's energy supply is managed under long-term contracts, direct market access through energy exchanges, efficient combined heat and power production, and shareholdings in power generation companies such as Pohjolan Voima Oy and Teollisuuden Voima Oy in Finland.

The EU's Best Available Techniques (BAT) Reference Documents – which include BAT conclusions with limits for effluents and emissions to air, as well as BAT conclusions for large combustion plants – will apply to Stora Enso's board, pulp, and paper mills in Europe. The related investment needs are being proactively planned as part of group investment processes. These investments fit into the group's normal CAPEX framework and policy.

Progress

During 2016, a review of Stora Enso's sustainability strategy involved reassessing how the group manages materials, water, and energy.

After reviewing the group's approach to material efficiency during 2016, Stora Enso has outlined a set of key performance indicators focusing on internal operational efficiency and external factors such as beneficial use and revenues derived from by-products and residuals. Related work will continue in 2017 with the goal of measuring Stora Enso´s progress and contributions towards a low-carbon and resource efficient circular bioeconomy.

In 2016, the group's revenues derived from residuals and by-products, including tall oil, amounted to EUR 70 million (EUR 83 million in 2015).

The utilisation rate for residuals and by-products across the group was 98% (98%), covering internal and external use.

Stora Enso's target to reduce chemical oxygen demand (COD) levels in discharged water per saleable tonne of pulp, paper, and board by 7% from the 2007 benchmark level was achieved and completed in 2016, following a reduction of 9% during the year (3% in 2015).

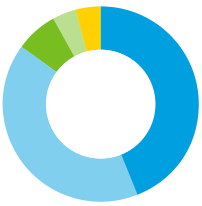
The group's target to reduce normalised process water discharges by 6% from the 2005 benchmark level was not achieved. In 2016 the reduction was 3% (2% in 2015). Stora Enso will continue to follow this key performance indicator (KPI) as part of the new approach to water and energy efficiency. The group will also introduce total water use at its board, pulp, and paper mills as a new KPI in 2017.

Stora Enso's group-wide target is to reduce specific electricity and heat consumption per tonne of pulp, paper, and board production by 15% by 2020, compared with the baseline year of 2010. In 2016 this indicator was 4.5% lower than the 2010 benchmark level (4.7% in 2015).

During 2016 Stora Enso introduced a new KPI on the group's carbon intensity (fossil CO_2 emissions per total energy consumption). For more information see the section on Carbon dioxide.

In 2016 the group's total energy self-sufficiency figure was 63% (64%) and electricity self-sufficiency level 43% (42%). The share of biomass in internal energy production was 82% (82%). Existing contracts and internal electricity generation capacity are estimated to cover around 81% of the group's electricity needs for the next five years (80%). Energy accounted for 10% of Stora Enso's variable costs in 2016 (10%).

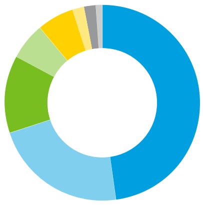
Electricity[1]



During 2016 we generated and purchased 12.6 terawatt hours (TWh) of electricity and consumed 12.2 TWh (12.4 and 12.0 during 2015).[2]
0.4 TWh was sold (0.4).
TWh (terawatt hour) = 10^9 kilowatt hours

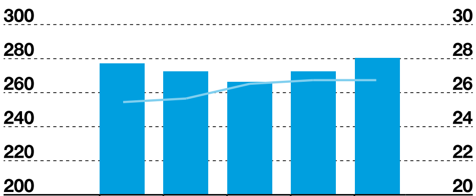
[1] Figures cover pulp, paper and board production units. Normalised figures are reported per unit of sales production.
[2] Historical figures recalculated due to changes in baseline following divestments or accuracy improvements.

Utilisation of process waste and residual materials[1]



[1] Covers all Stora Enso production units, as dry tonnes.

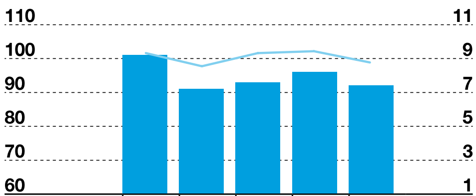
Process water discharges[1, 2]



	2012	2013	2014	2015	2016	Trend 12–16
million m³	277	272	266	272	280	1%
m³/tonne	25.5	25.7	26.5	26.7	26.7	5%

[1] Figures from pulp, paper and board production units. Normalised figures are reported per unit of sales production.
[2] Historical figures recalculated due to changes in baseline following divestments or accuracy improvements.

Chemical oxygen demand (COD)[1, 2]



	2012	2013	2014	2015	2016	Trend 12–16
1 000 tonnes	101	91	93	96	92	-8.9%
kg/tonne	9.3	8.6	9.3	9.4	8.8	-5.4%

[1] Figures from pulp, paper and board production units. Normalised figures are reported per unit of sales production.
[2] Historical figures recalculated due to changes in baseline following divestments or accuracy improvements.

Unaudited

Carbon dioxide

Opportunities and challenges

The use of renewable materials enables us to contribute to the development of a low-carbon economy. Trees in sustainably managed forests absorb carbon dioxide (CO_2) from the atmosphere, and together with wood-based products act as carbon sinks. Stora Enso's products help customers and society at large to reduce CO_2 emissions by providing low-carbon alternatives to solutions based on fossil fuels and other non-renewable materials.

The first truly global climate agreement was approved at the Paris Climate Conference (COP21) in December 2015, and entered into force in November 2016. Stora Enso welcomes this agreement as an important milestone in sustainable global development.

The EU's Emissions Trading System (ETS) is the biggest mandatory international system for trading greenhouse gas emission allowances, and a major element of the EU's efforts to combat global warming. The ETS grants "carbon leakage" status to industries where it is considered that costs related to climate policies might cause businesses to transfer production to countries with less demanding requirements to reduce greenhouse gas emissions. The forest industry currently has carbon leakage status for the period 2015–2019. Plans for the period beyond 2020 are under consideration within the EU, with possible implications for the forest industry.

Our policies

During 2016 Stora Enso finalised a carbon strategy and continued to work on related policies. It is the group's firm intention to drive down its fossil fuel use even more over the next ten years, so that it gets as close to zero as possible using technically and commercially feasible means. Relevant policies steering the group's efforts to combat global warming include the Statement on Climate Change, and Supplier Code of Conduct and Practical Guide for Suppliers, which give guidance on how CO_2 emissions can be reduced in the supply chain.

How we work

The most effective ways to reduce Stora Enso's direct fossil CO_2 emissions are to further improve the group's energy efficiency, and to keep increasing the usage of biomass fuels. Significant investments in previous years, particularly in multi-fuel boilers, successfully generated large reductions in the group's fossil CO_2 intensity.

A new key performance indicator (KPI) focusing on the carbon intensity of the energy used by all Stora Enso's production units was launched in 2016. Starting from 2017 Stora Enso will measure its progress based on fossil CO_2 emissions (kg) in relation to energy consumption (MWh).

Stora Enso evaluates risks and opportunities related to global warming through the annual Enterprise Risk Management (ERM) process, which forms an integral part of the group's management approach. Stora Enso also routinely calculates the financial impacts of potential cost increases in relation to emission allowances, including the financial impacts on the business of possible consequent increases in energy prices.

Stora Enso's production units systematically work to meet their environmental regulatory requirements and to improve their energy efficiency. Their work is supported by international third-party-certified systems such as the environmental management standard ISO 14001 and the energy management standard ISO 50001.

Stora Enso's board, pulp, and paper mills report quarterly on their direct and indirect carbon emissions, while sawmills and converting facilities report their carbon emissions annually (scopes 1 and 2 as defined by the Greenhouse Gas Protocol of the World Resource Institute and the World Business Council for Sustainable Development). A group-level estimate for other indirect emissions along the value chain (scope 3) is updated biannually. In 2016 Stora Enso continued to have its direct and indirect fossil CO_2 emissions (scopes 1 and 2) externally assured to a Reasonable Level, as one of the few companies in the world to do so.

Progress

Since 2007, Stora Enso's target has been to reduce its fossil CO_2 emissions per saleable tonne of board, pulp, and paper by 35% from 2006 levels by the end of 2025. This target is periodically adjusted to take into account the changing shape of the company. This CO_2 intensity target covers both emissions generated directly by Stora Enso's own facilities (scope 1), and indirect emissions produced during the generation of purchased electricity and heat (scope 2).

In 2016 Stora Enso's CO_2 emissions per saleable tonne of board, pulp, and paper were 39% lower than the 2006 benchmark level (38% lower in 2015). The target was reached, but the group's CO_2 intensity will in the future be adversely affected by the use of coal for energy production at Beihai Mill in China. Stora Enso has begun to investigate long-term options to gradually move away from coal to biomass and other non-fossil fuels.

During 2016 the group's fossil CO_2 emissions per saleable tonne were reduced by applying more accurate CO_2 factors for energy suppliers, and due to the closure of Suzhou paper mill in China, and the divestment of Kabel paper mill in Germany. The updated, more accurate market-based CO_2 factor and grid energy-mix information obtained from the authorities for electricity purchased in Finland also reduced the emissions figure for 2015, by approximately 0.25 million tonnes. The total direct and indirect fossil CO_2 emissions from Stora Enso's board, pulp, and paper mills amounted to 3.08 million tonnes in 2016 (3.03 million tonnes). Direct fossil CO_2 emissions decreased both in absolute terms and per unit of sales production. Direct fossil CO_2 emissions per unit of sales production were 12% lower than in 2006.

Carbon neutral CO_2 emissions are fossil-free emissions generated during the combustion of biomass-based fuels coming from sustainably managed forests[1]. Stora Enso's operations utilise renewable biomass-based fuels to a large extent, so the share of carbon neutral

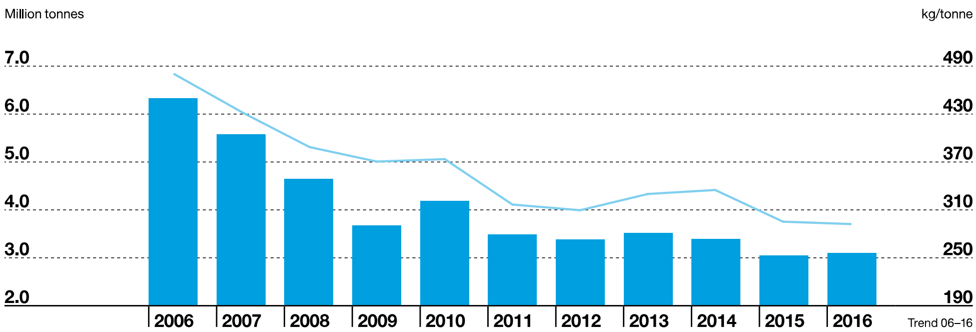
CO_2 emissions in Stora Enso's total emissions is high. In 2016 80% (79%) of the total CO_2 emissions from Stora Enso's own operations were carbon neutral.

Direct emissions from Stora Enso's operations account for 23% (21% in 2015) of the group's carbon footprint, while emissions related to the electricity and heat Stora Enso purchases for use in its operations account for 9% (15%) of the total carbon emissions. The majority of the emissions in the group's carbon footprint – 68% (64%) – are according to the group's estimates generated elsewhere along the value chain: in the sourcing and manufacturing of raw materials and services (41% of the total scope 3 emissions); in the further processing of products by customers (34%); and in the transportation of raw materials to the mills and the final products to the customers (25%).

In 2016, CDP (formerly known as the Carbon Disclosure Project) included Stora Enso on its Climate A List and Supplier Climate A List, in recognition of the company's long-term actions and strategy to reduce emissions. Stora Enso was also the only Nordic company to be included in CDP's Supplier Engagement Leaderboard for driving change in its supply chain.

[1] Recommendations on Biomass Carbon Neutrality, WBCSD 2015.

Our fossil CO_2 emissions[1]



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Trend 06–16
Million tonnes	6.32	5.57	4.64	3.66	4.17	3.47	3.37	3.50	3.38	3.03	3.08	-51%
kg/tonne	479	432	389	371	374	318	311	331	336	297	294	-39%

[1] Covering direct and indirect fossil CO_2 emissions (scopes 1 and 2) from pulp, paper, and board production units. Normalised figures are reported per unit of sales production. Historical figures recalculated due to changes in baseline following divestments or accuracy improvements.

Unaudited

Forests, plantations, and land use

Opportunities and challenges

As a renewable natural resource, wood represents a favourable alternative to materials based on fossil fuels. Trees absorb carbon dioxide (CO_2) from the atmosphere, and together with wood-based products act as carbon sinks. Global warming entails physical challenges and opportunities in relation to forests and plantations, due to changing patterns of temperature, wind, and rainfall, which can all be expected to impact Stora Enso's operational environment. Well-managed forests can make entire ecosystems more resilient to negative impacts, and benefit from positive ones.

Global challenges such as population growth, increasing demand for agricultural land, and the widening gap between supply and demand for wood, all require Stora Enso to use natural resources even more efficiently, and to produce larger amounts of raw materials from less land.

Our policies

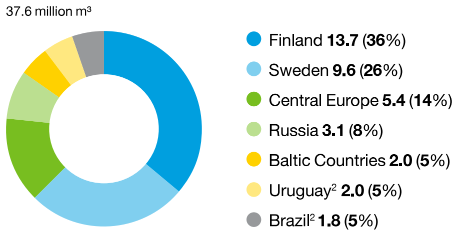
Stora Enso's policy on Wood and Fibre Sourcing, and Land Management covers the entire cycle of forest and plantation management. Key goals include ensuring that the group can trace the origin of all the wood it uses. The group also aims to maintain open dialogues with all stakeholders. Other Stora Enso policies that promote sustainable forestry include Stora Enso's Code of Conduct and Supplier Code of Conduct.

How we work

Stora Enso's approach to responsible forest and tree plantation management and related actions duly take into account the economic, social, and environmental aspects of sustainability. All the roundwood, chips, sawdust, and externally purchased pulp supplied to Stora Enso's mills come from sustainable sources. To guarantee this, Stora Enso has a regionally organised wood procurement process in place covering the entire forest management cycle.

In 2016 the total amount of wood (including roundwood, wood chips, and sawdust) delivered to Stora Enso mills was 37.6 million m³ (solid under bark) (36.2 million m³ in 2015).

Wood procurement by region[1]



[1] Total amounts of wood (roundwood, chips and sawdust) procured within these regions for delivery to our mills (million m³, solid under bark). In addition 20 000 m³ was delivered to our Beihai Mill in China which commenced operations in 2016.
[2] Figures for Brazil and Uruguay include 50% of the wood procurement of our joint operations Veracel and Montes del Plata.

In 2016, 90% (89%) of Stora Enso's wood came from managed semi-natural forests in Europe where most forests are privately owned, while 10% (11%) originated from plantations. The group uses various tools to optimise wood procurement and land use efficiency without compromising sustainability. These tools include the definition of sustainable land use practices for each location, forest certification, third-party traceability systems, and different forms of monitoring. Stora Enso always makes sure that harvested trees will be replaced by new growth.

Progress

Progress on responsible forestry is followed with a key performance indicator (KPI) that measures the percentage of the lands owned and managed by Stora Enso covered by certification systems. The target is to reach 96% coverage by the end of 2017. In 2016 coverage amounted to 90% (90%). The share of certified wood in the group's total wood supply was 83% (80%).

Until 2016, Stora Enso kept track of progress on land use efficiency through a group-level KPI measuring the increase in the average volume of fibre produced per hectare in certified tree plantations owned and managed by Stora Enso. Stora Enso plans instead to monitor the sustainable intensification of production separately at each plantation, taking into account different local operating conditions, as this enables the group to assess progress more accurately than a global average.

Managing land contracts in Guangxi, China

Stora Enso has been reviewing and correcting land lease contracts in Guangxi since 2009, when irregularities in the contract chains of social lands were first discovered. By the end of 2016, 66% of the contracts were found to be free from contractual defects (63% by the end of 2015).

In irreconcilable cases Stora Enso terminates leases in a responsible manner. In 2016 the company terminated identified irreconcilable contracts covering a total area of 1 719 hectares. The target for the end of 2016 was to terminate all remaining irreconcilable or economically unviable contracts. At the year-end irreconcilable or economically unviable contracts corresponding to 382 hectares remained in effect. These remaining contracts will be terminated by mid-2017.

As announced on 19 January 2017, Stora Enso is reconsidering its plans to build a chemical pulp mill in Beihai. As a consequence of the change in scope, Stora Enso would decrease the area of its leased forest lands in the Guangxi region. The scope and schedule for this reduction will be decided later. As a part of this process, all contracts will be evaluated, and Stora Enso aims to have only land leased that is free of contractual defects.

Forests, plantations, and lands owned by Stora Enso[1] as of 31 December 2016

Unit	Area	Certification coverage
Montes del Plata plantations and lands, Uruguay (joint operation with Arauco)	190 279 ha, of which 102 312 ha planted	PEFC and FSC[2] for 190 279 ha
Veracel plantations and lands, Bahia, Brazil (joint operation with Fibria)	214 963 ha, of which 73 082 ha planted	CERFLOR (PEFC) for 179 411 ha; FSC for 179 411 ha
Plantations and lands, Rio Grande do Sul, Brazil	43 412 ha, of which 20 810 ha planted	
Wood Supply, Estonia	137 ha, of which 124 ha planted	

[1] Including operations where Stora Enso's shareholding is at least 50% and size of the area exceeds 100 hectares. In addition to the forest and plantation areas listed above, Stora Enso owns: 49% of Bergvik Skog, which owns 2.3 million hectares of land in Sweden and 0.1 million hectares in Latvia; and 41% of Tornator, which owns 0.6 million hectares of forestland in Finland, 53 000 hectares in Estonia, and 12 000 hectares in Romania.

[2] Stora Enso Communications' FSC® trademark license number is FSC-N001919.

Forests and plantations leased and managed by Stora Enso[1] as of 31 December 2016

Unit	Area	Certification coverage
Wood Supply, Russia	369 422 ha	FSC group certificate
Plantations and lands, Guangxi, China	83 560 ha, of which approximately 69 940 ha planted with eucalyptus and 13 620 ha with other species	Chinese Forest Certification Council certificate (PEFC) for 83 560 ha; FSC for 83 560 ha
Montes del Plata	54 939 ha, of which 43 857 ha planted	PEFC and FSC for 44 193 ha
Veracel	12 209 ha, of which 5 999 ha planted	FSC for 10 965 ha; PEFC for 10 965 ha
Trial plantations, Laos	3 900 ha, of which 2 995 ha planted	

[1] Including operations where Stora Enso's shareholding is at least 50% and size of the area exceeds 100 hectares.

Unaudited

Customers

Opportunities and challenges

Consumers' awareness of the scarcity of natural resources and their sense of social responsibility are increasing, putting pressure on brand owners to focus more on environmental and social responsibility throughout supply chains. Combined with new legislation, this is also driving Stora Enso's customers to use renewable and recyclable raw materials to create more sustainable products.

In the long run, the world is looking to replace fossil-based materials with renewable alternatives. Stora Enso's various fibre-based products, including future bio-based chemicals, are well-positioned to respond to these demands.

Our policies

The Stora Enso Code of Conduct constitutes a single set of values, expectations, and ambitions related to Stora Enso's global approach to ethical business practices, environmental values, and human and labour rights. These values are applied wherever Stora Enso operates, and in all dealings with customers.

How we work

Stora Enso develops its expertise in renewable materials to meet customers' needs through products with high sustainability performance. Stora Enso works actively together with its customers to improve the material efficiency and environmental impact of its products and the related production processes. Stora Enso also regularly measures customer satisfaction.

Stora Enso's products covered by specific safety regulations include food contact materials, material for toys, packaging for pharmaceuticals, and construction materials. Stora Enso's in-house product safety and quality control systems cover processes from product development and raw material sourcing all the way to the delivery of the finished products.

Stora Enso's units producing sensitive packaging materials follow Good Manufacturing Practice, a set of widely recognised guidelines also incorporated into EU regulations. All Consumer Board mills and most Packaging Solutions mills are additionally certified according to recognised hygiene management standards. The units' ISO 22000, FSSC 22000, and FDA product safety certificates ensure that they apply a systematic approach to food safety issues.

Stora Enso's experts collect product-specific life cycle inventory data (LCI) for use in life cycle assessments (LCAs), which are in practice mostly conducted by customers or brand owners. The environmental performance of Stora Enso's paper and consumer board products is reported in line with the voluntary Paper Profile initiative.

More than 90% of Stora Enso's Paper division's brands are covered by one or more recognised ecolabels, including the EU Ecolabel, the Nordic Ecolabel, and the Blue Angel (Blauer Engel). Many of Stora Enso's graphical board brands are also available with the EU Ecolabel. Many Stora Enso products are also sold as FSC or PEFC certified.

Progress

In 2016 Stora Enso's pellet production and supply chains at Näpi and Imavere sawmills in Estonia and Nebolchi Sawmill in Russia obtained Sustainable Biomass Partnership (SBP™) certifications. SBP certification is used to verify the legal and sustainable sourcing of wood and to track greenhouse gas emissions along the supply chain.

During 2016 Stora Enso issued environmental product declarations (EPD) for one liquid packaging board, one cupstock product, and Cross Laminated Timber (CLT).

By the end of 2016, 26 of Stora Enso's mills were registered with the Supplier Ethical Data Exchange (Sedex). Sedex gives Stora Enso a platform to share information with customers on the group's compliance with the Ethical Trading Initiative's base code and other key sustainability topics through the supply chain. By the end of 2016, all Consumer Board mills were also third-party audited according to the Sedex Members' Ethical Trading Audit (SMETA) guidelines which sets standards on labour, health and safety, business ethics, and the environment, while also facilitating reporting and auditing.

Unaudited

Suppliers

Opportunities and challenges

Stora Enso sources a wide range of raw materials, products, and services for the group's business globally. In 2016, purchases of materials, goods, and services represented 48% of Stora Enso's total variable costs and fibre procurement accounted for 52%. The concept of responsible sourcing is relatively new in some markets, and local suppliers may not be familiar with sustainability requirements and audits. However, Stora Enso believes that demonstrating sustainability ultimately benefits the group's suppliers, while helping to promote more sustainable sourcing around the world.

Although Stora Enso works in various regulatory environments around the world, it also consistently responds to stakeholder demands concerning transparency and sustainability performance of the group's suppliers. Imposing sustainability requirements on direct suppliers also encourages them to build up their capacity to meet such stricter demands, and creates a larger pool of more sustainable suppliers.

Our policies

Stora Enso strives to identify and address the impacts of its operations in its supply chain. The Stora Enso Supplier Code of Conduct (SCoC) is a legally binding document that imposes minimum supplier sustainability requirements on suppliers. Other policies that support responsible sourcing include the group's Sourcing Guideline, Sourcing Strategy, Practical Instructions for Stora Enso Suppliers, Instructions for Purchasers, and Policy on Wood and Fibre Sourcing, and Land Management.

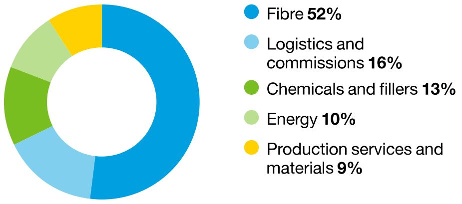
How we work

For Stora Enso, responsible sourcing means drawing on a deep commitment to sustainability, addressing the concerns of key stakeholders, complying with regulatory frameworks, adhering to best practices, and managing supply risks. Stora Enso's approach to responsible sourcing has become more deeply embedded in purchasing and supplier management since the group's more centrally-led sourcing organisation was established in 2014.

Materials and products sourced by Stora Enso include wood and fibre-based materials such as pulp and paper for recycling (PfR), as well as chemicals, fillers, energy, fuels, spare parts, and maintenance, logistics, and IT services. Any supplier who wishes to do business with Stora Enso must first pre-qualify, before being awarded with a contract.

Breakdown of raw material and service costs

% of our total variable costs



In addition to enforcing its Supplier Code of Conduct, Stora Enso actively engages with suppliers to help them improve their sustainability performance. Stora Enso also conducts supplier assessments and audits based on risk evaluations to ensure adherence to the SCoC. Non-conformances found during audits are followed up with supplier discussions and corrective action plans. In cases where suppliers are not willing to improve their performance, relationships are terminated.

Progress

Stora Enso's related key performance indicator (KPI) measures the proportion of total supplier spend covered by the group's SCoC, including all categories and regions. By the end of 2016, 92% of Stora Enso's total spending on materials, goods, and services was duly covered (90% at the end of 2015), exceeding the group's target of 90% by the end of 2016. In 2016, the indicator was broadened to also cover the group's Wood Supply units. The target for 2017 will be communicated in the Interim Report for Q1/2017.

During 2016, Stora Enso provided extensive training for its purchasers on a variety of topics, including supplier pre-qualification, and business principles.

Stora Enso continued to conduct third-party supplier audits in 2016 with a focus on high-risk suppliers in China. In 2016 a total of 36 suppliers were third-party audited in China (39 in 2015). These audits conducted revealed non-conformances primarily related to occupational safety, wages, working hours, and basic workers' rights, as defined in Stora Enso's SCoC. During 2016 third-party audits were also conducted on 11 suppliers in countries other than China.

In 2016 Stora Enso worked on identifying the most sustainable sourcing solution of coal for the group's new Beihai Mill. This involved evaluating seven local coal suppliers against Stora Enso's supplier selection procedures. Two Stora Enso sustainability audits and three third-party audits of the preferred supplier were conducted in 2016. Stora Enso was able to audit the whole coal supply chain, excluding shipping, and a social impact assessment was also conducted in villages neighbouring the mine as well as along the logistics chain.

Unaudited

Investors

This is a summary of Stora Enso's sustainability approach with shareholders. For more information about Stora Enso in capital markets, see the related section in this report.

Opportunities and challenges

The global pool of socially responsible investors (SRIs) is growing, and the incorporation of environmental, social, and governance (ESG) analysis into mainstream investment decision-making is accelerating. Both of these trends encourage companies to be more sustainable in their operations. At the same time, shareholders expect financial profits from their investments. Stora Enso believes that only truly sustainable operations can ensure long-term financial success.

Our policies

- Disclosure Policy
- Code of Conduct.

How we work

Various aspects of sustainability are important to Stora Enso's investors, including human rights and global warming. Stora Enso's main shareholders are long-term investors, and sustainable business practices are high on their agenda. They constantly follow the group's sustainability performance and reporting.

Timely and transparent communications with shareholders are a top priority for Stora Enso. Stora Enso actively maintains open dialogue with its investors on ESG matters through face-to-face meetings, conference calls, seminars, and webcasts. The group also regularly shares updated information on its sustainability performance with shareholders in Interim and Annual reports, stakeholder letters, web updates, and investor newsletter. Stora Enso also regularly participates in sustainability events of interest to investors.

Progress

In 2016 Stora Enso's Investor Relations function organised 13 investor meetings focusing on ESG-related topics. In total, approximately 60 investor representatives participated in these meetings. The meetings also included a webinar for ESG investors and analysts focusing on Stora Enso´s sustainability strategy and activities. During the year Stora Enso revised its strategy for providing ESG information to shareholders, aiming to make sustainability information more widely available on the group's website to benefit and serve all different stakeholder groups. This also involved further prioritising Stora Enso's participation in questionnaires and assessments for the ESG index and ratings schemes that are most material for the group's investors.

Unaudited

Report of the Board of Directors

Stora Enso introduction

Stora Enso (the group or the company) is a leading provider of renewable solutions in packaging, biomaterials, wooden constructions and paper on global markets. Our customers include publishers, retailers, brand owners, print and board producers, printing houses, merchants, converters and joinery and construction companies. Our aim is to replace fossil-based materials by innovating and developing new products and services based on wood and other renewable materials. We believe that everything that is made with fossil-based materials today can be made from a tree tomorrow. Our focus is on fibre-based packaging, plantation-based pulp, innovation in biomaterials, and sustainable building solutions.

The group has some 25 000 employees in more than 35 countries, and is publicly listed on the Helsinki and Stockholm stock exchanges. Our sales in 2016 were EUR 9.8 billion, with an operational EBIT of EUR 884 million. Stora Enso shares are listed on Nasdaq Helsinki Oy (STEAV, STERV) and Nasdaq Stockholm AB (STE A, STE R). In addition, the shares are also traded in the USA as American depositary receipts (ADRs), (SEOAY). The shares were also traded in the USA as ADRs (SEOAY) on the OTCQX until end of 2016.

At Stora Enso we use and develop our expertise in renewable materials to meet the needs of our customers and many of today's global raw material challenges. Our products provide a low-carbon alternative to many products made from non-renewable materials. Being sustainable – doing good for the people and the planet – underpins our thinking and our approach in every aspect of business.

Markets and deliveries

Demand for cartonboard increased slightly in Western Europe, but it accelerated significantly in Eastern Europe reaching 3% growth in 2016. Demand for cartonboard in North America increased by almost 2% in 2016 after slight decline in the previous year. Strong demand in Asia Pacific continued and consumption increased by 4%.

Containerboard demand remained healthy in 2016. The growth rate decreased slightly due to overall uncertainty in economic environment. Demand growth for corrugated board remained stable in our European focus countries and China in 2016.

World chemical market pulp demand increased around 3% during 2016 compared to a year ago. Softwood pulp demand was up by 3.5%, and hardwood pulp by 2.5% (eucalyptus +5.7%) compared to 2015. Global demand decreased in North and Latin America, Western Europe and Japan, but increased in all other regions driven by China growth of +11.1%. The global increase in supply was concentrated on the hardwood segment.

Global market pulp capacity rose around 3.7% compared to a year ago. Expansions were focused in Latin America and Western Europe. Hardwood capacity accounted just over half of the gain in 2016 with growth concentrated in Latin America. Softwood was spread between North America, Latin America and Western Europe. The overall global demand-capacity balance stood at 91.3%, down 0.7 percent points from 2015.

Softwood sawn demand remained on good level in 2016, decreasing slightly in Europe but more than compensated by increases in North America and Asia. The Middle East and North African markets were oversupplied with depressed prices. Imports to Egypt continued to suffer from deficit of hard currencies and devaluation of local Pound. Australian sawn wood market remained active with prices stabilizing during the year. Japanese housing market was active and stronger yen supported improved prices. There were no major structural changes in Europe and softwood sawn industry is focusing on replacement investments rather than on adding capacity.

Structural erosion of paper demand continued unchanged in Europe and North America during 2016. Paper demand in 2016 was 4% weaker than in 2015 in Europe and North America. Demand in Asia declined by 2% compared with 2015. Global paper consumption was 3% lower in 2016 than 2015. However, variation between paper grades is wide. Uncoated fine paper declined globally less than 1% whereas coated mechanical declined 8% compared with 2015.

Deliveries and production

	2016	2015	Change % 2016–2015
Board deliveries, 1 000 tonnes	3 376	3 045	10.9%
Board production, 1 000 tonnes	3 775	3 394	11.2%
Corrugated packaging deliveries, million m^2	1 082	1 112	-2.7%
Market pulp deliveries, 1 000 tonnes	2 068	1 873	10.4%
Wood product deliveries, 1 000 m^3	4 814	4 490	7.2%
Paper deliveries, 1 000 tonnes	5 141	5 778	-11.0%
Paper production, 1 000 tonnes	5 155	5 794	-11.0%

Estimated consumption of board, pulp, sawn softwood, and paper in 2016

Tonnes, million	Europe	North America	Asia and Oceania
Consumer board	10.6	9.3	27.8
Containerboard	30.6	31.4	77.7
Corrugated board (billion m²)[1]	9.6	n/a	70.4
Chemical market pulp	18.0	7.7	28.9
Sawn softwood (million m³)	86.6	91.6	n/a
Newsprint	6.5	3.4	11.0
Uncoated magazine paper	3.2	1.5	0.3
Coated magazine paper	4.9	2.7	3.3
Coated fine paper	5.3	3.8	11.9
Uncoated fine paper	7.5	7.9	20.5

[1] European focus markets (Baltics, FI, PL, RU, SE) and China.

Source: Pöyry, ICCA, RISI, Euro-Graph, PPPC, Stora Enso, UNECE

The group's board deliveries totalled 3 376 000 tonnes in 2016, which is 331 000 tonnes higher compared to a year ago mainly due to ramp-up of Varkaus kraftliner mill, Beihai board mill and higher deliveries from Ostrołęka board mill, only partly offset by lower volumes due to divested Barcelona board mill. Corrugated board deliveries decreased slightly to 1 082 000 m². Market pulp deliveries increased by 195 000 tonnes or 10% to 2 068 000 tonnes mainly due to increase in Oulu integrated pulp mill, Sunila pulp mill and Montes del Plata pulp mill. Wood products deliveries increased by 324 000 m³ to 4 814 000 m³. Paper deliveries totalled 5 141 000 tonnes, down 637 000 tonnes or -11% from 2015 mainly due to divestments of Kabel Mill, Arapoti Mill and Suzhou Mill site and conversion of Varkaus Mill from office paper to kraftliner in autumn 2015.

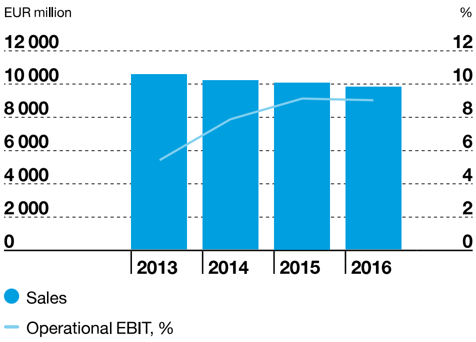
Financial results – Group

Sales at EUR 9 802 (10 040) million were 2.4% lower than a year earlier, mainly due to structural changes in Paper division and clearly lower hardwood pulp prices in Biomaterials division. Higher volumes in Consumer Board and Packaging Solutions divisions increased sales. Sales excluding the structurally declining paper businesses, and divested Barcelona Mill, increased by 3.1%, primarily due to the ramp-ups at Varkaus kraftliner and Beihai consumer board mills.

Stora Enso announced the divestment of the Arapoti Paper Mill in Brazil in late 2015 and the divestment was completed in March 2016, Divestment of the Suzhou mill site in China was announced and paper production ceased in June 2016. Stora Enso's 33.33% ownership of the Swedish recycled materials company IL Recycling AB was divested in June 2016. Divestment of the Kabel coated magazine paper mill in Germany was completed in September 2016.

Operational EBIT at EUR 884 (915) million decreased 3.4%, mainly due to significantly lower hardwood pulp sales prices in Biomaterials division and higher fixed costs. Foreign exchange rate movements and lower variable costs had a favourable impact.

Sales and operational EBIT



Operational EBIT margin at 9.0% (9.1%) remained almost on the previous year level. Lower variable costs mainly in energy and wood improved operational EBIT by EUR 48 million. The impact of exchange rates on sales and costs increased operational EBIT by EUR 76 million after hedges. Higher volumes mainly in Consumer Board and Packaging Solutions divisions increased operational EBIT by EUR 29 million and closed units by EUR 11 million. Lower sales prices in local currencies decreased the operational EBIT by EUR 94 million. Higher fixed costs decreased the operational EBIT by EUR 89 million, main reasons being the investments in innovation activities in Biomaterials division, higher maintenance costs and ramp up's of new production sites, mainly Beihai consumer board mill, Varkaus Kraftliner mill, Varkaus LVL mill and Murow sawmill. Depreciation was EUR 12 million higher, primarily due to the ramp-ups at Varkaus kraftliner and Beihai consumer board mills.

The share of the operational results of equity accounted investments amounted to EUR 80 (EUR 80) million, with the main contributions from Bergvik Skog and Tornator.

IFRS operating profit includes a negative net effect of fair valuations of EUR 5 (negative EUR 11) million from the accounting of share-based compensation, Total Return Swaps (TRS) and CO_2 emission rights. In addition, IFRS operating profit includes a negative net effect of EUR 121 (negative EUR 15) million from IAS 41 forest valuation from subsidiaries and joint operations and also a positive net effect of EUR 59 (positive EUR 404) million from Stora Enso's share of net financial items, taxes and IAS 41 forest valuations of equity accounted investments. The biological asset fair value in the group's equity accounted investments was increased approximately by EUR 52 million at Bergvik Skog and EUR 83 million at Tornator.

At the end of 2016, the closing fair value of biological assets in the Consumer Board Division's forest operations in Guangxi China was EUR 174 million, compared to EUR 356 million at the end of 2015. The decrease is mainly due to reduced inventory as a result of a higher than previously estimated portion of over mature trees. The decrease is split into two components, a negative item affecting comparability (IAC) of EUR 77 million due to reduction of biological asset value below the cost base value and a fair value decrease of EUR 105 million.

Annual impairment testing resulted in a net impairment of EUR 90 (EUR 236) million in Paper and Packaging Solutions divisions. The impairments in Paper division Newsprint Europe unit was EUR 78 million on fixed assets and related mainly to the further weakened long term earnings expectations due to a declining European paper market. There was an impairment of EUR 12 million in Packaging Solutions Corrugated China unit. EUR 11 million of the amount is due to goodwill impairment and EUR 1 million is a fixed asset impairment. The main reason for the impairment is the challenging market situation and a change in the customer base.

The group reported a positive IAC of EUR 181 million in Paper division related to the divestment of Suzhou Mill site in China. The rest of asset restructurings and disposals related IAC's are the divestments of Arapoti Mill in Brazil, completed during the first quarter of 2016 (a negative IAC of EUR 28 million), the Kabel Mill in Germany (a negative IAC of EUR 5 million), IL Recycling 33.33% ownership (a positive IAC of EUR 16 million) and the planned restructuring of corrugated operations in Finland (a negative net impact of EUR 9 million). In addition there is a negative IAC of EUR 22 million due to increases of environmental provisions at several sites in Paper division and the segment Other.

IFRS operating profit was EUR 783 (EUR 1 059) million.

Segment share of operational EBIT, IAC, fair valuations and non-operational items and operating profit/loss

	Year Ended 31 December					
	Operational EBIT		IAC, Fair Valuations and Non-Operational items		Operating Profit/Loss	
EUR million	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Consumer Board	254	290	-187	-32	67	258
Packaging Solutions	64	90	-22	-10	42	80
Biomaterials	224	313	-13	-5	211	308
Wood Products	88	81	-	-1	88	80
Paper	211	77	78	-256	289	-179
Other	43	64	43	448	86	512
Total	**884**	**915**	**-101**	**144**	**783**	**1 059**
Net financial items					-242	-245
Profit before Tax					**541**	**814**
Income tax expense					-134	-31
Net Profit					**407**	**783**

Operational EBIT comprises the operating profit excluding IAC and fair valuations of the segments and Stora Enso's share of the operating profit excluding IAC and fair valuations of its equity accounted investments (EAI).

IAC = Items affecting comparability. These are exceptional transactions that are not related to normal business operations. The most common IAC's are capital gains, additional write-downs or reversals of write-downs, provisions for planned restructuring and penalties. Items affecting comparability are normally disclosed individually if they exceed one cent per share.

Fair valuations and non-operational items include equity incentive schemes and related hedges, CO_2 emission rights, valuations of biological assets and the group's share of tax and net financial items of EAI.

Items affecting comparability, fair valuations and non-operational items

	Year Ended 31 December	
EUR million	**2016**	**2015**
Impairments and reversals of intangible asset and property, plant and equipment and biological assets	-133	-266
Restructuring costs excluding fixed asset impairments	-19	7
Disposals	144	-
Other	-26	25
Items affecting comparability	**-34**	**-234**
Fair valuations and non-operational items	-67	378
Total	**-101**	**144**

Segment share of operative assets, operative liabilities and operating capital

	Year Ended 31 December					
	Operative Assets		Operative Liabilities		Operating Capital	
EUR million	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Consumer Board	2 486	2 527	513	512	1 973	2 015
Packaging Solutions	1 027	1 054	173	221	854	833
Biomaterials	2 880	2 760	195	171	2 685	2 589
Wood Products	766	723	235	204	531	519
Paper	1 629	1 999	653	795	976	1 204
Other and eliminations	2 267	2 089	636	449	1 631	1 640
Total	**11 055**	**11 152**	**2 405**	**2 352**	**8 650**	**8 800**

Key figures

	2016	**2015**	**2014**
Sales, EUR million	9 802	10 040	10 213
Operational EBIT[1], EUR million	884	915	810
Operational EBIT margin	9.0%	9.1%	7.9%
Operating profit (IFRS), EUR million	783	1 059	400
Operating margin (IFRS)	8.0%	10.5%	3.9%
Return on equity (ROE)	7.2%	14.6%	1.7%
Operational ROCE	10.2%	10.6%	9.5%
Debt/equity ratio	0.47	0.60	0.65
EPS (basic), EUR	0.59	1.02	0.13
EPS excluding IAC[2], EUR	0.65	1.24	0.40
Dividend and distribution per share[3], EUR	0.37	0.33	0.30
Payout ratio, excluding IAC[2]	56.9%	26.6%	75.0%
Payout ratio (IFRS)	62.7%	32.4%	230.8%
Dividend and distribution yield, (R share)	3.6%	3.9%	4.0%
Price/earnings (R share), excluding IAC[2]	15.7	6.8	18.6
Equity per share, EUR	7.36	6.83	6.43
Market capitalisation 31 Dec, EUR million	8 085	6 618	5 871
Closing price 31 Dec, A/R share, EUR	10.40/10.21	8.40/8.39	7.48/7.44
Average price, A/R share, EUR	8.50/7.88	8.87/8.70	7.29/7.16
Number of shares 31 Dec (thousands)	788 620	788 620	788 620
Trading volume A shares (thousands)	1 254	1 641	1 553
% of total number of A shares	0.7%	0.9%	0.9%
Trading volume R shares (thousands)	765 122	798 507	731 067
% of total number of R shares	125.0%	130.5%	119.5%
Average number of shares, basic (thousands)	788 620	788 620	788 620
Average number of shares, diluted (thousands)	789 888	789 809	789 210

[1] Operational EBIT see chapter non-IFRS measures at the end of the Report of the Board of Directors.
[2] Items affecting comparability (IAC) see chapter non-IFRS measures at the end of the Report of the Board of Directors.
[3] See Board of Directors' proposal for dividend distribution.

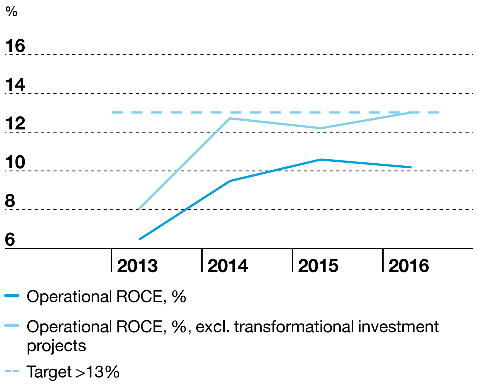
Net financial expenses at EUR 242 million were EUR 3 million lower than a year ago. The net interest expenses decreased by EUR 26 million due to smaller and improved debt portfolio. Other net financial expenses were EUR 23 million higher mainly due to fair valuation of interest rate derivatives and higher expenses with bonds repurchases. The net foreign exchange impact in 2016 in respect of cash, interest-bearing assets and liabilities and related hedges was a loss of EUR 43 (loss EUR 43) million mainly due to the revaluation of foreign currency loans in subsidiaries and joint-operations.

The net tax charge totalled EUR 134 (EUR 31) million, equivalent to an effective tax rate of 25% (4%), as described in more detail in Note 9, Income taxes, to the group Consolidated Financial Statements.

The loss attributable to non-controlling interests was EUR 56 (EUR 24) million, leaving a profit of EUR 463 (EUR 807) million attributable to Company shareholders.

Earnings per share excluding items affecting comparability were EUR 0.65 (EUR 1.24) and including items affecting comparability EUR 0.59 (EUR 1.02). Operational return on capital employed was 10.2% (10.6%).

Operational ROCE



Group capital employed was EUR 8 594 million on 31 December 2016, a decrease of EUR 159 million on a year earlier.

Breakdown of Capital Employed Change

	Capital Employed
31 Dec 2015, EUR million	**8 753**
Capital expenditure less depreciation	90
Impairments and reversal of impairments	-53
Fair valuation of biological assets	-120
Costs related to growth of biological assets	-141
Available-for-sale: operative (mainly PVO)	122
Equity accounted investments	68
Net liabilities in defined benefit plans	-61
Operative working capital and other interest-free items, net	-119
Net tax liabilities	-16
Translation difference	76
Other changes	-5
31 Dec 2016, EUR million	**8 594**

Financing

Cash flow from operations improved further at EUR 1 633 (EUR 1 556) million and cash flow after investing activities was EUR 834 (EUR 599) million. Working capital decreased by EUR 283 (EUR 141) million mainly due to EUR 170 million higher trade payables and EUR 87 million lower short-term receivables. Payments related to restructuring actions and environmental provisions were EUR 47 million.

Operative Cash Flow

EUR million	**2016**	**2015**
Operational EBITDA[1]	1 371	1 408
IAC on operational EBITDA	-77	-24
Dividends received from equity accounted investments	58	32
Other adjustments	-2	-1
Change in working capital	283	141
Cash Flow from Operations	**1 633**	**1 556**
Cash spent on fixed and biological assets	-798	-956
Acquisitions of equity accounted investments	-1	-1
Cash Flow after Investing Activities	**834**	**599**

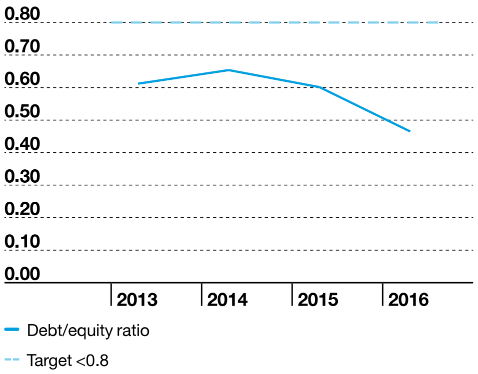
[1] Restated according to the new reporting structure. See chapter Change in the reporting of costs related to growth of biological assets at the end of the Report of the Board of Directors.

At the end of the period, net interest-bearing liabilities of the group were EUR 2 726 (EUR 3 240) million. Cash and cash equivalents net of bank overdrafts amounted to EUR 949 (EUR 807) million.

Total unutilised committed credit facilities at the year-end 2016 were unchanged at EUR 700 million. The EUR 700 million committed credit facility agreement with a syndicate of 13 banks matures in January 2019. The facility will be used as a backup for general corporate purposes. In addition, Stora Enso has access to various long-term sources of funding up to EUR 1 000 (EUR 850) million.

The debt/equity ratio at 31 December 2016 was 0.47 (0.60). The currency effect on equity was positive EUR 115 (EUR 2) million net of the hedging of equity translation risks mainly due to strengthening of the Brazilian real, US dollar and Russian ruble. Chinese renminbi and Swedish crown had a negative impact on equity.

Debt/equity ratio



The fair valuation of cash flow hedges and available-for-sale investments recorded in other comprehensive income increased equity by EUR 148 (decrease EUR 282) million mainly due to increased electricity prices resulting to higher fair value of group's shareholding in Pohjolan Voima.

At the end of the year, the ratings for Stora Enso's rated bonds were as follows:

Ratings as at 31 Dec 2016

Rating agency	Long/short-term rating	Valid from
Standard & Poor's	BB (positive) / B	23 August 2016
Moody's	Ba2 (positive) / NP	4 August 2016

Financial results – Segments

Consumer Board division

EUR million	2016	2015
Sales	2 342	2 340
Operational EBITDA[1]	447	466
Operational EBITDA margin[1]	19.1%	19.9%
Operational EBIT[2]	254	290
Operational EBIT margin	10.8%	12.4%
Operational ROOC[3]	12.7%	15.5%
Cash flow from operations[2]	453	481
Cash flow after investing activities[2]	40	21
Board deliveries, 1 000 tonnes	2 507	2 458
Board production, 1 000 tonnes	2 554	2 490

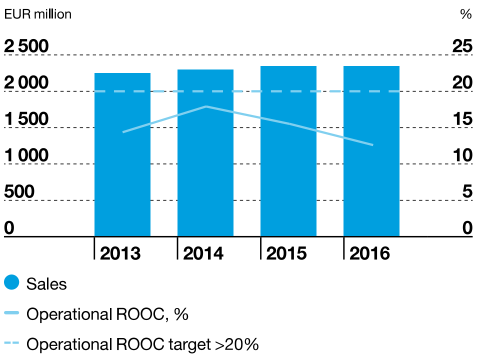
[1] Restated according to the new reporting structure. See chapter Change in the reporting of costs related to growth of biological assets at the end of the Report of the Board of Directors.
[2] See chapter non-IFRS measures at the end of the Report of the Board of Directors.
[3] Operational ROOC = 100% x Operational EBIT/Average operating capital.

Consumer Board division sales at EUR 2 342 (EUR 2 340) million were on the same level as previous year. Sales grew by 3.9% excluding the divestment of Barcelona Mill in Spain in autumn 2015, mainly due to the ramp up of the Beihai consumer board mill and higher sales in Skoghall and Fors mills.

Operational EBIT at EUR 254 (EUR 290) million was 12% down from previous year. Operational EBIT was positively impacted by higher volumes in the European mills and lower variable costs. Operational EBIT was negatively impacted by slightly higher fixed costs and the Beihai consumer board mill ramp up in the Guangxi region, China.

Sales and operational ROOC

Consumer Board



Packaging Solutions division

EUR million	2016	2015
Sales	1 044	913
Operational EBITDA	129	147
Operational EBITDA margin	12.4%	16.1%
Operational EBIT[1]	64	90
Operational EBIT margin	6.1%	9.9%
Operational ROOC[2]	7.6%	11.1%
Cash flow from operations[1]	132	138
Cash flow after investing activities[1]	63	20
Board deliveries, 1 000 tonnes	869	587
Board production, 1 000 tonnes	1 221	904
Corrugated packaging deliveries, million m²	1 082	1 112
Corrugated packaging production, million m²	1 073	1 093

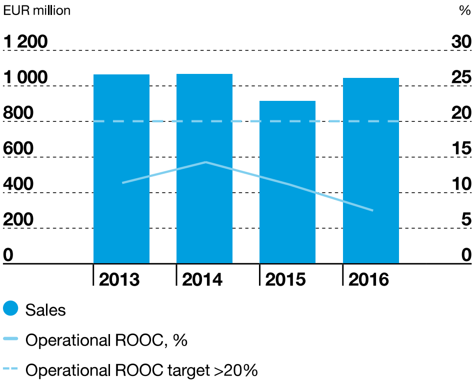
[1] See chapter non-IFRS measures at the end of the Report of the Board of Directors.
[2] Operational ROOC = 100% x Operational EBIT/Average operating capital.

Packaging Solutions division sales were EUR 1 044 (EUR 913) million, up 14% compared to 2015. The increase is mainly due to the ramp up of the Varkaus kraftliner mill. Sales growth excluding Varkaus would have been 3%.

Operational EBIT at EUR 64 (EUR 90) million was 29% down from the previous year mainly due to the ramp up of the Varkaus kraftliner mill and the challenges with the corrugated China operations. Operational EBIT would have grown by EUR 3 million excluding Varkaus kraftliner mill and corrugated China operations.

Sales and operational ROOC

Packaging Solutions



Biomaterials division

EUR million	2016	2015
Sales	1 376	1 484
Operational EBITDA[1]	361	444
Operational EBITDA margin[1]	26.2%	29.9%
Operational EBIT[2]	224	313
Operational EBIT margin	16.3%	21.1%
Operational ROOC[3]	8.5%	12.4%
Cash flow from operations[2]	419	385
Cash flow after investing activities[2]	278	187
Pulp deliveries, 1000 tonnes	2 508	2 499

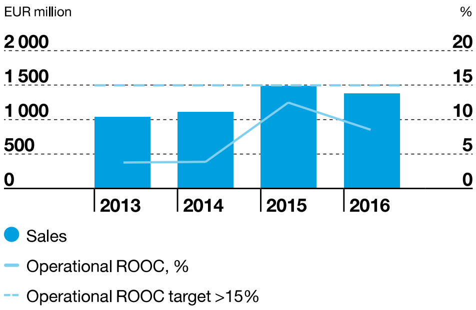
[1] Restated according to the new reporting structure. See chapter Change in the reporting of costs related to growth of biological assets at the end of the Report of the Board of Directors.
[2] See chapter non-IFRS measures at the end of the Report of the Board of Directors.
[3] Operational ROOC = 100% x Operational EBIT/Average operating capital.

Biomaterials division sales were EUR 1 376 (EUR 1 484) million, down 7% on 2015 due to significantly lower hardwood pulp sales prices and also lower softwood pulp prices.

Operational EBIT at EUR 224 (EUR 313) million was 28% down from previous year mainly due to lower hardwood and softwood pulp sales prices in local currencies and higher fixed costs due to investments into innovation activities. Foreign exchange rates had a positive impact on operational EBIT.

Sales and operational ROOC

Biomaterials



Wood Products division

EUR million	2016	2015
Sales	1 595	1 603
Operational EBITDA	118	111
Operational EBITDA margin	7.4%	6.9%
Operational EBIT[1]	88	81
Operational EBIT margin	5.5%	5.1%
Operational ROOC[2]	16.8%	15.7%
Cash flow from operations[1]	142	118
Cash flow after investing activities[1]	75	59
Deliveries, 1 000 m³	4 643	4 334

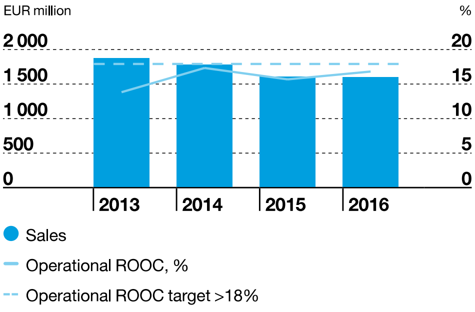
[1] See chapter non-IFRS measures at the end of the Report of the Board of Directors.
[2] Operational ROOC = 100% x Operational EBIT/Average operating capital.

Wood Products division sales were EUR 1 595 (EUR 1 603) million, down EUR 8 million from 2015, mainly due to conscious decision to lower the trading business volumes. The Building components sales has increased by 15%.

Operational EBIT at EUR 88 (EUR 81) million was 9% up from previous year. Operational EBIT was positively impacted by higher volumes of own products and lower volumes from the low margin trading business. Operational EBIT was negatively impacted by higher fixed costs related to the ramp up of new investments mainly at Murów sawmill and Varkaus LVL mill.

Sales and operational ROOC

Wood Products



Paper division

EUR million	2016	2015
Sales	3 245	3 630
Operational EBITDA	324	231
Operational EBITDA margin	10.0%	6.4%
Operational EBIT[1]	211	77
Operational EBIT margin	6.5%	2.1%
Operational ROOC[2]	19.4%	5.5%
Cash flow from operations[1]	351	286
Cash flow after investing activities[1]	277	201
Cash flow after investing activities to sales (non-IFRS)	8.5%	5.5%
Paper deliveries, 1 000 tonnes	5 141	5 778
Paper production, 1 000 tonnes	5 155	5 794

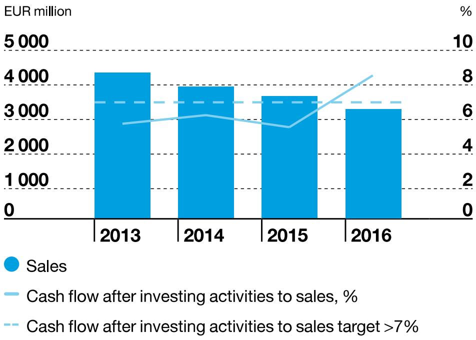
[1] See chapter non-IFRS measures at the end of the Report of the Board of Directors.
[2] Operational ROOC = 100% x Operational EBIT/Average operating capital.

Paper division sales were EUR 3 245 (EUR 3 630) million, down 11% from 2015 due to restructuring and disposals. Stora Enso divested the Arapoti Paper Mill in Brazil in late 2015 and the divestment was completed in March 2016. Divestment of the Suzhou Mill site in China was announced and paper production ceased in June 2016. Stora Enso's 33.33% ownership of the Swedish recycled materials company IL Recycling AB was divested in June 2016. Divestment of the Kabel coated magazine paper mill in Germany was completed in September 2016. Paper production ended in August 2015 at the Varkaus office paper mill which was converted into kraftliner mill.

Operational EBIT at EUR 211 (EUR 77) million was 174% up from 2015 due to lower variable costs and tight fixed costs management. The foreign exchange rate impact including the hedging result was positive.

Sales and cash flow after investing activities to sales[1]

Paper



[1] The Paper division's financial target is cash flow after investing activities to sales (non-IFRS), because the division's goal is to generate cash flow for the group so that it can transform into a renewable materials growth company.

Other

EUR million	2016	2015
Sales	2 477	2 478
Operational EBITDA	-8	9
Operational EBITDA margin	-0.3%	0.4%
Operational EBIT[1]	43	64
Operational EBIT margin	1.7%	2.6%
Cash flow from operations[1]	136	148
Cash flow after investing activities[1]	101	111

[1] See chapter non-IFRS measures at the end of the Report of the Board of Directors.

Sales of the segment Other at EUR 2 477 (EUR 2 478) million were on the same level as previous year.

Operational EBIT at EUR 43 (EUR 64) million was EUR 21 million down from previous year mainly due to lower market prices for energy.

Acquisitions and capital expenditure

Additions to fixed and biological assets including interest and internal costs capitalised in 2016 totalled EUR 729 (EUR 989) million. The total amount includes additions in biological assets, EUR 91 (EUR 77) million.

The group continued to further invest in strategic focus areas and transformation. The ramp-up of Beihai Mill is proceeding ahead of plan. The consumer board machine is expected to reach full production within 18-24 months from the start-up in May 2016. The capital expenditure at Beihai Mill during 2016 totalled approximately EUR 199 (EUR 394) million, excluding forestry and the on-going EUR 31 million polyethylene (PE) coating investment.

The investment of EUR 43 million in a new line for wooden building components (LVL) at Varkaus Mill started operations in June and is ramping up as planned. Full production is expected in mid-2018. The estimated yearly capacity of the production line will be around 100 000 m^3.

Investment in a Xylose Demo Plant in Raceland, Louisiana, USA is proceeding at commissioning phase and is estimated to start operations by the end of the second quarter of 2017. At Ala Sawmill in Sweden, the investment in the new boiler and pellet production is estimated to start during the first quarter of 2017. At Honkalahti Sawmill in Finland, the new boiler is estimated to be in operation during the third quarter of 2017.

In March, Stora Enso announced investment of EUR 16 million in a new chemical plant at the consumer board mill in Skoghall, Sweden, to further improve the environmental performance of the mill. In the Biomaterials division, Stora Enso announced an investment of EUR 16 million to improve the environmental performance by reducing sulphur emissions of its mill in Skutskär, Sweden. These investments are expected to be completed by the end of 2017.

In May Stora Enso announced a EUR 70 million investment in a new polyethylene (PE) extrusion coating plant and an automated roll warehouse (ARW) at Imatra mills in Finland. The investment will enhance Stora Enso's ability to meet increasing customer demand for food service board and liquid packaging board. The investment is expected to be completed during the fourth quarter of 2017.

In June, Stora Enso announced an investment of approximately EUR 27 million in Skutskär pulp mill in Sweden to increase its fluff capacity to meet the growing demand in the hygiene market. The investment supports Stora Enso's strategy of transforming into a customer-focused renewable materials growth company. The aim is to develop further the current market pulp business and to focus more on growth segments. The total fluff pulp capacity of the mill after the investment will amount to 415 000 tonnes. The investment is expected to be completed during the second quarter of 2018.

In September, Stora Enso announced plans to consolidate corrugated packaging production in Finland. Stora Enso's corrugated packaging plant in Heinola will be closed permanently and packaging manufacturing transferred to the Lahti plant. Stora Enso will invest approximately EUR 19 million in new machinery and supporting infrastructure in Lahti, where the most important individual investment item is a new corrugator. The project is expected to be finalised by the end of the first quarter of 2018.

Research and development

Stora Enso's expenditure on research and development (R&D) in 2016 was EUR 132 (EUR 124) million, equivalent to 1.3% (1.2%) of sales.

The company focuses on five R&D themes ('Biobased chemistry', 'Materials sciences', 'Process solutions', 'Forestry and Renewable Feedstock' as well as 'Internet of Things (IoT) and Industrial Digitalisation'). Examples of activities within the R&D themes are bio-based barriers, micro materials, composites, biotechnology (biochemistry), printed intelligence and wood-based building solutions.

Intellectual Property is important for protecting, defending and creating value to Stora Enso's business. During 2016 Stora Enso continued to strengthen its patent portfolio, with 50 priority founding patent applications filed and over 300 patents granted worldwide. This is an all-time high when it comes to priority patent filings for Stora Enso Oyj.

The strong effort to replace fossil-based chemicals and polymers with high performing bio-based chemicals continued during 2016, with the focus on developing customer value in selected entry segments. The demo plant at Raceland for converting biomass into highly refined sugar is making progress and will deliver Xylose in the beginning of 2017.

The Innovation Centre in Stockholm is another important step on the road towards Stora Enso's transformation into a renewable materials company. It helps to build on the company's long, worldwide tradition in forestry, which – when coupled with access to sustainable raw materials and our expertise in fibres – gives us an excellent starting point for creating solutions that will benefit our customers and end-users in various industries and markets.

In May 2016, Stora Enso signed a joint technology development and license agreement with Rennovia. The two companies will cooperate to develop processes for biobased chemicals of interest to Stora Enso, employing Rennovia's high-throughput catalyst discovery infrastructure and expertise in process development.

The Innovation Centre for packaging, located at the group's head office in Helsinki, has turned out to be an excellent venue for innovation and R&D work. At the centre Stora Enso, together with customers and other stakeholders, can develop innovative and sustainable packaging concepts. The centre offers, among other things, a packaging design lab and, presentation areas with advanced touch screen technology and virtual reality retail technology. More than 200 events were organised at the Innovation Centre for Packaging within one year.

Stora Enso's priority in 2016 was aligning the R&D Innovation process within the whole organisation, focusing on the different ideation platforms. Now, the target is having a common tool for the whole company.

Stora Enso has established new funds for CAPEX and Innovation and Digitalisation, from which the Consumer Board has been allocated capital expenditure for the further development of micro-fibrillated cellulose (MFC) and Intelligent Packaging. Also the Packaging Solutions division was allocated funds from the Digitalisation fund. The new MFC investments announced for Imatra and Fors mills are supported by the fund, as well as pilot cases of Intelligent Packaging and investments to accelerate commercialisation. In addition, Hylte Mill has received support for the biocomposite granule investment.

Development of the pre-commercial micro-fibrillated cellulose (MFC) plant at Imatra continued in 2016. The first commercial board with significantly reduced grammage thanks to MFC is well accepted on the market. Development and testing of MFC applications outside the field of paper and board are also in progress.

Development of intelligent packaging solutions is still continuing, targeting the integration of Radio Frequency Identification (RFID) into packages for consumer engagement and supply chain purposes as well as brand protection and tamper evidence applications. The first pilot cases with brand owners are in place.

Forest biology and biotechnology continue to be a major area of R&D, partly in collaboration with SweTree Technologies Ltd, but also with other research organisations.

As a founder member of the European Union's Bio-based Industries Consortium (BIC), Stora Enso has been strongly involved in preparation of the Strategic Research and Innovation Agenda and the annual work programmes of the newly established Bio-Based Industries Initiative Joint Undertaking, a new public-private partnership within the EU Horizon 2020 research programme. Stora Enso is partner in two running projects and active in several Confederation of European Paper Industries (CEPI) groups as well as in FTP (Forest Technology Platform) to strengthen our voice towards European and national policy makers and research funding organisations.

As a part of the announced strategic partnerships with the three leading Nordic Technical Universities research workshops were set up at Chalmers TU in Gothenburg (Sweden) and at Aalto University in Espoo (Finland) in autumn 2016. The aim was to build clearer understanding of how our needs and the universities' capabilities can meet, first and foremost in the research arena around the Stora Enso Research themes and the long-term research needs in the divisions. The second target was to widen the contact network. The third target was to identify topics where we have a special interest regarding the universities' Bachelor and Master programs, as well as also for recruiting talents to mills and research/innovation centres.

Personnel

On 31 December 2016, there were 25 447 (25 680) employees in the group. The average number of employees in 2016 was 26 269, which was 514 lower than the average number in 2015. The numbers include 50% of employees at Veracel in Brazil and Montes del Plata in Uruguay.

In April 2016, the group completed the earlier announced divestment of Arapoti Mill in Brazil, employing approximately 320 people. In June, the group announced the divestment of Kabel Mill in Germany, employing approximately 540 people. The divestment of Kabel Mill was completed in September. Also in June, the group closed the Suzhou paper mill in China, affecting approx. 500 people. In September, the group announced to close the Heinola corrugated plant in Finland and the consolidation of the manufacturing of corrugated packaging to its Lahti plant in Finland. The co-determination negotiations were finalised in November and are expected to affect approx.50 people.

Personnel expenses totalled EUR 1 334 (EUR 1 313) million or 13.6% of sales. Wages and salaries were EUR 1 006 (EUR 987) million, pension costs EUR 165 (EUR 160) million and other employer costs EUR 163 (EUR 166) million.

At the end of 2016, the groups' top three countries in respect to number of employees were Finland, Sweden and China. 26% (24%) of employees were women.

Personnel turnover in 2016 was 22.9% (17.9%). The high personnel turnover is mainly due to the Corrugated Packaging units in China where the competition in the local market has resulted in high annual employee turnover. The group absenteeism rate due to sickness and accidents was 3.0% (3.1%) of total theoretical working hours.

Employee-related information including personnel strategy is discussed in more detail in the group's Sustainability Report 2016 and the Progress Book 2016.

Remuneration to the Board of Directors and key management is described in Note 7 of the Financial Report.

Sustainability

Stora Enso's Sustainability policy describes the group's overall approach to this important topic. It focuses on areas which Stora Enso has identified as priorities. Stora Enso's sustainability strategy is incorporated into the wider company business strategy.

During 2016 Stora Enso introduced a new framework for the group's sustainability work, to build on all the work done over many years in this field. The new agenda builds a framework based on the classic Triple Bottom Line model widely used in corporate responsibility work. Stora Enso's Sustainability Agenda encompasses the social, environmental, and economic responsibility of the group's operations throughout the value chain. The agenda addresses ten topics of sustainability that are material to Stora Enso: Human Rights; Employees and wider workforce; Community; Business Ethics; Materials, water, and energy; Carbon dioxide; Forests, plantations, and land use; Customers; Suppliers; and Investors.

In line with the Sustainability Agenda the group has set ambitious targets and selected key performance indicators (KPIs) for its work. Progress is monitored in group-level and division-level business reviews. Consolidated results on all material sustainability indicators are reported annually.

Sustainability is the responsibility of line management supported by subject matter experts throughout the group. Each business division also has its own Head of Sustainability who reports directly to the Executive Vice President of the division. Stora Enso's sustainability work is steered by the Sustainability Council, whose members come from the group's five divisions, Sourcing and Logistics, and group Sustainability team. The CEO carries ultimate responsibility for successful implementation of Stora Enso's Sustainability Agenda.

More information on Stora Enso's approach to sustainability and consolidated results on all material sustainability key performance indicators are published in the separate Sustainability Report 2016. The report contents have been assured by an independent third-party assurance provider with a level of limited assurance. A level of reasonable assurance has been provided for Stora Enso's direct and indirect fossil CO_2 emissions. The Board of Directors' Sustainability and Ethics Committee has reviewed the disclosures in the Sustainability Report.

Environmental investments and liabilities

In 2016 Stora Enso's environmental investments amounted to EUR 41 (EUR 41) million. These investments were mainly to improve the quality of air and water, to enhance resource efficiency and energy self-sufficiency, and to minimise the risk of accidental spills.

Stora Enso's environmental costs in 2016 excluding interest and including depreciation totalled EUR 172 (EUR 183) million. These costs include taxes, fees, refunds, permit-related costs, and repair and maintenance costs, as well as waste water treatment chemicals and certain materials.

Provisions for environmental remediation amounted to EUR 100 (EUR 91) million at 31 December 2016, details of which are in Note 22, Other Provisions. There are currently no active or pending legal claims concerning environmental issues that could have a material adverse effect on Stora Enso's financial position. Cost related to environmental remediation measures amounted to EUR 9 (6) million.

Risks and risk management

Our approach to risk management

Risk is an integral component of business, and it is characterised by both threat and opportunity. Stora Enso is committed to ensuring that systematic and holistic management of risks and opportunities is a core capability and an integral part of all group activities, and that a risk aware corporate culture is fostered in all decision making. Through consistent application of dynamic risk analysis, we manage risk in order to enhance opportunities and reduce threats to achieve competitive advantage.

Risk governance

Stora Enso defines risk as events or developments that may adversely affect the achievement of company values, objectives and goals. The Group Risk Policy, which is approved by the Board of Directors, sets out the overall approach to governance and management of risks in accordance with the COSO (Committee of Sponsoring Organizations) framework and in line with the ISO 31000 standard.

The Board retains the ultimate responsibility for the overall risk management process and for determining what an appropriate and acceptable level of risk is. The Board has established the Financial and Audit Committee to provide support to the Board in relation to the monitoring of the adequacy of the risk management process within Stora Enso, and specifically regarding the management and reporting of financial risks. The Sustainability and Ethics Committee is responsible for overseeing the company's sustainability and ethical business conduct, its' strive to be a responsible corporate citizen, and its contribution to sustainable development.

The head of Enterprise Risk Management is responsible for the design, development and monitoring of the top-down implementation of the group risk management framework. Each division head, together with their respective management teams, are responsible for process execution and cascading the framework and guidelines further down in the organisation. Internal Audit evaluates the effectiveness and efficiency of the Stora Enso Risk Management Process.

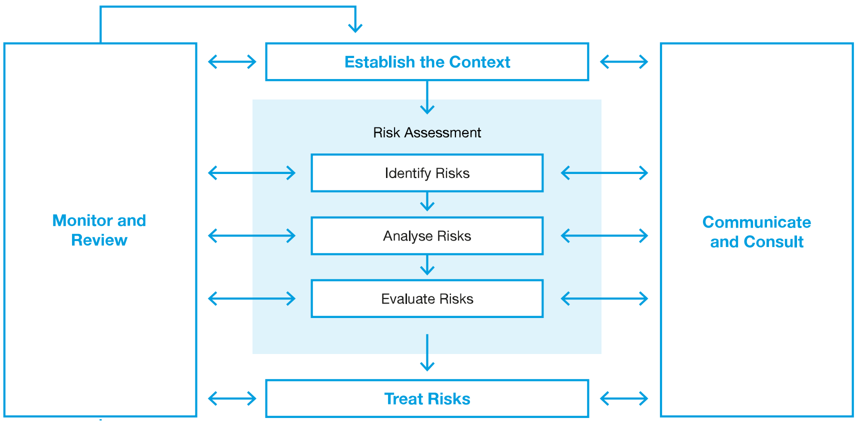
Risk management process

In connection with the annual strategy process, business divisions and group service and support functions conduct a holistic baseline risk assessment, linked to their key objectives. Specific guidance regarding the Risk Management Process is outlined in the Enterprise Risk Management instructions, distributed with annual Strategy Guidelines.

Business entities and functions identify the sources of risk, events including changes in circumstances and their causes and potential consequences thereof. Stora Enso's Risk Model outlines the overall risk universe which is used to support holistic risk identification and risk consolidation, while also providing taxonomy as well as consistency to risk terminology. Risk appetite is determined across main risk categories on the business division level.

Risk analysis involves developing an understanding of the risk to provide an input to risk evaluation. The purpose of risk evaluation is to determine risk priorities and to support decision making to determine which risks need treatment/actions. Risks are assessed in terms of impact and likelihood of occurrence. Pre-defined impact scales consider financial, people and reputational impacts, on both a quantitative and qualitative basis.

Risk management process



Risk treatment involves selecting one or more risk management option, such as avoidance, reduction, sharing and retention. Additional risk mitigation actions are determined for risks which exceed perceived risk tolerance incorporating assignment of responsibility, schedule and timetable of the risk treatment actions.

Following the annual baseline assessment, prioritised and emerging risks, the evaluation as well as the corresponding risk mitigation and business continuity plans related to those risks, are reviewed in divisional business review meetings on a quarterly basis.

Despite the measures taken to manage risks and mitigate the impact of risks, and while some of the risks remain beyond the direct control of management, there can be no absolute assurance that risks, if they occur, will not have a materially adverse effect on Stora Enso's business, financial condition, operating profit or ability to meet financial obligations.

Main risk factors

Macroeconomic, geopolitical and foreign currency risks

The group operates in more than 35 countries and is affected by the global economy. Changes in broad economic conditions, sharp market corrections, increasing volatility in foreign exchange rates and chronic fiscal imbalances could have negative and material impact on our profit, cash flows and financial position. Prolonged global recession, may materially and adversely affect Stora Enso's performance and financial condition. A recession may also materially affect our customers, suppliers and other parties with which we do business. Exchange rate fluctuations may have a material impact on the reported results through transaction and translation risk impact.

A significant and sustained economic downturn, or any similar event, could have a material adverse effect on the group's operational performance and financial condition. The group's reported results may fluctuate as average exchange rates change, and reported net assets may fluctuate as the period-end exchange rate changes.

The group has a diversified portfolio of businesses that mitigates exposure to any one country or product segment. We monitor the external environment continuously and our planning assumptions take account of important near- to medium-term and long-term drivers related to key macro-economic factors. We closely monitor the Board-approved risk appetite measures for specific financial metrics and actively manage cash flow and liquidity. We hedge 50% of the highly probable 12 months net foreign exchange flows in main currency pairs. Fx translation risk is reduced by funding assets, whenever economically possible, in the same currency as the asset. Financial risks are discussed in detail in Note 24. The divisions regularly monitor their order flows and other leading indicators, where available, so that they may respond quickly to deterioration in trading conditions. In the event of a significant economic downturn, the Group would identify and implement cost reduction measures to offset the impact on margins from deterioration in sales.

Ethics and compliance

Stora Enso operates in highly regulated business and is thereby exposed to risks related to breach of applicable laws and regulations (e.g capital markets regulation, company and tax laws, customs regulation and safety regulation) and breach of group policies such as Code of Conduct, Supplier Code of Conduct and Business Practice Policy regarding fraud, anti-trust, corruption, conflict of interests and other misconduct. Stora Enso may face high compliance and remediation costs under environmental laws and regulations. See also Information systems and information security.

Potential impacts include prosecution, fines, penalties, and contractual, financial and reputational damage.

Stora Enso's Ethics and Compliance Programme, including policy setting, value promotion, training and knowledge sharing and grievance mechanisms is kept continuously up to date and developed. Other compliance mechanisms include Stora Enso group's internal control system and Internal Audit assurance, Supplier Code of Conduct in supplier contracts, supplier risk assessments, supplier trainings, supplier audits and black-listing procedures.

In response to capital markets regulations, Stora Enso's Disclosure Policy emphasises the importance of transparency, credibility, responsibility, proactivity and interaction.

Environmental risks are minimised through environmental management systems and environmental due diligence for acquisitions and divestments, and indemnification agreements where effective and appropriate remediation projects are required. Special remediation projects related to discontinued activities and mill closures are executed based on risk assessments.

Strategic investments

Stora Enso's business strategy is to transform from a traditional paper and board producer to a customer-focused renewable materials growth company. The success of this transformation depends on our ability to understand the needs of the customer and find the best way to serve them with the right offering and with the right production asset portfolio. Failure to complete strategic projects in accordance with the agreed schedule, budget or specifications can have serious impacts on our financial performance. Significant, unforeseen changes in costs or an inability to sell the envisaged volumes or achieve planned price levels may prevent us from reaching our business goals.

Risks are mitigated through profound and detailed pre-feasibility and feasibility studies which are prepared for each large investment. Group investment guidelines stipulate the process, governance, risk management and monitoring procedures for strategic projects. Environmental and Social Impact Assessments (ESIAs) are conducted for all new projects that could cause significant adverse effects in local communities. Post completion audits are carried out for all significant investments.

Global warming

Changes in precipitation patterns, typhoons and severe frost periods in the subtropics could cause damage to tree plantations. Increases in the temperature could lead to changes in the tree species composition of forests, accelerated by insect outbreaks. Milder winters and shorter periods of frozen soils could impact harvesting and transport of wood and thus affect the stability of raw material supply and increase costs. Additional demand for bioenergy and agricultural land may limit the availability of land for fibre production, affecting the price of biomass. The increasing global demand for water may in the long-term impact our operations through our supply chains.

Stora Enso is committed to contribute and mitigate the effects of climate change by actively seeking opportunities to reduce the group's carbon footprint. Risks related to climate change are managed via activities related to finding clean, affordable and safe energy sources for production and transportation, and reducing energy consumption. Additional measures include energy efficiency initiatives, use of carbon-neutral biomass fuels, maximising utilisation of combined heat and power, and sequestration of carbon dioxide in forests and products. Diligent plantation planning is ensured to avoid frost sensitive areas and non-controversial tree breeding and R&D programmes are applied to increase tolerance of extreme temperatures. Stora Enso maintains a diversity of forest types and structures and enforces diversification in wood sourcing. Wood harvesting in soft soils involves implementation of best practices guidelines. Agroforestry concepts are introduced to integrate the different land use forms and to mitigate the competition on land and the effects of raising food prices.

Regulatory changes and political risks

The group's businesses may be affected by political or regulatory developments in any of the countries and jurisdictions in which the group operates, including changes to fiscal, tax, environmental or other regulatory regimes. Potential impacts include higher costs and capex to meet new environmental requirements, expropriation of assets, imposition of royalties or other taxes targeted at our industry, and requirements for local ownership or beneficiation. In particular, the EU energy and carbon policies may impact upon the availability and price of wood fibre. Also political instability can result in civil unrest, nullification of existing agreements, harvesting permits or land leases. Unpredicted changes in forest certification schemes could limit the availability of certified raw material.

Stora Enso follows and actively participates in the development of environmental and other legislation to minimise any adverse effects on its business. Forest management certification and chain-of-custody certification are tools for managing risks related to the acceptability of wood.

Mergers, acquisitions, divestures and restructuring

Failure to achieve the expected benefits from any acquisition or value from assets or businesses sold can have serious financial impacts. The group could find itself liable for past acts or omissions of the acquired business, without any adequate right of redress. Failure to achieve expected values from the sales of assets or deliveries beyond expected receipt of funds may also impact the group's financial position.

In connection with an acquisition, past practices by the target such as in relation to pollution, competition law compliance or corruption could result in additional costs for Stora Enso and cause reputational damage. Divestments may involve additional costs due to historical and unaccounted liabilities. Business restructuring may involve reputational impacts.

Rigorous M&A guidelines, including due diligence procedures are applied to the evaluation and execution of all acquisitions that require the approval of the Board. Structured governance and policies such as policy for responsible right- sizing, are followed when taking restructuring decisions.

Information technology and information security

The group is dependent on information technology systems for both internal and external communications and for the day-to-day management of its operations. The group's information systems, personnel and facilities are subject to cyber security risk. Failure to capitalise on digitalisation and cognitive technologies could impair Stora Enso's competitiveness. Other IT related risks relate to potential unavailability of IT services due to human error in operations, damaged hardware in data rooms and data centres, network connection issues and suppliers' failure to follow service level agreements.

Accidental disclosure of confidential information due to failure to follow information handling guidelines or accident or criminal act resulting in financial damage, penalties, disrupted or delayed launch of new lines of business or ventures, loss of customer and market confidence, loss of research secrets and other business critical information. Loss of backup media and violation of data privacy regulations.

Management of risks is actively pursued within the Information Risk Management System and best practice change management and project methodologies are applied. A number of security controls have been implemented to strengthen the protection of confidential information and to facilitate compliance with international regulations. Specific measures include thorough request for proposal (RfP) process in supplier selection for business-critical services, supplier audits, annual controls and audit, data centres located in low-risk areas, backup connections for critical services, disaster recovery plans, targeted scanning and investigation activities, encryption of communication, information and devices, remote management of security on devices and information security awareness training.

Health and safety

Failure to maintain high levels of safety management can result in harm to the group's employees or contractors, and also to communities near our operations and the environment.

Impacts in addition to physical injury, health effects and environmental damage could include liability to employees or third parties, impairment of the group's reputation, or inability to attract and retain skilled employees. Government authorities could additionally enforce the closure of our operations on temporary basis.

Stora Enso measures its performance in health and safety through lag indicators on accidents and near-misses, and lead indicators on safety observations. The target in safety is zero accidents, but demanding milestones have also been set for accident and incident rates. Stora Enso has adopted a common model for safety management, establishing a set of safety tools that all units must implement in their operations. Implementation of the tools is followed up and reported monthly, and support is offered to units through training, coaching and best-practice sharing. The main responsibility for identifying and managing safety risks remains with the units. At mill level, safety and health risks are assessed jointly, in co-operation with the occupational health service providers. Global health and safety risks are monitored and assessed by group Occupational Health and Safety function.

Product safety

Some of our products are used to package liquids and food consumer products, so any defects could affect health risks or packaging functions, and result in costly product recalls. Our wood products are incorporated into buildings, and this may involve product liability resulting from failures in structural design, product selection or installation.

Failure to ensure product safety could result in product recalls involving significant costs including compensation for indirect costs of customers, and reputational damage.

The mills producing food and drink contact products have established certified hygiene management systems based on risk and hazard analysis. To ensure the safety of its products, Stora Enso actively participates in CEPI (Confederation of European Paper Industry) working groups on chemical and product safety. In addition, all Stora Enso mills have certified ISO quality management systems. Also, contractual liability limitation and insurance protection are used to limit the risk exposure to Stora Enso.

Competition and market demand

Continued competition and supply and demand imbalances in the paper, packaging, pulp and wood products markets may have an impact on profitability. The paper, pulp, packaging and wood products industries are mature, capital intensive and highly competitive. Stora Enso's principal competitors include a number of large international forest products companies and numerous regional and more specialised competitors. Customer demand for products is influenced by general economic conditions and inventory levels, and affects product price levels. Product prices, which tend to be cyclical in this industry, are affected by capacity utilisation, which decreases in times of economic slowdowns. Changes in prices differ between products and geographic regions.

The table below shows the operating profit sensitivity to a +/- 10% change in either price or volume for different segments based on figures for 2016.

Operating Profit: Impact of Changes +/- 10%, EUR million

Segments	Price	Volume
Consumer Board	220	84
Packaging Solutions	97	37
Biomaterials	131	59
Wood Products	156	37
Paper	301	83

The ability to respond to changes in product demand and consumer preferences and to develop new products on a competitive and economic basis calls for innovation capabilities, continuous capacity management and structural development. The risks related to factors such as demand, price, competition and customers are regularly monitored by each division and unit as a routine part of business management. These risks are also continuously monitored and evaluated on group level to get a perspective of the group's total asset portfolio and overall long-term profitability potential.

Community relations and social responsibility

Social risks may harm existing operations and the execution of investments, especially in growth markets. Failure to successfully manage relationships with local communities and non-governmental organisations (NGOs) could disrupt our operations and adversely affect the group's reputation. The group operates in certain countries where land and resource ownership rights remain unclear, and where related disputes may arise.

Potential impacts include reputational impacts and negative media coverage, harm to communities and rights holders, disruption of operations, losing the licence to operate.

Stora Enso strives to identify and minimise risks related to social issues in good time, in order to guide decision-making in its investment processes as well as in ongoing operations. Tools such as sustainability risk assessment, human rights due diligence and Environmental and Social Impact Assessments (ESIA) help ensure that no unsustainable projects Fare initiated and all related risks and opportunities are fully understood in all operations. They also enable project plans and operating practices to be adapted to suit local circumstances. More information on community engagement is presented in Stora Enso's Sustainability report.

Sourcing

Increasing input costs of energy, fibre, chemicals, other raw materials, transportation and labour may adversely affect Stora Enso's profitability. Securing access to reliable low-cost supplies and proactively managing costs and productivity are of key importance. Reliance on outside suppliers for natural gas, oil and coal, and for peat and nearly half of the electricity consumed, leaves the group susceptible to changes in energy market prices and disturbances in the supply chain.

The next table shows Stora Enso's major cost items.

Composition of Costs in 2016

Operative Costs	% of Costs	% of Sales
Logistics and commissions	11	10
Manufacturing Costs		
Fibre	34	31
Chemicals and fillers	9	9
Energy	7	6
Material	6	6
Personnel	15	14
Other	12	11
Depreciation	6	5
Total Costs and Sales	**100**	**92**
Total operative Costs and Sales in EUR million	**8 998**	**9 802**
Equity accounted investments (EAI), operational		80
Operational EBIT		**884**

In many areas Stora Enso is dependent on suppliers and their ability to deliver a product or a service at the right time and of the right quality. The most important products are fibre, chemicals and energy, and machinery and equipment in capital investment projects. The most important services are transport and various outsourced business support services. For some of these inputs, the limited number of suppliers is a risk.

Input cost volatility is closely monitored at business unit, divisional and group level. The group applies consistent long-term energy risk management. The price and supply risks are mitigated through increased own generation, shareholding in competitive power assets such as PVO/TVO, physical long-term contracts and financial derivatives. The group hedges price risks in raw material and end-product markets, and supports development of financial hedging markets. The group uses a wide range of suppliers and monitors them to avoid situations that might jeopardise continued production, business transactions or development projects.

Suppliers and subcontractors must also comply with Stora Enso's sustainability requirements as they are part of Stora Enso's value chain, and their weak sustainability performance could harm Stora Enso and its reputation. Stora Enso's sustainability requirements for suppliers and audit schemes cover its raw materials, and other goods and services procured. Suppliers are assessed for risks related to their environmental, social and business practices through self-assessment questionnaires and supplier audits. Findings from such assessments are continuously followed up and progressive blacklisting procedures are applied as necessary.

Environmental and social responsibility in wood procurement and forest management is a prime requirement of stakeholders. Failing to ensure that the origin of wood used by the group is acceptable could have serious consequences in markets. Stora Enso manages this risk through its policies for sustainable sourcing of wood and fibre, and for land management, which set the basic requirements for all Stora Enso wood procurement operations. Traceability systems are used to document that all wood and fibre come from legal and acceptable sources.

People and empowerment

Recruiting, retaining and developing a competent workforce and managing key talent throughout Stora Enso's global organisation are crucial to the success of the group. Competition for personnel is intense and the group may not be successful in attracting or retaining qualified personnel. A significant portion of Stora Enso employees are members of labour unions and there is a risk that the group may face labour market disruptions especially at a time of restructuring and redundancies due to divestments and mill closures.

The loss of key employees, the group's inability to attract new or adequately trained employees, or a delay in hiring key personnel could seriously harm the Group's business and impede the group and its' business divisions from reaching their strategic objectives. Labour market disruptions and strikes could have material adverse effects on the business, financial conditions and profitability.

Stora Enso manages the risks and loss of key talents through a combination of different actions. Some of the activities aim at providing a better overview of the whole workforce of the group, making the Stora Enso employer brand better known both internally and externally, globalising some of the remuneration practices and intensifying the efforts to identify and develop talents. Finally, the group actively focuses on talent and management assessments, including succession planning for key positions. The majority of employees are represented by labour unions under several collective agreements in different countries where Stora Enso operates, thus relations with unions are of high importance to manage labour disruption risks.

Litigation

The international nature of the group's operations exposes it to the potential for litigation from third parties. Material levels of litigation may arise from many of the group's activities. Significant levels of litigation in our industry sector have in the past related mainly to major contracts and shareholder agreements. Acquisitions and disposals and the restructuring of under-performing businesses may also give rise to litigation. For more information on specific litigation and legal cases affecting the group, see Note 29, Commitments and contingencies. Secure best expertise in contract formulation, the assessment of litigation risk when entering into agreements.

Property and business disruption

Protecting production assets and business results is a high priority for Stora Enso to achieve the target of avoiding any unplanned production stoppages. This is done by structured methods of identifying, measuring and controlling different types of risk and exposure. Divisional risk specialists manage this process together with insurance companies and other loss prevention specialists. Each year a number of technical risk inspections are carried out at production units. Risk mitigation programmes and cost-benefit analysis of proposed investments are managed by internal reporting and risk assessment tools. Internal and external property loss prevention guidelines, fire loss control assessments, key machinery risk assessments and specific loss prevention programmes are also utilised.

Planned stoppages for maintenance and other work are important in keeping machinery in good condition. Formal computerised preventive maintenance programmes and spare part criticality analysis are utilised to secure a high availability and efficiency of key machinery. Striking a balance between accepting risks and avoiding, treating or sharing risks is a high priority. Risk managers are responsible for ensuring that divisions have adequate insurance cover and support units in their loss prevention and loss control work.

Personnel security risks

Personnel security can never be compromised and thus Stora Enso must be aware of potential security risks and give adequate guidelines to people for managing risks related to, for example, travel, work and living in countries with security or crime concerns. Focusing on the security of key personnel is also important from a business continuity perspective. Stora Enso constantly monitors risks related to personnel security, including health issues, and information is available on the Intranet and delivered directly to travelling employees. An external service provider takes care of action in medical or security crises, under guidance from Stora Enso's crisis management team. The crisis management team is chaired by the Head of Human Resources, who is a Group Leadership Team member.

Natural catastrophe risks

Stora Enso has to acknowledge that natural catastrophes such as storms, flooding, earthquakes or volcanic activity may affect the group's premises and operations. However, most of the group's assets are located in areas where the probability of flooding, earthquakes and volcanic activity is low. The outcome of such catastrophes can be diminished by emergency and business continuity plans that have been proactively designed together with the relevant authorities.

Financial market

Stora Enso is exposed to several financial market risks that the group is responsible for managing under policies approved by the Board of Directors. The objective is to have cost-effective funding in group companies and manage financial risks using financial instruments to decrease earnings volatility. The main exposures for the group are interest rate risk, currency risk, funding risk, commodity price risk and credit risk.

Financial risks are discussed in detail in Note 24, Financial risk management.

Financial reporting and critical accounting judgements

Critical accounting judgements are described in Note 2 Critical accounting estimates and judgements. Internal control over financial reporting is discussed in the Corporate Governance Report.

Corporate governance in Stora Enso

Stora Enso' complies with the Finnish Corporate Governance Code 2015 issued by the Securities Market Association (the "Code"). The Code is available at www.cgfinland.fi. Stora Enso's Corporate Governance also complies with the Swedish Corporate Governance Code ("Swedish Code"), which has been applicable to Stora Enso as a foreign company from 1 January 2011, with the exception of the deviations that are listed in Appendix 1 of the Corporate Governance Report. The deviations are due to differences between the Swedish and Finnish legislation, governance code rules and practices, and in these cases Stora Enso follows the practice in its domicile. The Swedish Code is issued by the Swedish Corporate Governance Board and is available at www.corporategovernanceboard.se.

Legal proceedings in Finland

In December 2009, the Finnish Market Court fined Stora Enso for competition law infringements in the market for roundwood in Finland from 1997 to 2004. Stora Enso did not appeal against the ruling. In March 2011 Metsähallitus of Finland initiated legal proceedings against Stora Enso, UPM and Metsäliitto claiming compensation for damages allegedly suffered due to competition law infringements. The total claim against the defendants amounted to approximately EUR 160 million and the secondary claim against Stora Enso to approximately EUR 87 million. In its ruling issued in June 2016, the Helsinki District Court dismissed Metsähallitus' claim for damages against Stora Enso, Metsäliitto and UPM. Metsähallitus has appealed this ruling. In addition, certain Finnish municipalities and private forest owners initiated similar legal proceedings. The total amount claimed from the defendants amounts to approximately EUR 25 million, the secondary claims solely against Stora Enso amount to approximately EUR 6 million. Stora Enso denies that the plaintiffs suffered any damages whatsoever and will forcefully defend itself. No provisions have been made in Stora Enso's accounts for these lawsuits.

Legal proceedings in Latin America

Veracel

Fibria and Stora Enso each own 50% of Veracel, and the joint ownership is governed by a shareholder agreement. In May 2014, Fibria initiated arbitration proceedings against Stora Enso claiming that Stora Enso was in breach of certain provisions of the shareholder agreement. Fibria has estimated that the interest to be paid regarding the dispute should be approximately USD 54 (EUR 51) million. Stora Enso denies any breach of contract and disputes the method for calculating the interest to be paid. No provisions have been made in Stora Enso's accounts for this case.

On 11 July 2008, Stora Enso announced that a federal judge in Brazil had issued a decision claiming that the permits issued by the State of Bahia for the operations of Stora Enso's joint operations company Veracel were not valid. The judge also ordered Veracel to take certain actions, including reforestation with native trees on part of Veracel's plantations and a possible fine of BRL 20 (EUR 6) million. Veracel disputes the decision and has filed an appeal against it. Veracel operates in full compliance with all Brazilian laws and has obtained all the necessary environmental and operating licences for its industrial and forestry activities from the relevant authorities. In November 2008, a Federal Court suspended the effects of the decision. No provisions have been recorded in Veracel's or Stora Enso's accounts for the reforestation or the possible fine.

Legal proceedings in Sweden

Insurance claim

Stora Enso was informed in July that six Swedish Insurance companies are filing lawsuits against Stora Enso. The claimed amount is approximately SEK 300 (EUR 31) million attributable to insurance compensation paid to injured parties in connection with the forest fire in Västmanland, Sweden in 2014. Stora Enso denies liability and will respond within the frame of the legal proceedings.

Changes in organisational structure and group management

Changes in group management

On 31 October 2016 Stora Enso announced the appointment of Annica Bresky as Executive Vice President, Consumer Board division and new member of the Group Leadership Team. She will join Stora Enso at the latest by 1 May 2017.

On 1 November 2016 Malin Bendz started as Executive Vice President, Human Resources and became a new member of the Group Leadership Team.

Jari Latvanen, Executive Vice President, Consumer Board division was a member of the Group Leadership Team until 28 October 2016.

Lars Häggström, Executive Vice President, Human Resources was a member of the Group Leadership Team until 31 October 2016.

Share capital

Stora Enso Oyj's shares are divided into A and R shares. The A and R shares entitle holders to the same dividend but different voting rights. Each A share and each ten R shares carry one vote at a shareholders' meeting. However, each shareholder has at least one vote.

During 2016, a total of 25 000 A-shares converted into R-shares were recorded in the Finnish Trade Register. On 31 December 2016, Stora Enso had 176 507 090 A shares and 612 112 897 R shares in issue. The company did not hold its own shares. The total number of Stora Enso shares in issue was 788 619 987 and the total number votes at least 237 718 380.

The Board of Directors is not currently authorised to issue, acquire or dispose of shares in the Company.

Major shareholders as at 31 December 2016

By voting power	A shares	R shares	% of shares	% of votes
1 FAM AB[1]	63 123 386	17 000 000	10.2%	27.3%
2 Solidium Oy[2]	55 595 937	41 483 501	12.3%	25.1%
3 Social Insurance Institution of Finland	23 825 086	2 275 965	3.3%	10.1%
4 Varma Mutual Pension Insurance Company	15 572 117	140 874	2.0%	6.6%
5 MP-Bolagen i Vetlanda AB, (Werner von Seydlitz dödsbo)	4 803 000	3 507 000	1.1%	2.2%
6 Ilmarinen Mutual Pension Insurance Company	3 492 740	13 781 189	2.2%	2.0%
7 Erik Johan Ljungberg's Education Foundation	1 780 540	2 336 224	0.5%	0.8%
8 Swedbank Robur Funds	-	11 032 722	1.4%	0.5%
9 The State Pension Fund	-	8 500 000	1.1%	0.4%
10 Bergslaget's Healthcare Foundation	626 269	1 609 483	0.3%	0.3%
11 Nordea Investment Funds	-	6 879 179	0.9%	0.3%
12 Unionen (Swedish trade union)	-	5 297 200	0.7%	0.2%
13 Keva (Local Government Pensions Institution)	-	5 251 101	0.7%	0.2%
14 SEB Investment Management	-	4 701 297	0.6%	0.2%
15 Investment Fund Nordea Suomi	-	4 063 211	0.5%	0.2%
Total	**168 819 075**	**127 858 946**	**37.8%**[3]	**76.4%**[3]
Nominee-registered shares	74 514 851	442 620 022	65.6%[3, 4]	50.0%[3, 4]

[1] As confirmed to Stora Enso.
[2] Entirely owned by the Finnish State.
[3] As some of the shareholdings on the list are nominee registered, the percentage figures do not add up to 100%.
[4] According to Euroclear Finland.

The list has been compiled by the Company on the basis of shareholder information obtained from Euroclear Finland, Euroclear Sweden and a database managed by Citibank, N.A (Citi). This information includes only directly registered holdings, thus certain holdings (which may be substantial) of shares held in nominee or brokerage accounts cannot be included. The list is therefore incomplete.

Share Distribution, 31 December 2016

By size of holding, A share	Shareholders	%	Shares	%
1–100	3 192	41.52%	164 628	0.09%
101–1 000	3 844	50.00%	1 433 398	0.81%
1 001–10 000	618	8.04%	1 440 590	0.82%
10 001–100 000	28	0.36%	560 881	0.32%
100 001–1 000 000	0	0.00%	0	0.00%
1 000 001–	6	0.08%	172 907 593	97.97%
Total	**7 688**	**100.00%**	**176 507 090**	**100.00%**

By size of holding, R share	Shareholders	%	Shares	%
1–100	7 301	21.51%	454 230	0.07%
101–1 000	19 317	56.92%	8 552 753	1.40%
1 001–10 000	6 648	19.60%	17 873 618	2.92%
10 001–100 000	569	1.68%	15 667 168	2.56%
100 001–1 000 000	73	0.21%	24 741 284	4.04%
1 000 001 –	28	0.08%	544 823 844	89.01%
Total	**33 936**	**100.00%**	**612 112 897**	**100.00%**

According to Euroclear Finland.

Ownership Distribution, 31 December 2016

	% of shares	% of votes
FAM AB	10.2%	27.3%
Solidium Oy[1]	12.3%	25.1%
Under nominee names (non-Finnish/non-Swedish shareholders)	44.3%	14.8%
Finnish institutions (excl. Solidium and KELA)	13.3%	11.8%
Social Insurance Institution of Finland (KELA)	3.3%	10.1%
Swedish institutions (excl. FAM)	6.6%	5.2%
Finnish private shareholders	4.3%	2.6%
Swedish private shareholders	3.7%	2.4%
ADR holders	2.0%	0.7%
Total	**100.0%**	**100.0%**

[1] Entirely owned by the Finnish State.

Near-term outlook and short term risks

Q1/2017 sales are estimated to be similar to the amount of EUR 2 438 million and operational EBIT is expected to be in line with the EUR 191 million recorded in Q4/2016. The Q1/2017 operational EBIT estimate includes the negative impacts of the ramp-up of Beihai operations and the power generator failure at Enocell Mill of EUR 34 million and EUR 10 million, respectively. There are no major scheduled annual maintenance shutdowns during Q1/2017.

Stora Enso will start a profit improvement programme targeting to decrease the annual costs by EUR 50 million with full annualised impact in 2018.

Increasing competition and supply and demand balances in the paper, pulp, packaging, wood products and roundwood markets may have an impact on our market share and profitability. Changes in global economic and political environment, sharp market corrections, increasing volatility in foreign exchange rates and deteriorating economic conditions in our main markets could all have impacts on Stora Enso's profits, cash flows and financial position.

Energy sensitivity analysis: the direct effect of a 10% increase in electricity, heat, oil and other fossil fuel market prices would have a negative impact of approximately EUR 8 million on operational EBIT for the next 12 months, after the effect of hedges.

Wood sensitivity analysis: the direct effect of a 10% increase in wood prices would have a negative impact of approximately EUR 183 million on operational EBIT for the next 12 months.

Pulp sensitivity analysis: the direct effect of a 10% increase in pulp market prices would have a positive impact of approximately EUR 110 million on operational EBIT for the next 12 months.

Chemical and filler sensitivity analysis: the direct effect of a 10% increase in chemical and filler prices would have a negative impact of approximately EUR 46 million on operational EBIT for the next 12 months.

A decrease of energy, wood, pulp or chemical and filler prices would have the opposite impact.

Foreign exchange rates sensitivity analysis for the next twelve months: the direct effect on operational EBIT of a 10% strengthening in the value of the US dollar, Swedish crown and British pound against the euro would be about positive EUR 129 million, negative EUR 87 million and positive EUR 32 million annual impact, respectively. Weakening of the currencies would have the opposite impact. These numbers are before the effect of hedges and assuming no changes occur other than a single currency exchange rate movement.

The group incurs annual unhedged net costs worth approximately EUR 150 million in Brazilian real (BRL) in its operations in Brazil. For these flows, a 10% strengthening in the value of BRL would have a EUR 15 million negative impact on operational EBIT.

Events after the balance sheet date

In January 2017, Stora Enso announced that it reconsiders the plans to build a chemical pulp mill in Beihai, China, and has initiated a process with the Government of Guangxi with the target to remove the authorisation for the hardwood chemical pulp mill from its investment permit. The Memorandum of Understanding has been signed.

In January 2017, Stora Enso announced that it is investing a total of EUR 9.1 million into its consumer board mills in Imatra and Ingerois, Finland, and Fors, Sweden, to continue the commercialisation of microfibrillated cellulose (MFC) and to accelerate product development.

In January 2017, Stora Enso announced that it will invest EUR 12 million to build a new production line manufacturing biocomposite granules with an annual capacity of approximately 15 000 tonnes at Hylte Mill in Sweden. Production is scheduled to begin during the first quarter of 2018.

Stora Enso has divested on 2 January 2017 its 100% shareholding in its Finnish subsidiary Formeca Oy, a provider of high-quality machines for automated packaging lines, to Amitec Oy, a specialised engineering and machine construction company based in Finland.

Proposal for the distribution of dividend

The Board of Directors proposes to the AGM that a dividend of EUR 0.37 per share be distributed for the year 2016.

The dividend would be paid to shareholders who on the record date of the dividend payment, 2 May 2017, are recorded in the shareholders' register maintained by Euroclear Finland Ltd. or in the separate register of shareholders maintained by Euroclear Sweden AB for Euroclear Sweden registered shares. Dividends payable for Euroclear Sweden registered shares will be forwarded by Euroclear Sweden AB and paid in Swedish crown. Dividends payable to ADR holders will be forwarded by Citibank N.A. and paid in US dollars.

The Board of Directors proposes to the AGM that the dividend be paid on or about 9 May 2017.

Annual General Meeting

The Annual General Meeting (AGM) will be held at 16.00 (Finnish time) on Thursday 27 April 2017 at Marina Congress Center, Katajanokanlaituri 6, Helsinki, Finland.

Non-IFRS measures

In 2016, Stora Enso changed the terminology in its reporting in accordance with the new guidelines from the European Securities and Markets Authority (ESMA) concerning Alternative Performance Measures. The term "Non-recurring items" (NRI) was changed to "Items affecting comparability" (IAC), but the definition remains the same. There are no changes in definitions and calculations of key figures.

The group's key non-IFRS performance metric is operational EBIT, which is used to evaluate the performance of its operating segments and to steer allocation of resources to them. Operational EBIT comprises the operating profit excluding items affecting comparability (IAC) and fair valuations from the segments and Stora Enso's share of the operating profit of equity accounted investments (EAI), also excluding Items affecting comparability and fair valuations.

Items affecting comparability are exceptional transactions that are not related to recurring business operations. The most common items affecting comparability are capital gains, additional write-downs or reversals of write-downs, provisions for planned restructuring and penalties. Items affecting comparability are normally disclosed individually if they exceed one cent per share.

Fair valuations and non-operational items include equity incentive schemes and related hedges, CO_2 emission rights, valuations of biological assets and the group's share of income tax and net financial items of EAI.

Operational EBITDA comprises the operating profit excluding operational decrease in the value of biological assets, fixed asset depreciation and impairment, share of results of equity accounted investments, IAC and fair valuations.

Cash flow from operations (non-IFRS) is a group specific way to present operative cash flow without hedging result from OCI and starting from Operational EBITDA instead of operating profit.

Cash flow after investing activities (non-IFRS) is calculated Cash flow from Operations (non-IFRS) excluding Cash spent on Intangible assets, Property, Plant and Equipment and biological assets and acquisitions of EAIs.

Change in the reporting of costs related to growth of biological assets

Stora Enso changed its reporting regarding the costs related to the growth of biological assets (i.e. growing trees) starting from the fourth quarter of 2016.

Costs related to the development of biological assets are capitalised on the balance sheet during the growth cycle (i.e. until the time of harvesting). At harvesting, the capitalised costs are transferred from biological assets to inventory. Prior to the change, Stora Enso has included the costs related to the growth of biological assets in its operational EBITDA.

From the fourth quarter of 2016 onwards, these growth costs are excluded from operational EBITDA and presented as Operational decrease in the value of biological assets. This change affects the following non-IFRS key figures: operational EBITDA, operational EBITDA margin, and net debt to last 12 months' operational EBITDA ratio. The historical figures are restated according to the new reporting structure. Restated figures are presented in Stora Enso Oyj stock exchange release, published on 8 December 2016.

There is no impact on operational EBIT, the subtotals of the official Condensed Consolidated Income Statement or the group's other IFRS figures.

Calculation of key figures

Operational return on capital employed, operational ROCE (%)	$100 \times \dfrac{\text{Operational EBIT}}{\text{Capital employed}^{1,2}}$
Operational return on operating capital, operational ROOC (%)	$100 \times \dfrac{\text{Operational EBIT}}{\text{Operating capital}^{1,2}}$
Return on equity, ROE (%)	$100 \times \dfrac{\text{Net profit/loss for the period}}{\text{Total equity}^{2}}$
Net interest-bearing net liabilities	Interest-bearing liabilities – interest-bearing assets
Debt/equity ratio	$\dfrac{\text{Net interest-bearing net liabilities}}{\text{Equity}^{3}}$
EPS	$\dfrac{\text{Net profit/loss for the period}^{3}}{\text{Average number of shares}}$
Payout ratio, excl. IAC, %	$100 \times \dfrac{\text{Dividend distribution / share}}{\text{EPS excl. IAC}}$
Dividend and distribution yield, %	$100 \times \dfrac{\text{Dividend distribution / share}}{\text{Closing price of share}}$
Price/earnings ratio (P/E), excl. IAC	$\dfrac{\text{Closing price of share}}{\text{EPS excl. IAC}}$
Operational EBIT	Operating profit/loss excluding items affecting comparability (IAC) and fair valuations of the segments and Stora Enso's share of operating profit/loss excluding IAC and fair valuations of its equity accounted investments (EAI)
Operational EBITDA	Operating profit/loss excluding operational decrease in the value of biological assets, fixed asset depreciation and impairment, share of results of equity accounted investments, IAC and fair valuations.
Last 12 months (LTM)	12 months prior to the reporting date

[1] Capital employed = Operating capital – Net tax liabilities
[2] Average for the financial period
[3] Attributable to owners of the Parent

List of non-IFRS measures

Operational EBITDA
Operational EBITDA margin
Operational EBIT
Operational EBIT margin
Capital expenditure
Capital employed
Operational ROCE
Earnings per share (EPS), excl. IAC
Operational ROOC
Cash flow from operations
Cash flow after investing activities

Consolidated financial statements

Consolidated income statement

		Year Ended 31 December	
EUR million	**Note**	**2016**	**2015**
Sales	3	**9 802**	**10 040**
Other operating income	5	123	128
Changes in inventories of finished goods and work in progress		9	18
Materials and services		-5 833	-6 008
Freight and sales commissions		-920	-970
Personnel expenses	6	-1 334	-1 313
Other operating expenses	5	-561	-503
Share of results of equity accounted investments	13	156	519
Change in net value of biological assets	12	-261	-89
Depreciation, amortisation and impairment charges	10	-398	-763
Operating Profit	3	**783**	**1 059**
Financial income	8	44	25
Financial expense	8	-286	-270
Profit before Tax		**541**	**814**
Income tax	9	-134	-31
Net Profit for the Year		**407**	**783**
Attributable to:			
Owners of the Parent	18	463	807
Non-controlling Interests	19	-56	-24
Net Profit for the Year		**407**	**783**
Earnings per Share			
Basic and diluted earnings per share, EUR	32	0.59	1.02

Consolidated statement of comprehensive income

		Year Ended 31 December	
EUR million	**Note**	**2016**	**2015**
Net profit for the year		407	783
Other Comprehensive Income (OCI)			
Items that will Not be Reclassified to Profit and Loss			
Actuarial losses/gains on defined benefit plans	20	-62	77
Income tax relating to items that will not be reclassified	9	15	-36
		-47	**41**
Items that may be Reclassified Subsequently to Profit and Loss			
Share of OCI of equity accounted investments that may be reclassified	27	-	5
Currency translation movements on equity net investments (CTA)	28	124	28
Currency translation movements on non-controlling interests	19	-3	6
Net investment hedges	28	-11	-33
Cash flow hedges	27	13	60
Non-controlling interests' share of cash flow hedges	19	-	1
Available-for-sale investments	14	138	-327
Income tax relating to items that may be reclassified	9	-1	-8
		260	**-268**
Total Comprehensive Income		**620**	**556**
Attributable to:			
Owners of the Parent		679	573
Non-controlling interests	19	-59	-17
Total Comprehensive Income		**620**	**556**

The accompanying Notes are an integral part of these Consolidated financial statements.

Consolidated statement of financial position

EUR million		Note	As at 31 December 2016	2015
Assets				
Goodwill	O	11	238	248
Other intangible assets	O	11	180	185
Property, plant and equipment	O	11	5 611	5 598
		11	**6 029**	**6 031**
Biological assets	O	12	489	640
Emission rights	O		14	20
Equity accounted investments	O	13	1 594	1 570
Available-for-sale investments: listed securities	I	14	42	28
Available-for-sale investments: operative	O	14	253	131
Non-current loan receivables	I	17	7	68
Deferred tax assets	T	9	214	246
Other non-current assets	O	15	57	63
Non-current Assets			**8 699**	**8 797**
Inventories	O	16	1 346	1 373
Tax receivables	T	9	9	6
Operative receivables	O	17	1 273	1 324
Interest-bearing receivables	I	17	46	53
Cash and cash equivalents	I		953	808
Current Assets			**3 627**	**3 564**
Total Assets			**12 326**	**12 361**
Equity and Liabilities				
Share capital		18	1 342	1 342
Share premium			77	77
Fair value reserve		27	136	-12
Cumulative translation adjustment		28	-32	-147
Invested non-restricted equity fund			633	633
Retained earnings			3 187	2 688
Net profit for the year			463	807
Equity Attributable to Owners of the Parent			**5 806**	**5 388**
Non-controlling Interests		19	62	125
Total Equity			**5 868**	**5 513**

Post-employment benefit provisions	O	20	436	378
Other provisions	O	22	114	112
Deferred tax liabilities	T	9	203	252
Non-current debt	I	26	2 655	3 342
Other operative liabilities	O	23	61	49
Non-current Liabilities			**3 469**	**4 133**
Current portion of non-current debt	I	26	552	228
Interest-bearing liabilities	I	26	563	626
Bank overdrafts	I	26	4	1
Other provisions	O	22	20	48
Other operative liabilities	O	23	1 774	1 765
Tax liabilities	T	9	76	47
Current Liabilities			**2 989**	**2 715**
Total Liabilities			**6 458**	**6 848**
Total Equity and Liabilities			**12 326**	**12 361**

Items designated "O" comprise Operating Capital, items designated "I" comprise Interest-bearing Net Liabilities, items designated "T" comprise Net Tax Liabilities. The accompanying Notes are an integral part of these Consolidated financial statements.

Consolidated cash flow statement

		Year Ended 31 December	
EUR million	**Note**	**2016**	**2015**
Cash Flow from Operating Activities			
Net profit for the year		407	783
Result from the Statement of Other Comprehensive Income		-1	-11
Adjustments and reversal of non-cash items:			
Taxes	9	134	31
Depreciation and impairment charges	10	398	763
Change in value of biological assets	12	261	89
Change in fair value of share awards and TRS		-1	6
Share of results of equity accounted investments	13	-156	-519
Profits and losses on sale of fixed assets and investments	5	15	1
Net financial items	8	242	245
Other adjustments		-8	-16
Dividends received from equity accounted investments	13	58	32
Interest received		12	18
Interest paid		-144	-191
Other financial items, net		-48	-78
Income taxes paid	9	-92	-78
Change in net working capital, net of businesses acquired or sold		283	141
Net Cash Provided by Operating Activities		**1 360**	**1 216**
Cash Flow from Investing Activities			
Acquisition of shares in equity accounted investments	13	-1	-1
Acquisition of available-for-sale investments	14	-2	-14
Capital expenditure	3, 11	-707	-879
Investment in biological assets	12	-91	-77
Proceeds from disposal of subsidiary shares and business operations, net of disposed cash	4	40	-10
Proceeds from disposal of shares in equity accounted investments	13	26	-
Proceeds from disposal of available-for-sale investments	14	10	-
Proceeds from disposal of intangible assets and property, plant and equipment	11	220	27
Income taxes paid on disposal of property		-13	-
Proceeds from non-current receivables, net		64	5
Net Cash Used in Investing Activities		**-454**	**-949**

Cash Flow from Financing Activities			
Proceeds from issue of new long-term debt		368	435
Repayment of long-term debt		-781	-1 181
Change in short-term borrowings		-46	46
Dividends paid		-260	-237
Buy-out of interest in subsidiaries from non-controlling interests	19	-46	-
Equity injections from, less dividends to, non-controlling interests	19	-2	10
Purchase of own shares		-2	-6
Net Cash Used in Financing Activities		**-769**	**-933**
Net Change in Cash and Cash Equivalents		**137**	**-666**
Translation adjustment		5	29
Net Cash and cash equivalents at beginning of year		807	1 444
Net Cash and Cash Equivalents at Year End		**949**	**807**
Cash and Cash Equivalents at Year End[1]		**953**	**808**
Bank Overdrafts at Year End		**-4**	**-1**
Net Cash and Cash Equivalents at Year End		**949**	**807**

[1] Cash and cash equivalents comprise cash-in-hand, deposits held at call with banks and other liquid investments with original maturity of less than three months. Bank overdrafts are included in current liabilities.

The accompanying Notes are an integral part of these Consolidated financial statements.

Consolidated cash flow statement

Supplemental cash flow information

EUR million	Note	Year Ended 31 December 2016	2015
Change in Net Working Capital consists of:			
Change in inventories		-11	18
Change in interest-free receivables:			
Current		56	95
Non-current		11	18
Change in interest-free liabilities:			
Current		184	59
Non-current		43	-49
Change in Net Working Capital, Net of Businesses Acquired or Sold		**283**	**141**
Non-Cash Investing Activities			
Total capital expenditure		638	912
Amounts paid		-707	-879
Non-Cash Part of Additions to Intangible Assets and Property, Plant and Equipment		**-69**	**33**
Disposals			
Cash Flow on Disposals			
Cash part of the consideration	4	41	15
Cash and cash equivalents in divested companies	4	-1	-25
Net Cash Flow from Disposal		**40**	**-10**
Non-cash part of the consideration		4	7
Total Consideration, net of Cash and Cash Equivalents in Divested Companies		**44**	**-3**
Net Assets Sold			
Cash and cash equivalents		1	25
Other intangible assets and property, plant and equipment	11	39	12
Working capital		6	-14
Interest-bearing assets and liabilities		3	-1
Non-controlling interests	19	-4	-
		45	**22**
Gain on sale	4	-	-
Total Net Asset Sold		**45**	**22**

The accompanying Notes are an integral part of these Consolidated financial statements.

Statement of changes in equity

					Fair Valuation Reserve								
EUR million	**Share Capital**	**Share Premium and Reserve Fund**	**Invested Non-Restricted Equity Fund**	**Treasury Shares**	**Step Acquisition Revaluation Surplus**	**Available for Sale Investments**	**Cash Flow Hedges**	**OCI of Equity Accounted Investments**	**CTA and Net Investment Hedges**	**Retained Earnings**	**Attributable to Owners of the Parent**	**Non-controlling Interests**	**Total**
Balance at 31 December 2014	**1 342**	**77**	**633**	**-**	**4**	**354**	**-69**	**-24**	**-149**	**2 902**	**5 070**	**167**	**5 237**
Profit/loss for the year	-	-	-	-	-	-	-	-	-	807	807	-24	783
OCI before tax	-	-	-	-	-	-327	60	5	-5	77	-190	7	-183
Income tax relating to components of OCI	-	-	-	-	-	-	-15	-	7	-36	-44	-	-44
Total Comprehensive Income	**-**	**-**	**-**	**-**	**-**	**-327**	**45**	**5**	**2**	**848**	**573**	**-17**	**556**
Dividend	-	-	-	-	-	-	-	-	-	-237	-237	-2	-239
Acquisitions and disposals	-	-	-	-	-	-	-	-	-	-	-	-39	-39
Loss on NCI buy-in	-	-	-	-	-	-	-	-	-	-16	-16	16	-
Purchase of treasury shares	-	-	-	-6	-	-	-	-	-	-	-6	-	-6
Share-based payments	-	-	-	6	-	-	-	-	-	-2	4	-	4
Balance at 31 December 2015	**1 342**	**77**	**633**	**-**	**4**	**27**	**-24**	**-19**	**-147**	**3 495**	**5 388**	**125**	**5 513**
Profit/loss for the year	-	-	-	-	-	-	-	-	-	463	463	-56	407
OCI before tax	-	-	-	-	-	138	13	-	113	-62	202	-3	199
Income tax relating to components of OCI	-	-	-	-	-	-3	-	-	2	15	14	-	14
Total Comprehensive Income	**-**	**-**	**-**	**-**	**-**	**135**	**13**	**-**	**115**	**416**	**679**	**-59**	**620**
Dividend	-	-	-	-	-	-	-	-	-	-260	-260	-	-260
Acquisitions and disposals	-	-	-	-	-	-	-	-	-	-1	-1	-4	-5
Purchase of treasury shares	-	-	-	-2	-	-	-	-	-	-	-2	-	-2
Share-based payments	-	-	-	2	-	-	-	-	-	-	2	-	2
Balance at 31 December 2016	**1 342**	**77**	**633**	**-**	**4**	**162**	**-11**	**-19**	**-32**	**3 650**	**5 806**	**62**	**5 868**

CTA = Cumulative Translation Adjustment, NCI = Non-controlling Interests, OCI = Other Comprehensive Income, EAI= Equity Accounted Investments

Notes to the Consolidated financial statements

Note 1 Accounting principles

Principal activities

Stora Enso Oyj ("the company") is a Finnish public limited liability company organised under the laws of the Republic of Finland and with its registered address at Kanavaranta 1, 00160 Helsinki. Its shares are currently listed on Nasdaq Helsinki and Stockholm. The operations of Stora Enso Oyj and its subsidiaries (together "Stora Enso" or the "group") are organised into the following divisions: Consumer Board, Packaging Solutions, Biomaterials, Wood Products, Paper and the segment Other. Segment Other includes the Nordic forest equity accounted investments, Stora Enso's shareholding in Pohjolan Voima, operations supplying wood to the Nordic mills and group shared services and administration. The group's main market is Europe, with an expanding presence in Asia and South America.

The Financial Statements were authorised for issue by the Board of Directors on 3 February 2017.

Basis of preparation

The Consolidated Financial Statements of Stora Enso Oyj have been prepared in accordance with International Financial Reporting Standards (IFRS), as adopted by the European Union, including International Accounting Standards (IAS) and Interpretations issued by the IFRS Interpretations Committee (IFRIC). The Consolidated Financial Statements of Stora Enso Oyj have been prepared under the historical cost convention, except as disclosed in the accounting policies. The detailed accounting principles are explained in the related notes, with a few exceptions where accounting principles are presented in this note. The Consolidated Financial Statements are presented in euro, which is the parent company's functional currency.

New and amended standards and interpretations adopted in 2016

The group has applied the following amendments effective from 1 January 2016:

- IAS 19 Defined Benefit Plans Employee Contributions (amendment). The amendment clarifies the accounting for contributions made by employees or third parties to defined benefit plans. The amendment does not have a significant effect on the group financial statement.
- Amendments to IAS 16 and IAS 41 Agriculture: Bearer Plants. The amendments define a bearer plant and require biological assets that meet the definition of a bearer plant to be accounted for as property, plant and equipment. These amendments have no effect on the group financial statements.
- Amendments to IAS 16 and IAS 38 Clarification of Acceptable Methods of Depreciation and Amortisation. The amendments prohibit using a revenue-based depreciation method for items of property, plant and equipment and introduce a rebuttable presumption that revenue is not an appropriate basis for amortisation of an intangible asset. These amendments have no effect on the group financial statements.
- IFRS 11 Accounting for Acquisition of Interests in Joint Operations (amendment) provides guidance on how to account for the acquisition of a joint operation that constitutes a business. The amendment has no effect on the group financial statements.
- IAS 27 Equity Method in Separate Financial Statements (amendment) reinstates the equity method as an accounting option for investments in subsidiaries, joint ventures and associates in an entity's separate financial statements. This change is not relevant to the group.
- Amendments to IAS 1: Disclosure Initiative clarifies the presentation principles. The amendments do not have material effect on the group financial statement.

Presentation change

Presentation of Consolidated Income Statement has been changed from the previous year. Row 'Change in net value of biological assets' has been moved above 'Depreciation, amortisation and impairment charges'. Previously it was presented above 'Materials and service'. This change is not impacting the subtotals of Consolidated income statement or the group's other IFRS figures.

Consolidation principles

The Consolidated financial statements include the parent company, Stora Enso Oyj, and all companies controlled by the group. Control is achieved when the group:

» has power over the investee,
» is exposed, or has rights, to variable returns from its involvement with the investee; and
» has the ability to use its power to affect its returns.

If facts and circumstances indicate that there are changes to the three elements of control listed above the group reassess whether or not it controls an investee. Acquired companies are accounted for under the purchase method whereby they are included in the Consolidated Financial Statements from the date when the control over the subsidiary is obtained, whereas, conversely, divestments are included up to their date when the control is lost. The principal subsidiaries and joint operations are listed in Note 30 Principal subsidiaries and joint operations.

All intercompany transactions, receivables, liabilities and unrealised profits, as well as intragroup profit distributions, are eliminated. Accounting policies for subsidiaries, joint arrangements and all equity accounted investments are adjusted where necessary to ensure consistency with the policies adopted by Stora Enso. Non-controlling interests are presented as a separate component of equity.

Associated companies over which Stora Enso exercises significant influence are accounted for using the equity method, which involves recognising in the Consolidated Income Statement the group's share of the equity accounted investment profit or loss for the year less any impaired goodwill. These companies are undertakings in which the group has significant influence, but which it does not control. Significant influence is the power to participate in the financial and operating policy decisions of the company without control or joint control over those policies. The most significant of such companies are listed in Note 13 Equity accounted investments.

The group's interest in an associated company is carried in the Consolidated Statement of Financial Position at an amount that reflects its share of the net assets of the associate together with any remaining goodwill on acquisition. When the group share of losses exceeds the carrying amount of an investment, the carrying amount is reduced to zero and any recognition of further losses ceases unless the group is obliged to satisfy obligations of the investee that it has guaranteed or to which it is otherwise committed.

Joint operations are joint arrangements whereby the partners that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. The interpretations as joint operations are based on shareholders' agreements which give Stora Enso rights to share of the returns and make the group liable indirectly for the liabilities, as our ability to pay for the pulp is used to finance the debts. Joint control is the contractually agreed sharing of the control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the partners sharing control.

The group has two joint operations: Veracel and Montes del Plata. The group as a joint operator recognises in relation to its interest in a joint operation assets, liabilities, revenues and expenses using the line-by-line method.

- Veracel is a jointly (50%/50%) owned company of Stora Enso and Fibria located in Brazil. The pulp mill produces 1.1 million tonnes of bleached Eucalyptus hard wood pulp per year and both owners are entitled to half of the mill's output. The eucalyptus is sourced mostly from the company's own forestry plantations. The mill commenced production in May 2005 and the group's part of the pulp shipments are sent primarily to Stora Enso mills in Europe and China.
- Montes del Plata is a jointly (50%/50%) owned company of Stora Enso and Arauco located in Uruguay. The Montes del Plata Pulp Mill's annual capacity is 1.3 million tonnes of bleached Eucalyptus hard wood pulp and Stora Enso's part, 650 000 tonnes, is to be sold entirely as market pulp. The eucalyptus is sourced mostly from the company's own forestry plantations. The mill started in June 2014.

Joint venture is a joint arrangement whereby the partners that have joint control of the arrangement have rights to the net asset of the joint arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decision about the relevant activities require unanimous consent of the parties sharing control. The group has a joint venture Bulleh Shah Packaging (Private) Limited.

Revenue recognition

Sales comprise products, raw materials and services less indirect sales tax and discounts, and are adjusted for exchange differences on sales in foreign currency. Sales are recognised after Stora Enso has transferred the risks and rewards of ownership to the buyer and the Group retains neither a continuing right to dispose of the goods, nor effective control of those goods; usually, this means that sales are recorded upon delivery of goods to customers in accordance with the agreed terms of delivery.

Stora Enso terms of delivery are based on Incoterms 2010, which are the official rules for the interpretation of trade terms as issued by the International Chamber of Commerce (ICC). The main categories of terms covering group sales are:

- "D" terms, under which the group is obliged to deliver the goods to the buyer at the agreed place in the manner specified in the chosen rule, in which case the Point of Sale is the moment of delivery to the buyer.
- "C" terms, whereby the group arranges and pays for the external carriage and certain other costs, though the group ceases to be responsible for the goods once they have been handed over to the carrier in accordance with the relevant term. The Point of Sale is thus the handing over of the goods to the carrier contracted by the seller for the carriage to the agreed destination.
- "F" terms, being where the buyer arranges and pays for the carriage, thus the Point of Sale is the handing over of goods to the carrier contracted by the buyer at the agreed point.

Where local rules may result in invoices being raised in advance of the above, the effect of this revenue advancement is quantified and an adjustment is made for it.

Revenues from services are recorded when the service has been performed.

Shipping and handling costs

When Stora Enso is responsible for arranging transport for its sales, such costs are not billed separately but are included in revenue in the value of the goods billed to customers; the shipping costs incurred are shown in materials and services.

Foreign currency transactions

Transactions in foreign currencies are recorded at the rate of exchange prevailing at the transaction date, but at the end of the month, foreign-currency-denominated receivables and liabilities are translated using the month-end exchange rate. Foreign exchange differences for operating items are recorded in the appropriate income statement account within operating profit, and, for financial assets and liabilities, are entered in the financial items of the Consolidated Income Statement, except when deferred in equity as qualifying net investment hedges. Translation differences on non-monetary financial assets, such as equities classified as available-for-sale, are included in equity.

Foreign currency translations – subsidiaries

The group operates internationally and is thus exposed to currency risk arising from exchange rate fluctuations on the value of its net investment in non-euro area foreign subsidiaries and equity accounted investments. The Income Statements of subsidiaries with functional and presentational currencies other than the euro are translated into the group reporting currency using the average exchange rates for the year, whereas the Statements of Financial Position of such subsidiaries are translated using the exchange rates at the reporting date. Exchange differences arising from the retranslation of the net investments in foreign entities that are non-euro foreign subsidiaries, joint arrangements or equity accounted investments, and of financial instruments that are designated as and are hedges of such investments, are recorded directly in shareholders' equity in the cumulative translation adjustment (CTA), as shown in the Consolidated Statement of Comprehensive Income and Note 28 Cumulative translation adjustments and equity hedging. The cumulative translation differences of divestments and liquidations are combined with their gain or loss on disposal. The CTA is also recycled in the Consolidated Income Statement upon the repayment of share capital, return of investment and any partial disposal of a business unit.

Future standard changes endorsed by the EU but not yet effective in 2016

• Amendments to IFRS 10, IFRS 12 and IAS 28: Investment entities – Applying the consolidation Exception, effective for annual periods beginning on or after 1 January 2016. The amendment was endorsed by the EU on September 2016, resulting in the adoption being transferred to 1 January 2017. The amendments provide an exemption from consolidation of subsidiaries for entities that meet the definition of investment entity. This change is not relevant to the group.
• IFRS 15 Revenue from Contracts with Customers. The new standard specifies how and when revenue is recognised and increases the disclosures. The standard provides a single, principles based five-step model to be applied to all contracts with customers. The standard is effective 1 January 2018.

Stora Enso is a leading provider of renewable solutions in packaging, biomaterials, wooden constructions and paper on global markets. Our customers include publishers, retailers, brand owners, print and board producers, printing houses, merchants, converters and joineries and construction companies. Stora Enso's customer contracts can typically be clearly identified based on the customer orders. Performance obligations are normally explicitly defined as the products and services are delivered based on the customer contracts.

The main customer contracts of each division have been reviewed and not such additional separate performance obligations have been identified in the contracts with customers that would materially change the timing of the revenue recognition under IFRS 15 standard compared to the current revenue recognition practises. Hence, we do not expect that IFRS 15 standard would have a significant impact on Stora Enso group.

• IFRS 9 Financial Instruments is the replacement of IAS 39 Financial Instruments: Recognition and Measurement. The Standard includes requirements for recognition and measurement, impairment, derecognition and general hedge accounting. The version of IFRS 9 issued on July 2014 supersedes all previous versions and is mandatorily effective for periods beginning on or after 1 January 2018 with early adoption permitted (subject to local endorsement requirements).

The adoption of IFRS 9 is not expected to have a significant impact on group figures but will require certain changes to disclosure tables and notes of the consolidated financial statements. The Group intends to classify its equity investments in Pohjolan Voima shares, currently classified as available-for-sale investments (AFS) under IAS 39, as at fair value through other comprehensive income (FVTOCI) under IFRS 9. The main difference between AFS and FVTOCI is that gains and losses resulting from changes in the fair value of equity investments accounted for at FVTOCI are not recycled to Income Statement upon impairment or disposal, with only dividend income recognized in Income Statement.

Under IFRS 9, the changes in the time value of currency options used as hedges of foreign currency sales shall be recognised in Other Comprehensive Income to the extent that they relate to the hedged items, and will be reclassified from equity to profit or loss in the same period or periods during which the expected future cash flows affect profit or loss. This will reduce Income Statement volatility as compared to IAS 39.

Future standard changes not yet effective and not yet endorsed by the EU in 2016

• IFRS 14 Regulatory Deferral Accounts permits an entity which is a first-time adopter of International Financial Reporting Standards to continue to account for ”regulatory deferral account balances” in accordance with its previous GAAP. The EU endorsement process has been stopped for this interim standard. The standard is not relevant to the group.
• IFRS 16 Leases provides a single lessee accounting model, requiring the balance sheet recognition of assets and liabilities for all leases with a certain exceptions. The effective date for this standard is 1 January 2019. The effects of this standard on the group financial statements are under investigation. Please refer to Note 29 Commitments and Contingencies for more details about the value of current operating lease agreements.
• Amendments to IFRS 10 and IAS 28: Sale or contribution of Assets between an Investor and its Associate or Joint Venture. The amendments to the standards clarify the accounting in different types of transactions between an investor and its associate in joint ventures. The EU endorsement process has been postponed.
• Amendments to IAS 12: Recognition of Deferred Tax Assets for Unrealised Losses. The diversity in practice around the recognition of a deferred tax asset that is related to a debt instrument measured at fair value is mainly attributable to uncertainty about the application of some of the principles in IAS 12. The amendments effective date is 1 January 2017. This amendment is not relevant to the group.
• Amendments to IAS 7: Disclosure Initiative. The amendments are intended to clarify IAS 7 'Statement of Cash Flows' to improve information provided to users of financial statements about an entity's financing activities, and to enable users of financial statements to evaluate changes in liabilities arising from financing activities. The effective date for these amendments is 1 January 2017. The amendment does not have a significant effect on the group financial statement.
• Clarifications to IFRS 15 Revenue from Contracts with Customers. The effective date for these clarifications is 1 January 2018.
• Amendments to IFRS 2: Classification and Measurement of Share-based Payment Transactions. These narrow-scope amendments clarify how to account for certain types of share-based payment transactions. The effective date for these amendments is 1 January 2018. The amendment does not have a significant effect on the group financial statement.
• Amendments to IFRS 4: Applying IFRS 9 Financial Instruments with IFRS 4 Insurance Contracts. The amendments address concerns arising from implementing the new financial instruments Standard, IFRS 9, before implementing the replacement Standard that the Board is developing for IFRS 4. The effective date for these amendments is 1 January 2018. This amendment is not relevant to the group.
• Amendments to IAS 40: Transfers of Investment Property..Amendments clarify transfers of property to, or from, investment property. The effective date for these amendments is 1 January 2018.

Note 2 Critical accounting estimates and judgements

Use of estimates

The preparation of Consolidated financial statements conforming to IFRS requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the dates of the Financial statements and the reported amounts of revenues and expenses during the period. The estimates are based on historical experience and various other assumptions that are believed to be reasonable, though actual results and timing could differ from the estimates. Management believes that the accounting policies below represent those matters requiring the exercise of judgement where a different opinion could result in the greatest changes to reported results.

Intangible assets and property, plant and equipment

For material intangible assets and property, plant and equipment in an acquisition, an external advisor makes a fair valuation of the acquired intangible assets and property, plant and equipment and assists in determining their remaining useful lives. Management believes that the assigned values and useful lives, as well as the underlying assumptions, are reasonable, though different assumptions and assigned lives could have a significant impact on the reported amounts.

The carrying amounts of Intangible assets and property, plant and equipment are reviewed at each reporting date or whenever events or changes in circumstances indicate that the carrying amount of an asset may be impaired. The recoverable amount of an asset is estimated as the higher of fair value less cost of disposal and the value in use, with an impairment charge being recognised whenever the carrying amount exceeds the recoverable amount. The value in use is calculated using a discounted cash flow model which is most sensitive to the discount rate as well as the expected future cash flows. The key assumptions used in the impairment testing, including sensitivity analysis, are explained further in Note 10 Depreciation, amortisation and impairment charges.

Goodwill

Goodwill is tested by Cash Generating Unit (CGU) or by group of CGUs at least on an annual basis and any impairment is measured using the discounted cash flow valuation method. This method uses future projections of cash flows from each of the reporting units in a CGU or group of CGUs and includes, among other estimates, projections of future product pricing, production levels, product costs, market supply and demand, projected maintenance capital expenditures and an assumption of the weighted average cost of capital. A pre-tax discount rate used for the net present value calculation of projected cash flows reflects the weighted average cost of capital.

The group has evaluated the most sensitive estimates which when changed could have a material effect on the fair value of the assets or goodwill and therefore could lead to an impairment. These estimates are expected sales prices of the products, expected inflation rate of the product costs and discount rate. The key assumptions used in the impairment testing, including sensitivity analysis, are explained further in Note 10 Depreciation, amortisation and impairment charges.

Control assessment of joint operations and associates

Note 1 Accounting principles describes Veracel and Montes del Plata as joint operations. In both companies Stora Enso's ownership is 50%. The interpretations as joint operations are based on shareholders' agreements which give Stora Enso rights to share of the returns and make the group liable indirectly for the liabilities, as our ability to pay for the pulp is used to finance the debts. Joint operations are consolidated with the proportionate line-by-line method.

The forest holding companies Bergvik Skog Ab and Tornator Oyj are equity accounted investments. Stora Enso does not control the companies alone or jointly with other parties and thus retains its significant minority interest as equity accounted investments. Equity accounted investments are accounted for using the equity method. These companies are presented in Note 13 Equity accounted investments.

Fair value of financial instruments

Where the fair value of financial assets and liabilities cannot be derived directly from publicly quoted market prices, other valuation techniques such as discounted cash flow models, transaction multiples, the Black and Scholes model and the Gordon model are employed. The key judgements include future cash flows, credit risk, volatility and changes in assumptions about these factors which could affect the reported fair value of the financial instruments. Investments in debt and equity securities of unlisted entities, such as Pohjolan Voima Oy (PVO), represent a significant portion of the group's assets and require significant management judgement, as explained in more detail in Notes 14 Available-for-sale investments and 24 Financial risk management.

Income taxes

Tax assets and liabilities are reviewed on a periodic basis and balances are adjusted as appropriate. Management considers that adequate provision has been made for future tax consequences based upon current facts, circumstances and tax law. However, should any tax positions be challenged and not prevail, different outcomes could result and have a significant impact on the amounts reported in the consolidated financial statements.

Post-retirement benefits

The determination of the group pension obligation and expense is subject to the selection of certain assumptions used by actuaries in calculating such amounts, including, among others, the discount rate, the expected rate of return on plan assets, the annual rate of increase in future compensation levels and estimated lifespans. Amounts charged in the Income statement are determined by independent actuaries, however, where actual results differ from the initial estimates, together with the effect of any change in assumptions or other factors, these differences are recorded directly in equity, as disclosed in the Statement of comprehensive income. See Note 20 Post-employment benefits for detailed information on the assumptions used in the pension liability calculations.

Biological assets

The group has biological assets in equity accounted investment companies, joint operation companies and in subsidiaries. Biological assets, in the form of standing trees, are accounted for under IAS 41, which requires that the assets be measured at fair value less costs to sell. Fair value is determined using discounted cash flows from continuous operations based on sustainable forest management plans taking into account the growth potential of one cycle. These discounted cash flows require estimates of growth, harvest, sales price and costs, and changes in these premises are included in the Consolidated income statement, for directly owned interests and for joint operations, on the line for Change in Net Value of Biological assets. For those assets shown in the Consolidated statement of financial position of equity accounted investments changes are included on the line for Share of results of equity accounted investments. It is therefore important that the management of the group, joint operation companies and the equity accounted investments make appropriate estimates of future price levels and trends for sales and costs, and undertakes regular surveys of the forest to establish the volumes of wood available for cutting and their current growth rates. See Note 12 Biological assets for more detailed information.

Environmental provisions

The group has made provisions for known environmental liabilities where legal or constructive obligation exists, based on management's best estimate of the remediation costs. There is uncertainty regarding the timing and amount of these costs and therefore the final liability could differ significantly from the original estimate.

Note 3 Segment information

Stora Enso's reportable segments are formed by five divisions, Consumer Board, Packaging Solutions, Biomaterials, Wood Products and Paper as well as segment Other.

The activities of the reportable segments are:

Consumer Board

Consumer Board division develops and provides consumer packaging boards for printing and packaging applications. A wide board and barrier coating selection is suitable for the design and optimisation of packaging for liquid, food, pharmaceutical and luxury goods. We serve brand owners globally and are expanding in growth markets such as China and Asia Pacific to meet rising demand.

Packaging Solutions

Packaging Solutions division develops fibre-based packaging, and operates at every stage of the value chain from pulp production, material and packaging production to recycling. Our solutions serve leading converters, brand owners and retail customers helping to optimise performance, reduce total costs and enhance sales.

Biomaterials

Biomaterials division offers a variety of pulp grades to meet the demands of paper, board, tissue, textile and hygiene product producers. We also develop new ways to maximise the value extractable from wood, as well as other kinds of lignocellulosic biomasses. Sugars and lignin hold potential for use in applications in the specialty chemical, construction, personal care and food industries. We have a global presence with operations in Brazil, Finland, Laos, Sweden, Uruguay and the USA.

Wood Products

Wood Products division provides versatile wood-based solutions for building and housing. Our product range covers all areas of urban construction including massive wood elements, wood components and pellets. We also offer a variety of sawn timber goods. Our customers are mainly construction and joinery companies, merchandisers and retailers. Wood Products operates globally and has more than 20 production units in Europe.

Paper

Paper division provides best-in-class paper solutions for print media and office use. The wide selection covers papers made from recycled and fresh wood fibre. Our main customer groups include publishers, retailers, printing houses, merchants, converters and office suppliers. Our mills are located predominantly in Europe, with one mill in China. Three of the mills produce paper based on 100%-recycled fibre.

Other

The segment Other includes the Nordic forest equity accounted investments, Stora Enso's shareholding in the energy company Pohjolan Voima, operations supplying wood to the Nordic mills and group shared services and administration.

Sales by segment

	Year Ended 31 December					
	External	**Internal**	**Total**	**External**	**Internal**	**Total**
EUR million	**2016**			**2015**		
Consumer Board	2 331	11	2 342	2 331	9	2 340
Packaging Solutions	1 019	25	1 044	888	25	913
Biomaterials	981	395	1 376	1 001	483	1 484
Wood Products	1 488	107	1 595	1 497	106	1 603
Paper	3 175	70	3 245	3 526	104	3 630
Other	808	1 669	2 477	797	1 681	2 478
Elimination of internal sales	-	-2 277	-2 277	-	-2 408	-2 408
Total	**9 802**	**-**	**9 802**	**10 040**	**-**	**10 040**

Sales include external service income of EUR 76 (EUR 71) million.

Segment share of operating profit/loss

	Year Ended 31 December	
	Operating Profit/Loss	
EUR million	**2016**	**2015**
Consumer Board	67	258
Packaging Solutions	42	80
Biomaterials	211	308
Wood Products	88	80
Paper	289	-179
Other	86	512
Total	**783**	**1 059**
Net financial items	-242	-245
Profit before Tax	**541**	**814**
Income tax expense	-134	-31
Net Profit	**407**	**783**

Intangible asset and property, plant and equipment (PPE), depreciations, impairments and reversals, disposal gains and losses and capital expenditure by segment

	Year Ended 31 December					
	Intangible Assets and PPE		**Depreciations/Impairments/ Reversals/Disposal gains and losses**		**Capital Expenditure**	
EUR million	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Consumer Board	1 639	1 526	158	144	312	487
Packaging Solutions	746	782	85	60	56	128
Biomaterials	2 108	2 028	109	107	92	115
Wood Products	403	361	30	29	72	63
Paper	945	1 163	-7	404	73	84
Other	188	171	23	19	33	35
Total	**6 029**	**6 031**	**398**	**763**	**638**	**912**

Goodwill by segment

	Year Ended 31 December			
	Goodwill		Impairment	
EUR million	**2016**	**2015**	**2016**	**2015**
Consumer Board	-	-	-	-
Packaging Solutions	19	30	11	-
Biomaterials	32	31	-	-
Wood Products	104	104	-	-
Paper	83	83	-	-
Other	-	-	-	-
Total	**238**	**248**	**11**	**-**

Average personnel

	Year Ended 31 December	
Segment	**2016**	**2015**
Consumer Board	4 118	4 239
Packaging Solutions	7 372	7 141
Biomaterials	1 797	1 655
Wood Products	3 937	3 824
Paper	5 786	6 810
Other	3 259	3 114
Total	**26 269**	**26 783**

	As at 31 December	
	2016	**2015**
Year-End Personnel	**25 447**	**25 680**

	Year Ended 31 December	
Location	**2016**	**2015**
Austria	912	890
Baltic States	1 203	1 177
Belgium	536	536
Czech Republic	810	736
Finland	6 667	6 589
France	45	71
Germany	1 465	1 711
Poland	1 930	1 856
Russia	1 093	1 086
Spain	15	190
Sweden	5 091	4 975
Other Europe	221	291
Total Europe	**19 988**	**20 108**
Brazil	475	714
China (incl. Hong Kong)	5 156	5 114
India	-	234
USA	88	52
Uruguay	344	334
Other countries	218	227
Total	**26 269**	**26 783**

External sales by destination and origin

	Year Ended 31 December					
	Sales by Destination		Sales by Origin		Balance of Trade	
EUR million	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Austria	279	250	357	348	78	98
Baltic States	237	224	266	264	29	40
Belgium	160	146	257	255	97	109
Czech Republic	146	161	243	250	97	89
Denmark	138	133	21	17	-117	-116
Finland	730	647	3 694	3 653	2 964	3 006
France	467	474	8	10	-459	-464
Germany	1 378	1 454	626	726	-752	-728
Italy	326	338	-	-	-326	-338
Netherlands	240	257	23	14	-217	-243
Poland	498	468	421	375	-77	-93
Russia	280	266	180	175	-100	-91
Spain	295	342	-	87	-295	-255
Sweden	981	995	2 704	2 613	1 723	1 618
UK	510	575	18	21	-492	-554
Other Europe	808	810	101	139	-707	-671
Total Europe	**7 473**	**7 540**	**8 919**	**8 947**	**1 446**	**1 407**
Australia / New Zealand	175	208	21	25	-154	-183
Brazil	72	140	276	423	204	283
China (incl. Hong Kong)	712	694	272	302	-440	-392
Japan	284	282	-	-	-284	-282
Middle East	240	269	-	-	-240	-269
Uruguay	28	23	306	336	278	313
USA	128	112	2	2	-126	-110
Other countries	690	772	6	5	-684	-767
Total	**9 802**	**10 040**	**9 802**	**10 040**	**-**	**-**

Total assets, capital employed and shareholders' equity by location

	As at 31 December					
	Total Assets		Capital Employed		Shareholders' Equity	
EUR million	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Austria	169	172	99	114	104	123
Baltic States	106	115	76	91	160	143
Belgium	276	313	182	214	208	298
Czech Republic	150	151	122	125	108	109
Finland	3 663	3 228	2 169	2 078	1 358	1 068
Germany	406	523	31	109	77	100
Poland	548	583	450	473	267	275
Russia	178	130	99	81	133	77
Sweden	2 783	3 013	1 814	2 089	879	854
Other Europe	110	52	46	-5	211	-11
Total Europe	**8 389**	**8 280**	**5 088**	**5 369**	**3 505**	**3 036**
Brazil	530	574	502	517	462	406
China (incl. Hong Kong)	1 386	1 562	1 143	1 114	480	730
Uruguay	1 781	1 750	1 703	1 630	1 181	1 087
USA	145	99	114	84	127	85
Other countries	95	96	44	39	51	44
Total	**12 326**	**12 361**	**8 594**	**8 753**	**5 806**	**5 388**

Total capital employed represents operating capital less net tax liabilities

Reconciliation of operating capital to total assets

	As at 31 December	
EUR million	**2016**	**2015**
Operating Capital	**8 650**	**8 800**
Operative liabilities	2 405	2 352
Interest-bearing receivables	1 048	957
Tax receivables	223	252
Total Assets	**12 326**	**12 361**

Operating capital (“O” items) is designated thus on the Balance Sheet and represents the sum of Intangible Asset and Property, Plant and Equipment and biological assets, emission rights, unlisted shares, other non-current assets, inventories, current operative receivables and liabilities, provisions and other non-current operative liabilities.

Intangible asset and property, plant and equipment (PPE), capital expenditure and depreciations, impairments and reversals, disposal gains and losses by location

	Year Ended 31 December					
	Intangible Assets and PPE		Depreciations/Impairments/ Reversals/Disposal gains and losses		Capital Expenditure	
EUR million	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Austria	107	109	6	6	5	23
Baltic States	45	49	6	8	4	3
Belgium	222	260	50	113	12	8
Czech Republic	111	113	5	4	3	5
Finland	1 227	1 190	175	149	214	262
Germany	314	377	35	89	12	14
Poland	409	430	27	27	21	34
Russia	67	54	7	8	7	5
Sweden	765	898	181	224	82	61
Other Europe	12	4	-6	7	-1	1
Total Europe	**3 279**	**3 484**	**486**	**635**	**359**	**416**
Brazil	306	255	24	58	11	14
China (incl. Hong Kong)	890	782	-157	27	218	407
Uruguay	1 426	1 419	41	40	15	42
USA	126	89	3	2	35	33
Other countries	2	2	1	1	-	-
Total	**6 029**	**6 031**	**398**	**763**	**638**	**912**

Note 4 Acquisitions and disposals

Accounting principles

Acquired companies are accounted for under the purchase method whereby they are included in the Consolidated Financial Statements from the date when the control over the subsidiary is obtained, whereas, conversely, divestments are included up to their date when the control is lost.

Stora Enso has not acquired companies or business operations in 2015 or 2016.

Disposal of group companies and business operations

	Year Ended 31 December	
EUR million	**2016**	**2015**
Net Assets Sold		
Cash and cash equivalents	1	25
Intangible assets and Property, plant and equipment	39	12
Working capital	6	-14
Interest-bearing assets and liabilities	3	-1
Non-controlling interest	-4	-
Net Assets in Divested Companies and Businesses	**45**	**22**
Total Disposal Consideration Received in Cash and Kind	**45**	**22**
Impairment of assets recognised in 2015[1]	-34	-
Impairment of assets recognised in 2016[2]	-11	-
CTA release	-22	-4
Transaction costs	-4	-2
Total Net Gain/loss	**-71**	**-6**
Attributable to the owners of the parent	**-64**	**-6**
Attributable to the non-controlling interest holders	**-7**	**-**

[1] Relates to disposal of Arapoti Mill on 31 March 2016. Impairment was recognised at signing in December 2015.
[2] Relates to disposals of Arapoti and Kabel Mills.

On 1 June 2016 Stora Enso signed an agreement to divest its Kabel coated magazine paper mill in Germany, to Kabel Premium Pulp & Paper GmbH, owned by a German based investor group. The transaction was structured as an asset deal and the cash consideration for the sold assets was EUR 30 million. After closing adjustments the loss on disposal amounted to EUR 9 million consisting of a EUR 5 million operational and a EUR 4 million tax expense. The divestment was completed on 1 September 2016. Majority of Kabel Mill's approximately 540 employees were transferred to the new owner. Kabel mill was part of the Paper division.

On 31 December 2015, Stora Enso signed an agreement to divest its entire 80% shareholding in the Arapoti magazine paper mill in Paraná, Brazil, to Papeles Bio Bio, a Chilean paper producer. The final consideration for the divestment of the shares was EUR 15 million resulting in a loss of EUR 62 million including cumulative translation adjustments (CTA) and transaction costs. EUR 7 million of the total negative impact was allocated to the non-controlling interest holders. The disposal of Arapoti mill was completed in the first quarter of 2016. EUR 34 million of the total loss was recognised at signing in the fourth quarter of 2015 while EUR 4 million was recorded as customary purchase price adjustments during the first three quarters of 2016. The cumulative translation adjustment loss amounted to EUR 22 million. Transaction costs amounted to EUR 2 million. Arapoti Mill was part of the Paper division.

On 1 October 2015, Stora Enso divested its Barcelona Mill, which produces recycled-fibre based consumer board, to the private equity fund Quantum. The cash consideration for the divestment of the shares was EUR 10 million. The transaction resulted in a loss of EUR 2 million including transaction costs of EUR 1 million. Barcelona was part of the Consumer Board division.

On 30 September 2015, Stora Enso divested its offset printed micro-flute packaging plant in Komárom to Van Genechten Packaging International S.A., a leading Belgian packaging company. The cash consideration for the divestment of the shares was EUR 12 million. The transaction resulted in a loss of approximately EUR 4 million, mainly due to cumulative translation adjustments. Komárom plant was part of the Packaging Solutions division.

In December 2014 Stora Enso signed an agreement to divest Uetersen specialty and coated fine paper mill in Germany to Perusa Partners Fund 2. Following the agreement, the group recorded a EUR 30 million fixed asset and inventory write down in its 2014 Financial Statements. The transaction was completed in February 2015. The impact on the group's 2015 net result was immaterial. Uetersen mill was part of the Paper division.

Note 5 Other operating income and expense

Accounting principles

Research and development

Research costs are expensed as incurred in other operating expenses in the Consolidated Income Statement. Development costs are also expensed as incurred unless it is probable that future economic benefits will flow to the group, in which case they are capitalised as intangible assets and depreciated over the period of the income streams.

Government grants

Government grants relating to the purchase of property, plant and equipment are deducted from the carrying value of the asset, the net cost being capitalised. Other government grants are recognised as income on a systematic basis over the periods necessary to match them with the related costs which they were intended to compensate.

Emission rights and trading

The group's participation in the European Emissions Trading Scheme, in which it has been allocated allowances to emit a fixed tonnage of carbon dioxide in a fixed period of time, gives rise to an intangible asset for the allowances, a government grant and a liability for the obligation to deliver allowances equal to the emissions that have been made during the compliance period. Emission allowances recorded as intangible assets are recognised when the group is able to exercise control and are measured at level 1 fair value at the date of initial recognition. If the market value of emission allowances falls significantly below the carrying amount, and the decrease is considered permanent, then an impairment charge is booked for allowances which the group will not use internally. The liability to deliver allowances is recognised based on actual emissions; this liability will be settled using allowances on hand, measured at the carrying amount of those allowances, with any excess emissions being measured at the market value of the allowances at the period end.

In the Consolidated Income Statement, the group will expense, under materials and services, emissions made at the fair value of the rights at their grant date, together with purchased emission rights at their purchase price. Such costs will be offset under other operating income by the income from the original grant of the rights used at their fair value at the grant date, together with income from the release or sale of surplus rights. The Consolidated Income Statement will thus be neutral in respect of all rights consumed that were within the original grant. Any net effect represents the costs of purchasing additional rights to cover excess emissions, the sale of unused rights, in the case realised emissions are under allowances received free of charge or the impairment of allowances not required for internal use.

Other Operating Income and expense

	Year Ended 31 December	
EUR million	**2016**	**2015**
Other Operating Income		
Emission rights granted and disposal gains	13	19
Sale of Green Certificates	36	42
Capital gains on sale of Intangible Assets and Property, Plant and Equipment	3	4
Dividend and gain on sale of unlisted shares	6	-
Freight sales, rent and other	54	54
Government grants	11	9
Total	**123**	**128**
Other Operating Expenses include		
Rents paid	102	105
Research and development	80	66
Credit losses	11	7
CTA release	23	4
Materials and Services include		
Emissions rights to be delivered and disposal losses	12	15

The group has recorded Other Operating Income of EUR 13 (EUR 19) million related to Emissions. Under Material and Services an expense of EUR 12 (EUR 15) million has been booked related to the cost of CO_2 emissions from production. Actual realised profits amounted to EUR 5 (EUR 10) million on the disposal of surplus rights and EUR 1 (EUR 6) million is the value of excess emission rights held at the year end.

The group also generates income from its renewable power generation in Belgium and Poland. The power is produced from biomass, so the group is entitled to Green Certificates for onward sale to electricity retailers for fulfilling their renewable power quota obligations. The income from the sale of green certificates amounted to EUR 36 (EUR 42) million.

In 2016 the group recorded cumulative translation adjustment loss of EUR 23 million mainly relating to divestment of Arapoti Mill in Brazil.

Total sales of excess freight capacity in 2016 amounted to EUR 43 (EUR 40) million.

Principal independent auditor's fees and services

	Year Ended 31 December	
EUR million	**2016**	**2015**
Audit fees	4	4
Audit-related	-	-
Tax fees	-	-
Other fees	1	1
Total	**5**	**5**

Aggregate fees for professional services rendered to the group principal auditor Deloitte amounted to EUR 5 (EUR 5) million. Audit fees relate to the audit of the annual financial statements or ancillary services normally provided in connection with statutory and regulatory filings. Audit-related fees are incurred for assurance and associated services that are reasonably related to the performance of the audit or review of the financial statements.

Note 6 Personnel expenses

Personnel expenses

	Year Ended 31 December	
EUR million	**2016**	**2015**
Wages and salaries	1 006	987
Pensions (see below)	165	160
Share-based remuneration (Note 21)	6	8
Total return swaps	-6	-4
Other statutory employer costs	141	140
Other voluntary costs	22	22
Total	**1 334**	**1 313**

Pensions

	Year Ended 31 December	
EUR million	**2016**	**2015**
Defined benefit plans	12	12
Defined contribution plans	153	150
Other post-employment benefits	-	-2
Total	**165**	**160**

Total personnel expenses totalled EUR 1 334 million in 2016 compared with EUR 1 313 million in 2015. The average number of employees in 2016 amounted to 26 269 compared with 26 783 in 2015. Pension costs are discussed further in Note 20 Post-employment benefits.

In 2016, the expense of the share-based remuneration was EUR 6 (EUR 8) million. The expense of share-based remuneration net of Total Return Swaps (TRS) in 2016 amounted to zero compared with an expense of EUR 4 million in 2015. This was due to the increase in the Stora Enso R share price from EUR 8.39 at 31 December 2015 to EUR 10.21 at 31 December 2016 and an income of EUR 6 million was recorded in respect of TRS.

The group hedges its share awards programme by using (TRS) shown under personnel costs alongside the share awards expenses to which they relate, so that both the risk and the result from hedging of that risk appear in the same section of the Income Statement. The TRS are not designated under hedge accounting.

Share-based remuneration comprising of share awards and related hedges are described in more detail in Note 21 Employee variable compensation and equity incentive schemes.

Group Leadership Team and Board remuneration are described in Note 7 Board and executive remuneration.

Note 7 Board and executive remuneration

Board remuneration and committee memberships

	Year Ended 31 December				
	2016			2015	
EUR thousand	**Cash**	**Shares**	**Total**	**Total**	**Committee Memberships**
Board Members at 31 December 2016					
Gunnar Brock, Chairman	126	68	194	194	Remuneration, Nomination[2,3], Financial and Audit
Jorma Eloranta, Vice Chairman	66	40	106	-	Remuneration, Nomination[2,3]
Anne Brunila	52	28	80	80	Sustainability and Ethics
Elisabeth Fleuriot	48	28	76	76	Sustainability and Ethics
Hock Goh	42	28	70	70	
Mikael Mäkinen	56	28	84	84	Financial and Audit
Richard Nilsson	68	28	96	90	Financial and Audit, Sustainability and Ethics
Hans Stråberg	48	28	76	76	Remuneration
Former Board members					
Juha Rantanen (until 28 April 2016)	-	-	-	126	
Total Remuneration as Directors[1]	**506**	**276**	**782**	**796**	

[1] 40% of the Board remuneration in 2016 was paid in Stora Enso R shares purchased from the market and distributed as follows: to Chairman 9 092 R shares, Vice Chairman 5 348 R shares, and members 3 744 R shares each. The Company has no formal policy requirements for the Board members to retain shares received as remuneration.
[2] Stora Enso's Nomination Board is appointed by the shareholders at the Annual General Meeting. Gunnar Brock and Jorma Eloranta were appointed thereto in their roles as Chairman and Vice Chairman of the Board of Directors. A member of the Board of Directors may not be Chairman of the Nomination Board.
[3] Kari Järvinen appointed by Solidium Oy is Chairman of the Nomination Board. Marcus Wallenberg is the member of the Nomination Board appointed by FAM AB.

Shareholders at the Annual General Meeting (AGM) have appointed a Shareholders' Nomination Board to prepare proposals for the AGM's approval concerning the number of members of the Board of Directors, the members of the Board, remuneration for the Chairman, Vice Chairman and members of the Board and the remuneration for the Chairman and members of the committees of the Board.

Board share interests at 31 December 2016

	Shares held[1]	
	A	**R**
Board Members at 31 December 2016		
Gunnar Brock, Chairman	-	78 000
Jorma Eloranta, Vice Chairman	150	5 648
Anne Brunila	-	15 909
Elisabeth Fleuriot	-	15 909
Hock Goh	-	21 692
Mikael Mäkinen	-	28 585
Richard Nilsson	-	14 042
Hans Stråberg	-	31 470
Total Shares Held	**150**	**211 255**

[1] Board members' related parties hold no Stora Enso shares.

The following Board members also Served in 2016

	Shares Held when Board Membership Ended	Effective Date of Board Membership Ending
Juha Rantanen	9 918	28 April 2016

Group Leadership Team (GLT) remuneration and share interests

The table below includes the remuneration paid to GLT members during the year, including the share awards that vested in that year. The Company recommends and expects the CEO and GLT members to hold Stora Enso shares at a value corresponding to at least one annual base salary. Stora Enso shares received as remuneration are therefore recommended not to be sold until this level has been reached.

The aggregate cost of GLT remuneration in 2016 amounted to EUR 9.9 (EUR 11.0) million. The total number of GLT members was twelve (thirteen) at year end 2016. Malin Bendz joined GLT at 1 November, and two GLT members left during the year, Jari Latvanen on 28 October and Lars Häggström on 31 October.

In accordance with their respective pension arrangements, GLT members may retire at sixty-five years of age with pensions consistent with local practices in their respective home countries. Contracts of employment provide for notice of six months prior to termination with severance compensation of twelve months basic salary if the termination is at the Company's request.

The outcome of the financial targets relating to the Short Term and Long Term Incentive programmes for performance year 2015 were reviewed and confirmed by the Remuneration Committee in the ordinary annual salary review in March.

Shown in Note 21 Employee variable compensation and equity incentive schemes are details of share awards programmes and incentive schemes for the management and staff of Stora Enso.

Group Leadership Team remuneration

	Year Ended 31 December					
	2016			2015		
EUR thousand	**CEO**	**Others**[1]	**GLT Total**	**CEO**	**Others**	**GLT Total**
Remuneration						
Annual salary[4]	934	3 964	4 898	932	3 846	4 778
Local housing (actual costs)	-	119	119	-	132	132
Other benefits	20	581	601	25	605	630
Termination benefits	-	-	-	-	475	475
Short Term Incentive programme[3]	499	924	1 423	232	650	882
Long Term Incentive programme[3]	151	424	575	371	1 493	1 864
	1 604	**6 012**	**7 616**	**1 560**	**7 201**	**8 761**
Pension Costs						
Mandatory Company plans	64	1 044	1 108	61	983	1 044
Stora Enso voluntary plans	550[2]	625	1 175	537	629	1 166
	614	**1 669**	**2 283**	**598**	**1 612**	**2 210**
Total Compensation	**2 218**	**7 681**	**9 899**	**2 158**	**8 813**	**10 971**

[1] The amounts include payments related to Jari Latvanen until 28 October and Lars Häggström until 31 October. Payments related to the new GLT member Malin Bendz are included from 1 November.
[2] The CEO participates in the Swedish Executive Pension Plan where pension accruals are unfunded for all participants, the liability is calculated and insured in accordance with Swedish legislation. The unfunded liability for the CEO amounts to EUR 1 579 thousand.
[3] Disclosed amounts for Short and Long term Incentives include amounts for executives who were GLT members at the time of the payment in March 2016.
[4] Annual salary for executives is disclosed only for the period during which they were GLT members.

Executives other than CEO

Short Term Incentive (STI) programmes for management

GLT members have STI programmes with up to a maximum 40% or 50% of their annual fixed salary, payable the year after the performance period. The STI for 2016 was based 70% on financial measures and 30% on Individual Key Targets.

Long Term Incentive (LTI) programmes for management

Since 2014 the LTI programmes have three year targets and vest in only one portion after three years and the absolute maximum vesting level is 100% of the number of shares awarded. Three quarters (75%) of the awards under the 2016 programme is in Performance Shares, where shares will vest in accordance with performance criteria proposed by the Remuneration Committee and approved by the Board of Directors. One quarter (25%) of the award under the 2016 programme is in Restricted Shares, for which vesting is subject to continued employment.

Under the 2016 LTI programme, GLT members (in GLT at year end) potentially can receive 248 888 shares assuming the maximum vesting level during the three-year vesting period (2016–2018) is achieved.

The fair value of employee services received in exchange for share-based compensation payments is accounted for in a manner that is consistent with the method of settlement either as cash-settled or equity settled as described in more detail in Note 21 . For the equity settled part, it is possible that the actual cash cost does not agree with the accounting charges as the share price is not updated at the time of the vesting. The figures in the Group Leadership Team Remuneration table refer to individuals who were executives at the time of settlement.

During the year 30% of the 2013 programme vested, in comparison to 2015 when 30% of both 2012 and 2013 programmes vested. The number of shares settled on executives (GLT members at settlement date) from previous awards derived from Restricted Share programmes and Performance Share programmes amounted to 55 681 shares having a cash value at the 1 March 2016 settlement date of EUR 424 289 based on the share price at that date. Next year, in March 2017, the 2014 programme vests in only one portion after three years, dependent on Economic Value Added (EVA) for the Stora Enso Group.

Chief Executive Officer (CEO) - Karl-Henrik Sundström

The CEO has been employed since 1 August 2012 and assumed the position as CEO on 1 August 2014. He has a notice period of six months with a severance payment of twelve months salary on termination by the company but with no contractual payments on any change of control. Benefits include pension provisions. The CEO's pension plan consists of collectively agreed pension plan in Sweden (ITP2) and a defined contribution (DC) top up pension plan. Contributions to the DC plan in the interval 20–30 Income Base Amounts (IBA; one IBA was 59 300 SEK in 2016) is 23%, contributions above 30 IBA is 35% for the salary the CEO had prior to assuming this position and 39% on the salary increase amount received when assuming the position as CEO. The retirement age is sixty-five years.

Short Term Incentive (STI) programmes for CEO

The CEO is entitled to a STI programme decided by the Board each year giving a maximum of 75% of annual fixed salary. The STI for 2016 was based 70% on financial measures and 30% on Individual Key Targets.

Long Term Incentive (LTI) programmes for CEO

The CEO participates in 2014, 2015 and 2016 share based LTI programmes. The programmes have three year targets and vest in only one portion after three years. Three quarters (75%) of the awards are in Performance Shares, where shares will vest in accordance with performance criteria proposed by the Remuneration Committee and approved by the Board of Directors. One quarter (25%) of the awards are in Restricted Shares, for which vesting is only subject to continued employment.

The CEO has the potential to receive up to 78 799 shares under the 2016 LTI programme. The grant value EUR 600 448 is based on the share price at grant date and assuming maximum vesting level during the three-year vesting period is achieved. The CEO received shares from previous awards of Restricted Share programmes and Performance Share programmes, which amounted to 19 751 shares having a cash value at the 1 March 2016 settlement date of EUR 150 503 based on the share price of EUR 7.62 at that date.

Group Leadership Team share interests

Executives in Office at the Year End	R Shares Held[1]	Performance Share Opportunity 2017–2019[2]	Restricted Share Opportunity 2017–2019[2]
Juan Carlos Bueno	-	94 734	31 578
Johanna Hagelberg	1 626	43 672	14 557
Kati ter Horst	11 779	72 402	24 135
Malin Bendz	10 647	25 408	8 469
Ulrika Lilja	13 355	37 251	12 417
Per Lyrvall[3]	37 954	63 580	21 193
Markus Mannström	20 951	35 651	11 884
Noel Morrin	11 940	38 534	24 453
Gilles van Nieuwenhuyzen	-	60 979	20 326
Seppo Parvi	7 253	65 329	21 776
Karl-Henrik Sundström[4]	91 794	200 901	66 967
Jari Suominen	16 836	56 459	18 819
Total, Serving Officers[5]	**224 135**	**794 900**	**276 574**

[1] None of the GLT members holds A shares.
[2] Potential shares to GLT members listed here are gross of taxes
[3] Spouse holds 1 257 shares.
[4] 41 700 of the shares are held by a related party (Alma Patria AB).
[5] The Company recommends and expects GLT members to hold Stora Enso shares at a value corresponding to at least one annual base salary. Stora Enso shares received as remuneration are therefore recommended not to be sold until this level has been reached.

The following executive officers also served in 2016

	Shares Held when GLT Membership Ended	Performance Share Opportunity when GLT Membership Ended[1]	Restricted Share Opportunity when GLT Membership Ended[1]	Effective Date of GLT Membership Ending
Lars Häggström	23 095	66 227	22 075	31 October 2016
Jari Latvanen	-	58 991	19 664	28 October 2016

[1] Unvested Performance and Restricted share awards were forfeited when employment ended.

Note 8 Net financial items

Accounting principles

Net financial items comprise of net interest expenses, foreign exchange gains and losses and other financial income and expenses mainly arising from interest-bearing assets and liabilities.

Financial income and expense

	Year Ended 31 December	
EUR million	**2016**	**2015**
Net Financial Expense in the Income Statement		
Financial income	44	25
Financial expense	-286	-270
Total	**-242**	**-245**
Represented by		
Interest expense		
Borrowings	-163	-189
Net interest from interest rate derivatives	1	-7
Finance leases	-1	-2
Interest capitalised	12	12
Interest income on loans and receivables	10	18
Net interest on net defined benefit liabilities	-7	-9
Exchange gains and losses		
Currency derivatives	30	1
Borrowings and deposits	-73	-44
Other financial income	3	5
Other financial expense		
Fair value hedges	-	-1
Other fair value changes	-4	1
Others	-50	-30
Total	**-242**	**-245**

Gains and losses on derivative financial instruments are shown in Note 27 Derivatives.

In 2016, the net interest expense on borrowings decreased due to a lower and further improved debt portfolio. The amount of borrowing costs capitalised during the year amounted to EUR 12 (EUR 12) million. In 2016, these are mainly related to the Beihai Mill project in Guangxi, China which commenced production during the second quarter of 2016. The average interest rate used for capitalisation was 4.5% (4.9%). Costs on long-term debt issues capitalised as part of non-current debt amounted to EUR 25 (EUR 32) million in the Statement of Financial Position. During the year EUR 8 (EUR 7) million was amortised through interest expense by using the effective interest rate method.

Exchange gains and losses for currency derivatives mainly relate to non-hedge accounted instruments fair valued through the Income Statement as well as time value of options under hedge accounting.

The other fair value changes included under other financial expenses are mainly related to the change in the fair value of interest rate derivatives not under hedge accounting. At the end of 2016, the group did not have any non-hedge accounted interest-rate derivatives outstanding.

In 2016 the group recorded a net expense of EUR 34 (EUR 20) million due to repurchases of bond notes with the impact being under other financial expense. The transactions are explained in more detail in Note 26 Debt. During 2015, the group closed majority of its non-hedge accounted interest rate swaps and all of its non-hedge accounted interest rate options and interest rate collars. The net impact of the closures on Income Statement amounted to nil. The net cash paid of EUR 38 million excluding accrued interest to settle the derivative liabilities are presented for 2015 period in the other financial items section of the Cash Flow Statement.

During 2015, Pohjolan Voima Oy (PVO) related shareholder loans to finance the Olkiluoto 4 (OL4) project were written off as a result of TVO's General Meeting's decision not to apply for a construction licence for the Olkiluoto 4 nuclear power plant. The write-off of the loan receivables had a negative impact of EUR 5 million that is shown in other financial expense on others line for the year 2015.

The rest of the amount reported under other financial expense mainly relates to net financial fees for unused committed credit facilities, guarantees and rating agencies.

Total foreign exchange gains and losses in the income statement excluding hedges

	Year Ended 31 December	
EUR million	**2016**	**2015**
Sales	4	64
Costs and expenses	-7	-13
Borrowings and deposits	-73	-44
Total	**-76**	**7**

Note 9 Income taxes

Accounting principles

The group income tax expense/benefit includes taxes of group companies based on taxable profit/loss for the period, together with tax adjustments for previous periods and the change in deferred income taxes.

Deferred income taxes are provided using the liability method, as measured with enacted, or substantially enacted, tax rates, to reflect the net tax effects of all temporary differences between the tax bases and the accounting bases of assets and liabilities. No deferred tax is recognised for the initial recognition of goodwill and the initial recognition of an asset or liability in a transaction which is not a business combination and at the time of the transaction it affects neither accounting profit nor taxable profit. Deferred tax assets reduce income taxes payable on taxable income in future years. The deferred tax assets, whether arising from temporary differences or from tax losses, are recognised only to the extent that it is probable that future taxable profits will be available against which the assets can be utilised.

Tax expense

	Year Ended 31 December	
EUR million	**2016**	**2015**
Current Tax	-131	-84
Deferred Tax	-3	53
Total Tax	**-134**	**-31**

Income tax rate reconciliation

	Year Ended 31 December	
EUR million	**2016**	**2015**
Profit before tax	541	814
Tax at statutory rates applicable to profits in the country concerned[1]	-131	-149
Non-deductible expenses and tax exempt income[2]	-16	-
Valuation of deferred tax assets	-4	12
Taxes from prior years	2	-5
Changes in tax rates and tax laws	-2	-
Impairment of goodwill	-2	-
Profits from equity accounted investments	30	114
Other	-11	-3
Total Tax	**-134**	**-31**
Effective Tax Rate	**24.8%**	**3.8%**
Statutory Tax Rate (blended)	**24.1%**	**18.3%**

[1] Includes impact of EUR -25 million from countries with tax holidays and tax benefits in 2016 and impact of EUR 6 million from tax holidays and other tax benefits in 2015.
[2] The tax value of non-deductible expenses of EUR 45 million has been netted against tax exempt income of EUR 29 million in 2016, and the tax value of non-deductible expenses of EUR 25 million has been netted against tax exempt income of EUR 25 million in 2015.

The statutory tax rate is a weighted average of the statutory tax rates prevailing in jurisdictions where Stora Enso operates.

Change in deferred taxes in 2016

EUR million	Value at 1 Jan 2016	Income Statement	OCI	Acquisitions/ Disposals	Translation difference	Value at 31 Dec 2016
Fixed assets	-168	-16	-	2	6	-176
Financial instruments	-2	-	-3	-	-	-5
Untaxed reserves	-42	9	-	-	3	-30
Pensions and provisions	17	19	15	-6	1	46
Tax losses and tax credits carried forward	207	-15	-	-	1	193
Other deferred taxes	-18	2	-	4	-5	-17
Total	**-6**	**-1**	**12**	**-**	**6**	**11**
Equity hedges (CTA)	-	-2	2			
Change in Deferred Tax	**-6**	**-3**	**14**	**-**	**6**	**11**
Assets[1]	246					214
Liabilities[1]	-252					-203

[1] Deferred tax assets and liabilities have been offset in accordance with IAS 12.

OCI = Other Comprehensive income, CTA = Cumulative Translation Adjustment

Change in deferred taxes in 2015

EUR million	Value at 1 Jan 2015	Income Statement	OCI	Acquisitions/ Disposals	Translation difference	Value at 31 Dec 2015
Fixed assets	-208	53	-	-9	-4	-168
Financial instruments	14	-	-15	-	-1	-2
Untaxed reserves	-40	-	-	-	-2	-42
Pensions and provisions	54	2	-36	-2	-1	17
Tax losses and tax credits carried forward	188	19	-	-	-	207
Other deferred taxes	-13	-21	-	11	5	-18
Total	**-5**	**53**	**-51**	**-**	**-3**	**-6**
Equity hedges (CTA)	-	-7	7	-	-	-
Change in Deferred Tax	**-5**	**46**	**-44**	**-**	**-3**	**-6**
Assets[1]	259					246
Liabilities[1]	-264					-252

[1] Deferred tax assets and liabilities have been offset in accordance with IAS 12.

The recognition of deferred tax assets is based on the group's estimations of future taxable profits available from which the group can utilise the benefits.

Tax losses

	As at 31 December					
	Tax losses carried forward		Recognised tax values		Unrecognised tax values	
EUR million	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Expiry within five years	431	524	70	84	40	25
Expiry after five years	580	592	102	118	24	14
No expiry	1 185	1 037	20	5	249	260
Total	**2 196**	**2 153**	**192**	**207**	**313**	**299**

Tax losses of EUR 801 (EUR 887) million relate to Finland.

Non-recognised deferred tax assets on deductible temporary differences amounted to EUR 59 (EUR 98) million. There is no expiry date for these differences. Taxable temporary differences in respect of investments in subsidiaries, branches and associates and interests in joint ventures for which deferred tax liabilities have not been recognised amounted to EUR 237 (EUR 248) million.

Note 10 Depreciation, amortisation and impairment charges

Accounting principles

Depreciation, amortisation and impairment charges

Depreciation or amortisation of an asset begins when it is available for use in the location and condition necessary for it to be operated in the manner intended by management. Depreciation or amortisation ceases when the asset is derecognised or classified as held for sale in accordance with IFRS 5. Depreciation or amortisation does not cease when the asset becomes idle. Tangible and intangible assets are depreciated and amortised on a straight-line basis over their useful lives. Useful lives are reviewed periodically. In case an asset is disposed, proceeds exceeding the carrying value of the asset up to its historical cost are netted against depreciation, amortisation and impairment charges. Only disposal proceeds exceeding the historical cost of an asset are presented as other operating income (note 5). If the asset's book value is higher than the disposal proceeds, the difference is recognised as an impairment in the period when a binding sales contract is signed.

The carrying amounts of intangible assets and property, plant and equipment are reviewed at each reporting date to determine whether there is any indication of impairment, whereas goodwill is tested annually. If any such indication exists, the recoverable amount is estimated as the higher of the fair value less costs of disposal and the value in use, with an impairment loss being recognised whenever the carrying amount exceeds the recoverable amount.

A previously recognised impairment loss on property, plant and equipment is reversed if there has been a change in the estimates used to determine the recoverable amount, however, not to an extent higher than the carrying amount that would have been had no impairment loss been recognised in prior years. For goodwill, however, a recognised impairment loss is not reversed.

Whilst intangible assets and property, plant and equipment are subject to impairment testing at the cash generating unit (CGU) level, goodwill is subject to impairment testing at the level of CGU or groups of CGUs, which represents the lowest level within the group at which goodwill is monitored for internal management purposes.

Depreciation, amortisation and impairment charges

	Year Ended 31 December	
EUR million	**2016**	**2015**
Depreciation and Amortisation		
Intangible assets	18	17
Buildings and structures	85	89
Plant and equipment	389	404
Other tangible assets	12	12
Total	**504**	**522**
Impairment and Disposal Gains/Losses		
Goodwill	11	-
Intangible assets	-	-
Land	-	3
Buildings and structures	25	32
Plant and equipment	60	204
Other tangible assets	7	7
Gain on sale of fixed assets	-159	-
Total	**-56**	**246**
Reversal of Impairment		
Buildings and structures	-9	-3
Plant and equipment	-41	-2
Total	**-50**	**-5**
Depreciation, Amortisation and Impairment Charges	**398**	**763**

Depreciation and amortisation

The total depreciation and amortisation charge amounted to EUR 504 million and was EUR 18 million less than in 2015. A breakdown of depreciation, amortisation and impairment charges by divisions is set out in Note 3 Segment information.

Disposal gains and losses

On 6 June 2016 Stora Enso announced the divestment of key assets of its Suzhou Mill in China, including the land-use rights and buildings, to the local government of Suzhou National New & Hi-tech Industrial Development Area (SND). The cash consideration for the assets was EUR 240 million. According to Stora Enso's accounting policy, disposal proceeds exceeding the carrying value of the asset but not its historical cost are netted against depreciation, amortisation and impairment charges. In 2016, the depreciation, amortisation and impairment charges included a disposal profit of EUR 159 million as well as a reversal of previous impairment charges of EUR 41 million. Suzhou Mill was part of the Paper division.

Impairment testing

The recoverable amount of CGUs has been determined based on a value-in-use calculation using cash flow projections from financial budgets approved by the Board of Directors and management. The pre-tax discount rates are calculated for each cash generating unit taking into account the tax and risk profile of the country in which the cash flow is generated. The table in the goodwill impairment testing section below sets out the pre-tax discount rates used for goodwill impairment testing, which are similar to those used in the impairment testing of other intangible assets and property, plant and equipment.

Impairments were calculated with a value-in-use method for each CGU based on the following main assumptions:
• Sales price estimates in accordance with internal and external specialist analysis
• Inflation estimates of approximately 2% per year
• Current cost structure to remain unchanged
• For goodwill testing a four-year future period was used after which the perpetuity value was based on zero growth rates, whereas for intangible assets, property, plant and equipment testing the period was the remaining expected economic life of the assets.

Other intangible assets and property, plant and equipment impairment

The total impairment charges on other intangible assets and property, plant and equipment in 2016 amounted to EUR 92 million (EUR 248 million) and resulted from impairment testing and restructurings. The impairments are mostly attributable to:
• EUR 78 million (EUR 216 million) resulted from impairment testing in Newsprint Europe CGU in Paper division. The result is explained in more detail in the following paragraphs.
• EUR 6 million for idle machinery relating to the consolidation of corrugated packaging production in Finland.

Newsprint Europe CGU in Paper division was tested for impairment in 2016 due to the further weakened long-term earnings expectations resulting from decline in the European paper markets. The recoverable amount was based on the value-in-use and amounted to EUR 233 million. The pre-tax discount rate used for impairment testing was 6.8% (7.3%). The group recorded an impairment charge of EUR 78 million (EUR 120 million) in Newsprint Europe CGU in 2016.

Uncoated Magazine Paper Europe CGU in Paper division was not tested for impairment in 2016. In 2015, the impairment test for Uncoated Magazine Paper resulted in a value-in-use of EUR 301 million with a discount rate of 7.3% The group recorded an impairment charge of EUR 93 million in Uncoated Magazine Paper Europe CGU in 2015.

Goodwill impairment testing

In 2016 the total goodwill impairment charge amounted to EUR 11 million and was fully related to Corrugated China operations in Packaging Solutions division. The main reason for the impairment is the challenging market situation and a change in the customer base. Stora Enso recognises goodwill only to the extent of its interest in the net assets acquired (the partial goodwill method). As such, the impairment of goodwill is fully allocated to the owners of the parent. After the impairment no Goodwill was left in Corrugated China CGU.

There was no goodwill impairment in 2015.

Groups of cash generating units containing goodwill

	Year Ended 31 December									
	2016					2015				
EUR million	Goodwill at Year End	Intangible Assets and Property, Plant and Equipment at Year End	Recoverable Amount at Year End	Impairment Charge	Pre-tax Discount Rate	Goodwill at Year End	Intangible Assets and Property, Plant and Equipment at Year End	Recoverable Amount at Year End	Impairment Charge	Pre-tax Discount Rate
Packaging Solutions - Europe	19	671	1 529	-	10.0%	19	686	1 461	-	10.6%
Packaging Solutions - Corrugated China	-	56	56	11	8.0%	11	66	145	-	8.6%
Biomaterials - Innovation and Nordic Operations	32	343	769	-	7.5%	31	321	930	-	8.0%
Wood Products - Central Europe	104	160	713	-	6.8%	104	163	672	-	7.3%
Paper - Newsprint and Book Paper	43	261	542	-	6.8%	43	359	679	-	7.3%
Paper - Uncoated Magazine Paper	40	290	774	-	6.8%	40	314	529	-	7.3%
Goodwill	**238**	**1 781**	**4 383**	**11**		**248**	**1 909**	**4 416**	**-**	

Segment impairment and disposal losses less reversals

	Year Ended 31 December	
EUR million	2016	2015
Consumer Board	-	2
Packaging Solutions	18	-1
Biomaterials	-	1
Wood Products	-1	-4
Paper	32	243
Other	4	-
Total (impairment + / reversal -)	**53**	**241**

The calculation of value-in-use is most sensitive to discount rate, sales price and costs. The Sensitivity Analysis table summarises what effect a 1% change in the discount rate, 1% decrease in sales prices and 1% increase in costs would have had on the recoverable amounts of group of CGUs carrying the most of the group's total goodwill.

Goodwill testing sensitivity analysis, impact on recoverable amount

EUR million	Wood Products - Central Europe	Paper - Newsprint and Book	Paper - Uncoated Magazine Paper
1% increase in the discount rate	-113	-78	-123
1% annual decrease in the sales price	-117	-89	-71
1% annual increase in the costs	-106	-81	-62

Note 11 Intangible assets and property, plant and equipment

Accounting principles

Computer software development costs

The cost of development or acquisition of new software clearly associated with an identifiable and unique product that will be controlled by the group and has probable benefit exceeding its cost beyond one year is recognised as an intangible asset and amortised over the expected useful life of the software. Website costs are expensed as incurred.

Goodwill

Goodwill represents future economic benefits arising from assets that are not capable of being individually identified and separately recognised by the group on an acquisition. Goodwill is computed as the excess of the cost of an acquisition over the fair value of the group's share of the fair value of net assets of the acquired subsidiary at the acquisition date, and is allocated to those groups of cash generating units expected to benefit from the acquisition for the purpose of impairment testing. In compliance with IFRS 3, the cost of an acquisition is equal to the sum of the consideration transferred, the value of the non-controlling interest in the acquisition and the fair value of the previously held interest in the acquired subsidiary. Goodwill arising on the acquisition of non-euro foreign entities is treated as an asset of the foreign entity denominated in the local currency and translated at the closing rate.

Goodwill is not amortised but tested for impairment on an annual basis, or more frequently if there is an indication of impairment. Gains and losses on the disposal of a group entity include any goodwill relating to the entity sold.

Goodwill arising upon the acquisition of an equity accounted investment or joint arrangement is included within the carrying amount of the investment and is assessed for impairment as part of that investment. Any excess of the group's share of the net fair value over the cost of the acquisition, after reassessment, is recognised immediately in the income statement.

Intangible assets

Intangible assets are stated at historical cost and amortised on a straight-line basis over their expected useful lives, which usually vary from 3 to 10 years and up to 20 years for patents. An adjustment is made for any impairment. Intangible items acquired must be recognised as assets separately from goodwill if they meet the definition of an asset, are either separable or arise from contractual or other legal rights, and their fair value can be measured reliably.

Intangible assets recognised separately from goodwill in acquisitions consist of marketing and customer-related or contract and technology-based intangible assets. Typical marketing and customer-related assets are trademarks, trade names, service marks, collective marks, certification marks, customer lists, order or production backlogs, customer contracts and the related customer relationships. The contract and technology-based intangible assets are normally licensing and royalty agreements or patented technology and trade secrets such as confidential formulas, processes or recipes. The fair value determination of customer contracts and related relationships is derived from expected retention rates and cash flow over the customers' remaining estimated lifetime. The value of trademarks is derived from discounted cash flow analysis using the relief from royalty method.

Property, plant and equipment

Property, plant and equipment acquired by group companies are stated at historical cost, augmented where appropriate by asset retirement costs. Assets arising on the acquisition of a new subsidiary are stated at fair value at the date of acquisition. Depreciation is computed on a straight-line basis, as adjusted for any impairment and disposal charges. The Consolidated Statement of Financial Position value represents cost deducted by received grants and subsidies and less accumulated depreciation and any impairment charges. Interest costs on borrowings to finance the construction of these assets are capitalised as part of the cost during the construction period when requirements are fulfilled.

Land is not depreciated as it is deemed to have an indefinite life, but otherwise depreciation is based on the following expected useful lives:

Asset Class	Depreciation Years
Buildings, industrial	10-50
Buildings, office & residential	20-50
Groundwood mills	15-20
Hydroelectric power	40
Paper, board and pulp mills, main machines	20
Heavy machinery	10-20
Converting factories	10-15
Sawmills	10-15
Computers	3-5
Vehicles	5
Office equipment	3-5
Railway, harbours	20-25
Forest roads	10-35
Roads, fields, bridges	15-20

Ordinary maintenance and repair charges are expensed as incurred, but the costs of significant renewals and improvements are capitalised and depreciated over the remaining useful lives of the related assets. Retirements, sales and disposals of property, plant and equipment are recorded by deducting the cost and accumulated depreciation from the accounting records with any resulting terminal depreciation adjustments reflected in impairment charges in the Consolidated Income Statement. Capital gains are shown in other operating income.

Spare parts are accounted for as property, plant and equipment if they are major and used over more than one period, or if they are used only in connection with an item of property, plant and equipment. In all other cases, spare parts are carried as inventory and recognised in profit or loss as consumed.

Intangible assets

	Year Ended 31 December			
EUR million	**Computer Software**	**Other Intangible Assets**	**Goodwill**	**Total**
Acquisition Cost				
At 1 January 2015	231	241	1 184	1 656
Translation difference	-1	26	12	37
Reclassifications	4	28	-	32
Additions	4	2	-	6
Disposals[2]	-13	-	-	-13
At 31 December 2015	**225**	**297**	**1 196**	**1 718**
Translation difference	-	-2	-3	-5
Reclassifications	3	8	-	11
Additions	9	3	-	12
Disposals[2]	-9	-131	-	-140
At 31 December 2016	**228**	**175**	**1 193**	**1 596**
Accumulated Amortisation and Impairment				
At 1 January 2015	203	112	942	1 257
Translation difference	-	18	6	24
Disposals[2]	-13	-	-	-13
Amortisation	9	8	-	17
At 31 December 2015	**199**	**138**	**948**	**1 285**
Translation difference	1	2	-4	-1
Disposals[2]	-9	-126	-	-135
Amortisation	9	9	-	18
Impairment	-	-	11	11
At 31 December 2016	**200**	**23**	**955**	**1 178**
Net Book Value at 31 December 2016	**28**	**152**	**238**	**418**
Net Book Value at 31 December 2015	**26**	**159**[1]	**248**	**433**[1]

[1] The presentation of Intangible assets and Tangible assets has been further specified with regard to the comparison period in Parent company statement. Due to this change, the amount of Group`s Intangible assets increased by EUR 29 million and the amount of Group`s Property, plant and equipment decreased respectively.
[2] Company disposals are included Disposals line. Company disposals are discussed in more detail in Note 4 Acquisitions and disposals.

Property, plant and equipment

EUR million	Land and Water	Buildings and Structures	Plant and Equipment	Other Tangible Assets	Assets in Progress	Total
	Year Ended 31 December					
Acquisition Cost						
At 1 January 2015	432	3 402	14 780	448	431	19 493
Translation difference	-5	16	83	-6	11	99
Reclassifications	-	62	126	6	-225	-31
Reclassifications to biological assets	-	-	-2	-	-	-2
Additions	22	34	256	7	587	906
Disposals[2]	-39	-110	-1 166	-5	-10	-1 330
At 31 December 2015	**410**	**3 404**	**14 077**	**450**	**794**	**19 135**
Translation difference	23	31	-83	5	-17	-41
Reclassifications	-	21	410	9	-451	-11
Reclassifications to biological assets	-	-	-2	-	-	-2
Additions	1	281	339	5	-	626
Disposals[2]	-39	-195	-905	-27	-12	-1 178
At 31 December 2016	**395**	**3 542**	**13 836**	**442**	**314**	**18 529**
Accumulated Depreciation and Impairment						
At 1 January 2015	62	2 159	11 474	365	14	14 074
Translation difference	-	-12	32	-5	-1	14
Disposals[2]	-26	-101	-1 156	-5	-9	-1 297
Depreciation	-	89	404	12	-	505
Impairment	3	29	202	3	4	241
At 31 December 2015	**39**	**2 164**	**10 956**	**370**	**8**	**13 537**
Translation difference	-	6	-109	5	1	-97
Disposals[2]	-33	-175	-810	-27	-5	-1 050
Depreciation	-	85	389	12	-	486
Impairments and reversals	-	16	19	6	1	42
At 31 December 2016	**6**	**2 096**	**10 445**	**366**	**5**	**12 918**
Net Book Value at 31 December 2016	**389**	**1 446**	**3 391**	**76**	**309**	**5 611**
Net Book Value at 31 December 2015	**371**	**1 240**	**3 121[1]**	**80**	**786**	**5 598[1]**

[1] The presentation of Intangible assets and Tangible assets has been further specified with regard to the comparison period in Parent company statement. Due to this change, the amount of Group`s Intangible assets increased by EUR 29 million and the amount of Group`s Property, plant and equipment decreased respectively.
[2] Company disposals are included in Disposals line. Company disposals are discussed in more detail in Note 4 Acquisitions and disposals.

Intangible assets and property, plant and equipment additions

Total capital expenditure for the year in Stora Enso Oyj and its subsidiaries amounted to EUR 638 (EUR 912) million. Details of ongoing projects and future plans are discussed in more detail in the Report of the Board of Directors .

Note 12 Biological assets

Accounting principles

The biological assets of Stora Enso are standing trees to be used as raw material in pulp and mechanical wood production and as bio fuels.

IAS 41 Agriculture requires that biological assets are shown in the Consolidated Statement of Financial Position at fair value. Group forests are thus accounted for at level 3 fair value less estimated point-of-sale costs at harvest, there being a presumption that fair values can be measured for these assets.

The valuation of forest assets is based on discounted cash flow models whereby the fair value of the biological assets is calculated using cash flows from continuous operations, that is, based on sustainable forest management plans taking into account growth potential. The yearly harvest from the forecast tree growth is multiplied by wood prices and the cost of fertiliser and harvesting is then deducted. The fair value of the biological asset is measured as the present value of the harvest from one growth cycle based on the productive forestland, taking into consideration environmental restrictions and other reservations. Young standing timber less than two years old (less than three years in Montes del Plata) is considered to be immature assets and accounted at cost. At harvesting, biological assets are transferred to inventory.

Fair value is deemed to approximate the cost when little biological transformation has taken place or the impact of the transformation on price is not expected to be material, which varies according to the location and species of the assets.

Stora Enso also ensures that the group's share of the valuation of forest holdings in equity accounted investments and joint operations are consistent with group accounting policies.

The group has biological assets in its own subsidiaries in China, Brazil and Laos, in joint operations in Brazil and Uruguay and in equity accounted investments in Finland, Sweden and Brazil.

The amount directly disclosed in the group Consolidated Statement of Financial Position from subsidiary companies and from joint operations amounts to EUR 489 (EUR 640) million as shown below. The group's indirect share of biological assets held by equity accounted investments amounts to EUR 2 897 (EUR 2 841) million.

Biological assets

	Year Ended 31 December	
EUR million	**2016**	**2015**
Subsidiaries and Joint Operations		
Fair Value at 1 January	**640**	**643**
Translation differences	17	7
Change in fair value	-120	-13
Additions (cost based)	91	77
Harvesting	-62	-51
Other operative changes	-79	-5
Other changes	-	-20
Reclassification from Property, plant and equipment	2	2
Fair Value of biological assets at 31 December	**489**	**640**
Equity accounted investments		
Bergvik Skog Ab (49%)	2 360	2 397
Tornator Oyj (41%)	515	428
Arauco Florestal Arapoti S.A. (20%)	22	16
Fair value of biological assets of Associated companies at 31 December	**2 897**	**2 841**

Subsidiaries and joint operations:

At the end of 2016, the fair value of the biological assets in Guangxi, China was EUR 174 (EUR 356) million, which included young standing timber with a value of EUR 36 (EUR 25) million. The decrease is mainly due to reduced inventory as a result of a higher than previously estimated portion of over mature areas with accumulated wood losses. The discount rate of 9.2% (9.6%) used in the DCF is determined using the weighted average cost of capital method. The amount of land area is 84 (86) thousand hectares. As announced on 19 January, Stora Enso is reconsidering its plans to build a chemical pulp mill in Beihai. As a consequence of the change in scope, Stora Enso would decrease the area of its leased forest lands in the Guangxi region. The scope and schedule for the reduction of fibre base will be decided later. As a part of this process, all contracts will be evaluated and Stora Enso aims to have only land leased that is free of contractual defects.

Veracel Celulose S.A. (Veracel), a 50% joint operation company in Brazil, had biological assets fair valued at EUR 202 (EUR 172) million, of which Stora Enso's share was EUR 101 (EUR 86) million. The biological assets included young standing timber with a value of EUR 22 (EUR 0) million. The discount rate of 7.87% (7.6%) used in the DCF is determined using the weighted average cost of capital method. Stora Enso's share (50%) of the land area is 114 (114) thousand hectares.

Montes del Plata (MdP), a 50% joint operation company in Uruguay, had biological assets with a fair value of EUR 380 (EUR 356) million, of which Stora Enso's share was EUR 190 (EUR 178) million. The biological assets included young standing timber with a value of EUR 41 (EUR 39) million. The discount rate of 8.0% (8.0%) used in the DCF is determined using the weighted average cost of capital method. Stora Enso's share (50%) of the land area is 123 (117) thousand hectares.

Sensitivities of significant assumptions of a +/- 10% movement

	Wood market prices	Growth rate
Guangxi	+/-36	+/-17
Veracel	+/-11	+/-11
Montes del Plata	+18/-17	+/- 6

At 31 December 2016 biological assets were located by value, in China 36% (56%), Brazil 22% (14%), Uruguay 39% (28%) and other areas 3% (2%). The amount of land area is 366 (365) thousand hectares of which 30% (31%) of the land is leased and 5% (2%) restricted. The harvested wood amounted to 4 (4) million m^3. The MdP and Veracel amounts are taken into account at ownership share and hectares.

Equity accounted investments:

The group has three equity accounted investments holding biological assets:
• Bergvik Skog Ab (Bergvik Skog), the 49% owned Swedish associate company, had biological assets with a fair value of EUR 4 816 (EUR 4 892) million, of which Stora Enso's share was EUR 2 360 (EUR 2 397) million. The fair value change for Bergvik is due to a decrease in discount rate, an adjustment to the price curve, and a correction in the model from last year.
• Tornator Oyj (Tornator), a 41% owned Finnish associate company, had biological assets with a fair value of EUR 1 257 (EUR 1 045) million, of which Stora Enso's share was EUR 515 (EUR 428) million. The change in Tornator's fair value is due to an increase in felling plan and a decrease in the discount rate.
• Arauco Florestal Arapoti S.A., the 20% owned southern Brazilian associate company, had biological assets with a fair value of EUR 109 (EUR 79) million, of which Stora Enso's share was EUR 22 (EUR 16) million.

For information about the amount of wood delivered to Stora Enso mills and share of wood sourced from plantations, please see Stora Enso Sustainability Report 2016, section Forests, plantations, and land use. Stora Enso Sustainability Report 2016 is available online at storaenso.com/annualreport .

Note 13 Equity accounted investments

Accounting principles

Consolidation principles

Associated companies over which Stora Enso exercises significant influence are accounted for using the equity method, which involves recognising in the Consolidated Income Statement the group's share of the equity accounted investment profit or loss for the year. The group's interest in an associated company is carried in the Consolidated Statement of Financial Position at an amount that reflects its share of the net assets of the associate.

The group's share of results in equity accounted investments is reported in operating profit to reflect the operational nature of these investments, especially those in wood supply. There is no material goodwill in the Statements of Financial Position of equity accounted investments.

Principal equity accounted investments

			As at 31 December			
			Proportion of ownership interest/voting rights held %		**EUR million**	
Company	**Reportable segment**	**Domicile and principal place of operations**	**2016**	**2015**	**2016**	**2015**
Bergvik Skog AB: forest	Other	Sweden	49.00/36.70[1]	49.00/36.70[1]	1 265	1 300
Tornator Oyj: forest	Other	Finland	41.00	41.00	246	186
Bulleh Shah Packaging (Private) Limited: packaging goods	Consumer Board	Pakistan	35.00	35.00	34	33
Arauco Florestal Arapoti S.A.: plantation	Paper	Brazil	20.00	20.00	26	19
					1 571	1 538
Others					23	32
Carrying Value at 31 December					**1 594**	**1 570**

[1] The group's shareholding in Bergvik Skog AB is 49%, however, the voting rights are limited to 36.7%.

Group share of equity accounted investment income statements

	Year Ended 31 December	
EUR million	**2016**	**2015**
Sales	297	345
Net operating expenses	-200	-229
IAS 41 valuation	136	575
Operating Profit	**233**	**691**
Net financial items	-53	-34
Net Profit before Tax	**180**	**657**
Income tax	-24	-138
Net Profit for the Year	**156**	**519**

All of the above companies are accounted for using the equity method in these Consolidated financial statements.

In April 2016, Stora Enso divested its 33.33% shareholding in the Swedish recycled materials company IL Recycling AB for SEK 239 (EUR 26) million. Related to the transaction Stora Enso recorded a capital gain of EUR 16 million in Division Paper second quarter 2016 results.

The average number of personnel in the equity accounted investments was 2 797 in 2016, compared with 3 460 in 2015.

Summarised financial information in respect of the group's material associates, Bergvik Skog AB and Tornator Oyj, is set out below. The group's share of these associated companies is reported under segment Other and covers the majority of the group's total share of results of equity accounted investments. The summarised financial information below represents amounts shown in the associate's financial statements prepared in accordance with IFRS.

Bergvik Skog AB

EUR million	2016	2015
Current assets	43	53
Non-current assets	5 074	5 149
Current liabilities	362	299
Non-current liabilities	1 111	1 160
Tax liabilities	1 072	1 102
Sales	234	214
Net profit for the year	127	1 015
Other comprehensive income	-6	6
Total comprehensive income	121	1 021
Dividends received from the associate during the financial year	44	22
Net assets of the associate	2 572	2 641
Proportion of the Group's ownership interest in Bergvik Skog AB	49.00%	49.00%
Goodwill	5	6
Carrying amount of the Group's interest in Bergvik Skog AB	**1 265**	**1 300**

In 2004, 56.7% of Stora Enso's Swedish forest holding company Bergvik Skog was divested to institutional investors leaving the group with a minority shareholding of 43.26%. In May 2014 the group spent SEK 891 million (EUR 97 million) to increase its shareholding in Bergvik Skog to 49%. As part of the acquisition the group recorded goodwill of EUR 5 million.

Stora Enso's shareholding in the company was valued at EUR 1 265 (EUR 1 300) million at the year-end 2016. In 2016, the group's share of Bergvik Skog's net profit was EUR 62 (EUR 498) million, including a forest valuation gain of EUR 52 (gain EUR 581) million. The fair value change of Bergvik Skog's forest holdings was mainly due to the decrease of discount rate used in the discounted cash flow based valuation of the biological assets, an adjustment to the price curve, and a correction in the model from last year. In 2015, the fair value change of Bergvik Skog's forest holdings was mainly due to the decrease of discount rate used in the discounted cash flow based valuation of the biological assets. Fair value change in 2015 increased income tax approximately EUR 128 million.

During the fourth quarter of 2015 Bergvik Skog had material land disposal transactions. The arrangements resulted in a gain in Bergvik Skog's income statement of which Stora Enso's share amounted approximately to EUR 33 million.

Tornator Oyj

EUR million	2016	2015
Current assets	26	37
Non-current assets	1 355	1 143
Current liabilities	69	78
Non-current liabilities	579	553
Tax liabilities	132	96
Sales	97	114
Net profit for the year	173	39
Other comprehensive income	5	4
Total comprehensive income	178	43
Dividends received from the associate during the financial year	12	9
Net assets of the associate	601	453
Proportion of the Group's ownership interest in Tornator Oyj	41.00%	41.00%
Carrying amount of the Group's interest in Tornator Oyj	**246**	**186**

Stora Enso's Finnish forest holdings were divested into an equity accounted investment, Tornator, in 2002. The group's 41% residual interest was worth EUR 246 (EUR 186) million at the year-end 2016. In 2016, the group's share of Tornator's net profit was EUR 71 (EUR 16) million, including a forest valuation gain of EUR 83 (loss EUR 7) million.

During the fourth quarter of 2015 Tornator had a material land disposal transaction which resulted in a gain in Tornator's income statement of which Stora Enso's share amounted approximately to EUR 3 million.

Aggregate information of equity accounted investments that are not individually material

	As at 31 December	
EUR million	**2016**	**2015**
PPE[1], goodwill and other intangible assets	74	92
Biological assets	22	16
Operative receivables:		
Non-current	-	1
Current	24	26
Inventories	17	22
Cash	9	10
Total Assets	**146**	**167**
Operative Liabilities:		
Non-current	5	8
Current	22	36
Debt:		
Non-current	18	25
Current	10	8
Tax liabilities	8	6
Total Liabilities	**63**	**83**
Net Equity in the Group Statement of Financial Position	**83**	**84**
Represented by		
Capital and Reserves	83	84
OCI	-	-
Equity Accounting Value	**83**	**84**
Equity Accounting Value for Bergvik Skog AB	1 265	1 300
Equity Accounting Value for Tornator Oyj	246	186
Total Equity Accounting Value	**1 594**	**1 570**

[1] PPE = Property, Plant and Equipment

Equity accounted investment company balances

	As at 31 December	
EUR million	**2016**	**2015**
Receivables from Equity Accounted Investments		
Non-current loan receivables	5	5
Trade receivables	3	6
Current loan receivables	-	3
Liabilities due to Equity Accounted Investments		
Trade payables	40	32

Equity accounted investment transactions

	Year Ended 31 December	
EUR million	**2016**	**2015**
Sales to equity accounted investments	53	49
Purchases from equity accounted investments	202	182

The group engages in transactions with equity accounted investments such as sales and purchases of wood. All agreements are negotiated at arm's length and are conducted on terms that the group considers customary in the industry and generally no less favourable than would be available from independent third parties.

Total loans including interest receivable to equity accounted investments at the year-end 2016 amounted to EUR 5 (EUR 8) million.

Note 14 Available-for-sale investments

Accounting principles

The group classifies its investments into three categories: trading, held-to-maturity and available-for-sale. At the reporting date, the group held only available-for-sale investments. All available-for-sale investments are considered to be non-current assets, unless they are expected to be realised within twelve months.

Available-for-sale investments are initially recognised at fair value and subsequent gains and losses are booked to equity's fair valuation reserve in other comprehensive income (OCI) and, when they are sold, the accumulated fair value adjustments are then included in the Consolidated Income Statement. Available-for-sale investments are assessed for indicators of impairment at the end of each reporting period. A significant or prolonged decline in the fair value of the security below its cost is considered to be objective evidence of impairment. The part of the fair value reserve (OCI) represented by the impairment is transferred to the Consolidated Income Statement.

Summary of values

	Year Ended 31 December	
EUR million	**2016**	**2015**
Acquisition cost at 1 January		
Listed securities	4	4
Operative securities	123	111
Investments classified as available-for-sale	127	115
OCI in opening balance	32	359
Available-for-Sale Investments at 1 January	**159**	**474**
Translation difference	-1	1
Additions	2	14
Change in fair values accounted for as OCI	140	-328
Disposals	-10	-
Income Statement - gains and losses	5	-2
Carrying Amount at 31 December	**295**	**159**

Unrealised gains and losses on securities

	Year Ended 31 December	
EUR million	**2016**	**2015**
Net unrealised holding gains (OCI)	170	32
Cost	125	127
Fair Value	**295**	**159**
Net unrealised holding gains (OCI)	170	32
Deferred tax	-8	-5
Net Unrealised Holding Gains Shown in Equity as OCI	**162**	**27**
Change in Net Unrealised Holding Gains Shown in Equity as OCI	**135**	**-326**

PVO shares

The group holds a 15.5% (15.2%) interest in Pohjolan Voima Oy (PVO), a privately-owned group of companies in the energy sector that produces electricity and heat for its shareholders in Finland. Each subsidiary of the PVO group has its own class of shares that entitle the shareholder to the energy produced in proportion to its ownership of that class of share. The shareholders then have an obligation to cover the costs of production, which are generally lower than market prices. The holding is fair valued quarterly using an average of two methods: the discounted cash flow model and trading multiples. The valuation is categorised at level 3 in the fair value hierarchy.

The electricity prices in the model are based on Nordpool prices. Liquid future derivative prices are used for the available years in the model and thereafter increased by an inflation factor. The historical financial statements provide the basis for the cost structure for each of the power assets, which are adjusted by the inflation factor in future years. The discount rate of 3.29% used in the DCF is determined using the weighted average cost of capital method. The trading multiples are derived from a peer group of European companies operating power assets similar to PVO's. A +/- 5% change in the electricity price used in the DCF would change the valuation by EUR 42 million and EUR -42 million, respectively. A +/- 1% absolute change in the discount rate would change the valuation by EUR -28 million and EUR 37 million, respectively.

Other uncertainties in the valuation of PVO's share of Olkiluoto 3 nuclear power plant project relate to on-going arbitration proceedings between the plant supplier AREVA-Siemens Consortium and the plant owner Teollisuuden Voima Oyj (TVO). Stora Enso's indirect share of the capacity of Olkiluoto 3 is approximately 8.9%, through its PVO B2 shares. The possible outcome of the arbitration proceedings has not been taken into account in the valuation.

PVO shareholding at 31 December 2016

EUR million	Share Series	% Holding	Asset Category	Fair Value 2016	Fair Value 2015
PVO-Vesivoima Oy	A	20.6	Hydro	121	74
Teollisuuden Voima Oyj	B	15.7	Nuclear	114	39
Teollisuuden Voima Oyj	B2	14.8	Nuclear under construction	0	0
Other	C,C2,V,M	Various	Various	7	10
Total				**242**	**123**

The valuation in 2016 amounted to EUR 242 (EUR 123) million against cost value of EUR 110 (EUR 115) million, with the revaluation of EUR 132 (EUR 8) million being taken to other comprehensive income. The change in PVO's value is mainly caused by increase in electricity prices. No deferred tax is appropriate as under Finnish tax regulations holdings above 10% are exempt from tax on disposal proceeds.

During 2015, an impairment of EUR 2 million was taken to Income Statement in respect of the investment in C-shares series of PVO. This relates to the decision to discontinue electricity production in all the coal and oil-fired power plants of PVO-Lämpövoima Oy.

For information on the amount of electricity generated, purchased and sold, please see Stora Enso Sustainability Report 2016, section Environment and Efficiency (Energy).

Principal available-for-sale investments

	As at 31 December 2016			
EUR million	**Holding %**	**Number of Shares**	**Acquisition Cost**	**Fair Value**
Packages Ltd, Pakistan - listed security		5 396 650	4	42
Total Listed Securities			**4**	**42**
Pohjolan Voima Oy - unlisted security	15.5	4 943 707	110	242
Others - unlisted securities			11	11
Total Operative Securities			**121**	**253**
Total Available-for-Sale Investments at 31 December 2016			**125**	**295**
Total Available-for-Sale Investments at 31 December 2015			**127**	**159**

The difference of EUR 170 (EUR 32) million between the initial fair value at acquisition and reporting date market value of the available-for-sale investments represents the OCI reserve as shown in the Statement of Changes in Equity. Euro-denominated assets comprise 85.9% (82.7%) of available-for-sale investments.

Note 15 Other non-current assets

	As at 31 December	
EUR million	**2016**	**2015**
Prepaid expenses and accrued income	24	20
Tax credit	13	13
Barcelona disposal receivable	2	3
Other non-current operative assets	18	27
Total	**57**	**63**

Note 16 Inventories

Accounting principles

Inventories are reported at the lower of cost and net realisable value with cost being determined by the first-in first-out (FIFO) method or, alternatively, weighted average cost where it approximates FIFO. The cost of finished goods and work in progress comprises raw material, direct labour, depreciation, other direct costs and related production overhead but excludes interest expenses. Net realisable value is the estimated selling price in the ordinary course of business, less costs of completion and sale.

Where market conditions result in the manufacturing costs of a product exceeding its net realisable value, a valuation allowance is made. Valuation allowances are also made for old, slow moving and obsolete finished goods and spare parts. Such valuation allowances are deducted from the carrying value of the inventories in the Consolidated statement of financial position.

	As at 31 December	
EUR million	**2016**	**2015**
Materials and supplies	332	343
Work in progress	77	81
Finished goods	651	664
Spare parts and consumables	282	283
Other inventories	15	13
Advance payments and cutting rights	102	108
Obsolescence allowance - spare parts and consumables	-98	-106
Obsolescence allowance - finished goods	-9	-9
Net realisable value allowance	-6	-4
Total	**1 346**	**1 373**

EUR 14 (EUR 10) million of inventory write-downs have been recognised as an expense. EUR 7 (EUR 6) million have been recognised as a reversal of previous write-downs.

Note 17 Receivables

Accounting principles

Trade receivables

Trade receivables are recognised initially at fair value and subsequently at their anticipated realisable value, an estimate being made for doubtful receivables based on an objective review of all outstanding amounts at the year end. Losses relating to doubtful receivables are recorded in the Consolidated Income Statement within other operating expenses. Trade receivables are included in current assets under current operative receivables.

Stora Enso is using factoring arrangements as one of the working capital management tools. Sold trade receivables are derecognised when the significant related risks and rewards of ownership have been transferred.

Loan receivables

Loan receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are recorded initially at fair value and subsequently measured at amortised cost which is subject to regular and systematic review as to collectability. If any loan receivable is estimated to be unrecoverable, an allowance is made for the shortfall between the carrying amount and the present value of the expected cash flows. Interest income on loan receivables is included in financial income. Loan receivables with a maturity of less than 12 months are included in current assets under interest-bearing receivables and those with maturities greater than 12 months, in non-current loan receivables.

Current operative receivables

	As at 31 December	
EUR million	**2016**	**2015**
Trade receivables	922	1 040
Allowance for doubtful debts	-51	-53
Prepaid expenses and accrued income	121	127
TRS Hedges	3	-
Other receivables	278	210
Total	**1 273**	**1 324**

As at 31 December 2016, EUR 116 (EUR 104) million of trade receivables were overdue, for which no allowance has been made. These relate to a number of different countries and unrelated customers that have no recent history of default. The age analysis of these trade receivables, net of allowance for doubtful debts, is as follows:

Age analysis of trade receivables, net of allowance for doubtful debts

	As at 31 December	
EUR million	**2016**	**2015**
Less than 30 days overdue	44	57
31 to 60 days overdue	10	10
61 to 90 days overdue	48	24
91 to 180 days overdue	3	-
Over 180 days overdue	11	13
Total: Overdue Accounts	**116**	**104**
Trade Receivables within their credit terms	755	883
Total	**871**	**987**

Credit losses amounted to EUR 11 (EUR 7) million, which resulted in a net decrease in the allowance for doubtful debts of EUR 2 (decrease EUR 7) million – see Note 24 Financial risk management for details of customer credit risk management. All allowances are made on an individual basis and are regularly reviewed for changes in the financial positions of customers. If the group has concerns as to the financial state of a customer, an advance payment or a letter of credit that must be irrevocable and drawn on a bank is required. At the year end, the letters of credit awaiting maturity totalled EUR 37 (EUR 36) million.

At 31 December 2016, allowances related to overdue trade receivables totalled EUR 51 (EUR 53) million. The age analysis of the receivables under the doubtful accounts is shown in the table below.

Age analysis of doubtful accounts

	As at 31 December	
EUR million	**2016**	**2015**
Less than 90 days	2	-
91 to 180 days	3	1
Over 180 days	46	52
Total	**51**	**53**

Stora Enso has entered into factoring agreements to sell trade receivables in order to accelerate cash conversion. These agreements resulted in full derecognition of receivables of a nominal value of EUR 368 (EUR 287) million as at the end of the year. The continuing involvement of Stora Enso in the sold receivables was estimated as being insignificant.

Interest-bearing receivables

	As at 31 December	
EUR million	**2016**	**2015**
Derivatives (see Note 27)	41	41
Loans to equity accounted investments	5	8
Other loan receivables	7	72
Total	**53**	**121**
Current Assets: Receivable within 12 months	46	53
Non-current Assets: Receivable after 12 months	7	68
Total	**53**	**121**

Annual interest rates for loan receivables at 31 December 2016 ranged from 0% (0%) to 8% (8%). Current interest-bearing receivables did not include any accrued interest at 31 December 2016. In the end of 2015 the amount of accrued interest was EUR 5 million, of which EUR 3 million related to interest rate derivatives.

On 1 October 2013, the vendor loan note issued by Papyrus Holding AB, with the nominal value of EUR 54 million, has been classified in the balance sheet as a non-current loan receivable. The note was fair valued on receipt at EUR 47 million and it accrued interest which was added in arrears to the principal of the note. The note was subordinate to senior debt but having priority over equity holders and maturing on 7 May 2017, unless voluntarily prepaid. The fair value of the note at 31 December 2015 was EUR 62 million against a carrying value of EUR 59 million. During November 2016, Papyrus Holding AB has voluntarily prepaid the full note balance and related interests.

During 2012 and 2013, Stora Enso participated, proportionally with its share of ownership in Teollisuuden Voima Oyj (TVO) through Pohjolan Voima Oy, in the financing of the bidding and engineering phase of the Finnish Olkiluoto 4 (OL4) nuclear power plant unit of TVO by granting a shareholder loan of EUR 5 million. TVO's General Meeting decided in June 2015 not to apply for a construction license for OL4 during the validity of the decision-in-principle given by the Finnish Parliament which had a term limit of 30 June 2015. As a result, the shareholder loan-receivable of EUR 5 million was written off during the second quarter of 2015.

Note 18 Shareholders' equity

Accounting principles

Dividend and capital repayments

Any dividend or capital repayment proposed by the Board is not deducted from distributable shareholders' equity until approved by the shareholders at the Annual General Meeting.

At 31 December 2016 shareholders' equity amounted to EUR 5 806 (EUR 5 388) million, compared with market capitalisation on Nasdaq Helsinki of EUR 8 085 (EUR 6 618) million. The market values of the shares were EUR 10.40 (EUR 8.40) for A shares and EUR 10.21 (EUR 8.39) for R shares.

The A shares entitle the holder to one vote per share, whereas R shares entitle the holder to one vote per ten shares with a minimum of one vote, though the accountable par of both shares is the same. A shares may be converted into R shares at any time at the request of a shareholder. At 31 December 2016 the company's fully paid-up share capital as entered in the Finnish Trade Register was EUR 1 342 million (EUR 1 342 million). The current accountable par of each issued share is EUR 1.70 (EUR 1.70).

At the end of 2016, Directors and Group Leadership Team members owned 150 (zero) A shares and 435 390 (391 870) R shares representing 0.02% of the total voting rights of the company. Full details of Director and Executive interests are shown in Note 7 Board and executive remuneration. A full description of company share award programmes is shown in Note 21 Employee variable compensation and equity incentive schemes. However, none of these have any impact on the issued share capital.

Change in share capital and number of shares

	A shares	R shares	Total
At 1 January 2015	**177 056 204**	**611 563 783**	**788 619 987**
Conversion of A shares to R shares 15 Jan	-25 300	25 300	-
Conversion of A shares to R shares 16 Feb	-25 000	25 000	-
Conversion of A shares to R shares 15 May	-1 090	1 090	-
Conversion of A shares to R shares 15 Jun	-400 000	400 000	-
Conversion of A shares to R shares 15 Jul	-7 000	7 000	-
Conversion of A shares to R shares 15 Sep	-390	390	-
Conversion of A shares to R shares 16 Nov	-25 000	25 000	-
Conversion of A shares to R shares 15 Dec	-40 334	40 334	-
At 31 December 2015	**176 532 090**	**612 087 897**	**788 619 987**
Conversion of A shares to R shares 15 Jan	-25 000	25 000	-
At 31 December 2016	**176 507 090**	**612 112 897**	**788 619 987**
Number of votes as at 31 December 2016	**176 507 090**	**61 211 290**[1]	**237 718 380**
Share Capital at 31 December 2016, EUR million	**300**	**1 042**	**1 342**
Share Capital at 31 December 2015, EUR million	**300**	**1 042**	**1 342**

[1] R share votes are calculated by dividing the number of R shares by 10.

The shares in issue at 13 April 2017 will represent the total shares eligible to vote at the forthcoming Annual General Meeting.

Note 19 Non-controlling interests

Accounting principles

Non-controlling interests are presented within the equity of the group in the Consolidated Statement of Financial Position . The proportionate shares of profit or loss attributable to non-controlling interests and to equity holders of the parent company are presented in the Consolidated Income Statement after the profit for the period. Transactions between non-controlling interests and group shareholders are transactions within equity and are thus shown in the Statement of changes in equity . The measurement type of non-controlling interests is decided separately for each acquisition.

Non-controlling interests

	Year Ended 31 December	
EUR million	**2016**	**2015**
At 1 January	125	167
Acquisitions	-	-46
Disposals	-4	-
Loss on NCI buy-out	-	16
Equity injections	-	7
Share of profit for the period	-56	-24
Share of other comprehensive income	-3	7
Dividends	-	-2
At 31 December	**62**	**125**

Principal non-controlling interests

		As at 31 December		
		2016	**2016**	**2015**
Company	**Principal Place of Business**	**Proportion of Ownership Interests Held by Non-controlling Interests, %**	**EUR million**	
Stora Enso Pulp and Paper Asia AB Group[1]	Sweden and China	See separate table below	54	114
Stora Enso Inpac Packaging Group	China and India	10.00	7	11
Stora Enso Arapoti Industria de Papel SA	Brazil	Disposed in 2016	-	5
Stora Enso Huatai Paper Co Ltd	China	40.00	-7	-9
Others	-		8	4
			62	**125**

[1] Consist of non-controlling interests in Guangxi Integrated Project and Operations

Non-controlling interests in Stora Enso Pulp and Paper Asia AB Group

		As at 31 December 2016			As at 31 December 2015		
Company	**Principal Place of Business**	**Direct-% of NCI**	**Indirect-% of NCI**	**Total-% of NCI**	**Direct-% of NCI**	**Indirect-% of NCI**	**Total-% of NCI**
Stora Enso Pulp and Paper Asia AB	Sweden and China	5.79	-	5.79	5.79	-	5.79
Guangxi Stora Enso Forestry Co Ltd	China	5.00	5.50	10.50	5.00	5.50	10.50
Stora Enso (Guangxi) Packaging Company Ltd	China	15.00	4.92	19.92	15.00	4.92	19.92
Stora Enso (Guangxi) Forestry Company Ltd	China	15.00	4.92	19.92	15.00	4.92	19.92

On 31 March 2016, Stora Enso completed the divestment of its 80% shareholding in the Arapoti magazine paper mill in Paraná, Brazil, to Papeles Bio Bio, a Chilean paper producer. The final consideration for the shares was EUR 15 million. The transaction reduced the share of non-controlling interests in the group by EUR 4 million.

In 2015, Inpac Group, the non-controlling interest holder of Stora Enso Inpac Packaging Co. Ltd, used its option to sell a 39% share in Stora Enso Inpac Packaging Co. Ltd to Stora Enso for EUR 46 million (CNY 329 million). The transaction with the non-controlling interest holder resulted in a loss of EUR 16 million, which was recorded as a reduction of shareholders' equity. After the transaction Stora Enso owns 90% of the shares in Stora Enso Inpac Packaging Co. Ltd.

In 2015, Stora Enso acquired the 26% direct non-controlling interest in Inpac India for a price of 1 euro.

Summarised financial information in respect of the subsidiaries that have material non-controlling interests is set out below.

Stora Enso Pulp and Paper Asia AB Group

EUR million	2016	2015
Non-current assets	1 007	1 020
Current assets	180	269
Shareholders' equity attributable to the owners of the parent	202	510
Non-controlling interests[1]	54	114
Total Equity	**256**	**624**
Non-current liabilities	553	461
Current liabilities	378	204
Sales	114	68
Net loss for the year	-347	-87
Attributable to:		
Owners of the parent	-291	-70
Non-controlling interests	-56	-17
Net Loss for the Year	**-347**	**-87**
Other comprehensive income	-21	46
Total Comprehensive Income Attributable to:		
Owners of the parent	-308	-33
Non-controlling interests	-60	-8
Total Comprehensive Income	**-368**	**-41**
Net cash outflow from operating activities	-110	-12
Net cash outflow from investing activities	-324	-373
Net cash inflow from financing activities	279	291
Net Cash Outflow/Inflow	**-155**	**-94**

[1] No dividends were paid to non-controlling interests in 2016 or 2015.

Note 20 Post-employment benefits

Accounting principles

Employee benefits

The group operates a number of defined benefit and defined contribution plans throughout the world, the assets of which are generally held in separate trustee administered funds. Such pension and post-retirement plans are generally funded by payments from employees and by the relevant group companies, taking into account the recommendations of independent qualified actuaries. Employer contributions to the defined contribution pension plans are charged to the Consolidated Income Statement in the year to which they relate.

For defined benefit plans, accounting values are assessed using the projected unit credit method. Under this method, the cost of providing pensions is charged to the Consolidated Income Statement so as to spread the regular cost over the service lives of employees in accordance with the advice of qualified actuaries who carry out a full valuation of the plan every year in all major pension countries. The pension obligation is measured as the present value of estimated future cash outflows using interest rates of highly rated corporate bonds or government securities, as appropriate, that match the currency and expected duration of the related liability.

The group immediately recognises all actuarial gains and losses arising from defined benefit plans directly in equity, as disclosed in its Consolidated Statement of Comprehensive Income. Past service costs are identified at the time of any plan amendments and are recognised immediately in the Consolidated Income Statement regardless of vesting requirements. In the group's Consolidated Statement of Financial Position, the full liability for all plan deficits is recorded.

The group has established a number of pension and other benefit plans for its operations throughout the world, the cost of which amounted to EUR 165 (EUR 160) million in 2016, as shown in Note 6 Personnel expenses. The majority of plans are defined contribution schemes, the charge for which amounted to EUR 153 (EUR 150) million.

The retirement age for members of the Group Leadership Team is 65. The retirement age for the management of group companies follows local law, though some management team members have agreements to retire between 60 and 65 years. The retirement age for other staff either follows national retirement ages or is determined by local labour agreements. In the latter case, there may be certain pre-retirement liabilities accruing to the Company to cover the income of the early retirees between the age at which they ceased working and the national retirement age.

Stora Enso's total defined benefit obligations to current and former members of staff amount to EUR 1 223 (EUR 1 203) million though assets of EUR 787 (EUR 825) million have been put aside in various pension schemes to cover these liabilities. The net funding position of the defined benefit plans is shown in full in the Statement of financial position and amounts to EUR 436 million in 2016, an increase of EUR 58 million on the previous year's liability of EUR 378 million. The increase is mainly caused by the actuarial losses which result from the change in financial assumptions regarding the present value of the defined benefit obligations. Interest costs are in financial costs. The 2016 defined benefit expense in the Income Statement amounts to EUR 20 million and the actuarial losses recorded in other comprehensive income amount to EUR 62 million. The 2015 defined benefit expense in the Income Statement amounted to EUR 19 million and the actuarial gains recorded in other comprehensive income amounted to EUR 77 million.

Actuarial gains/losses recognised directly in equity

	Year Ended 31 December	
	Total Operations	
EUR million	**2016**	**2015**
Actuarial gains/losses	-62	77
Deferred tax thereon	15	-36
Total	**-47**	**41**

Group policy for funding deficits is intended to satisfy local statutory funding requirements for tax deductible contributions together with adjusting the discount factors used in the actuarial calculations to market rates. However, the emphasis of the group is to provide defined contribution schemes for its post-employment benefits, thus all aspects of the provision and accounting for defined benefit schemes are being evaluated. The net liability in the group Statement of Financial Position reflects the actual deficits in the defined benefit plans. Details of the pension arrangements, assets and investment policies in the group's main operating countries are shown below.

Finland

The group funds its Finnish pension obligations mainly through defined contribution schemes, the charge in the Income Statement being EUR 72 (EUR 68) million. By contrast, the remaining obligations covered by defined benefit schemes resulted in a charge of EUR 1 (EUR 1) million excluding finance costs. Pension cover since 2001 has been organised entirely through local insurance companies. The total defined benefit obligation amounts to EUR 342 (EUR 348) million and the assets to EUR 323 (EUR 329) million, leaving a net liability of EUR 19 (EUR 19) million. As state pensions in Finland provide by far the greatest proportion of pensions, group liabilities are proportionately much smaller than in comparable countries.

Plan assets in Finland are managed by insurance companies. Details of the exact structure and investment strategy surrounding plan assets are not available to participating employers as the assets actually belong to the insurance companies themselves. The assets are managed in accordance with EU regulations, and also national requirements, under which there is an obligation to pay guaranteed benefits irrespective of market conditions.

Germany

German pension costs amounted to EUR 9 (EUR 13) million, of which EUR 8 (EUR 11) million related to defined contribution schemes and EUR 1 (EUR 2) million to defined benefits excluding finance costs. The total defined benefit obligation is EUR 284 (EUR 280) million, nearly all of which is unfunded as total assets come to only EUR 7 (EUR 7) million. The net liability increased from EUR 273 million to EUR 277 million. The increase in net liability arose from a decrease in discount rate and changes in financial assumptions and experience. Defined benefit pension plans are mainly accounted for in the Statement of Financial Position through book reserves with some minor plans using insurance companies or independent trustees. Retirement benefits are based on years worked and salaries received during the pensionable service and the commencement of pension payments being co-ordinated with the national pension scheme retirement age. Pensions are paid directly by the companies themselves to their former employees, this amounting to cash costs of EUR 1 (EUR 18) million; the security for the pensioners is provided by the legal requirement that the book reserves held in the Statement of Financial Position are insured up to certain limits.

Sweden

In Sweden, most blue-collar workers are covered by defined contribution schemes, the charge in the Income Statement being EUR 54 (EUR 51) million, with defined benefit schemes covering mainly white-collar staff.

Total defined benefit obligations amounted to EUR 378 (EUR 360) million and assets to EUR 295 (EUR 319) million, leaving a net liability of EUR 83 million at the year end, compared with a net liability of EUR 41 million the year before. This increase in net liability arose from a decrease in discount rate and changes in financial assumptions and experience. Stora Enso has undertaken to pay over all local legal pension liabilities for the main ITP scheme to the foundation, thus the remaining liability relates to other small schemes.

The long-term investment return target for the foundation is a 3% real return after tax, with investment policy defining long-term strategic allocation targets as property up to 15%, equity up to 30%, alternative investments up to 20% and the balance in debt. Stora Enso's Swedish pension fund conducts an annual asset/liability study to optimise its risk parameters.

Other countries

Total defined benefit obligations in the remaining countries amounted to EUR 219 (EUR 215) million and the assets to EUR 162 (EUR 170) million. The net liability came to EUR 57 (EUR 45) million. Obligations and assets were material only in the United Kingdom, at EUR 150 (EUR 154) million and EUR 127 (EUR 139) million, respectively, leaving a net liability of EUR 23 (EUR 15) million at the end of 2016. The increase in net liability arose from a decrease in discount rate and changes in actuarial assumptions.

Group

Net defined benefit obligation reconciliation

EUR million	Year Ended 31 December 2016	2015
Present Value of Defined Benefit Obligation		
Defined benefit obligation at 1 January	1 203	1 319
Translation difference	-35	17
Interest on liabilities	28	36
Current service cost	12	13
Past service cost	-	-3
Actuarial gains and losses on defined benefit obligation arising from changes in demographic assumptions	-	-21
Actuarial gains and losses on defined benefit obligation arising from changes in financial assumptions	118	-39
Actuarial gains and losses on defined benefit obligation arising from experience adjustments	-19	-28
Benefit payments	-64	-77
Net disposals/acquisitions	-20	-29
Other	-	15
Defined benefit obligation at 31 December	**1 223**	**1 203**
Fair Value of Plan Asset		
Fair value of plan asset at 1 January	-825	-836
Translation difference	33	-15
Expected return on plan assets	-20	-26
Actuarial gain/loss on plan assets	-37	11
Employer contributions	14	-22
Benefit payments	47	77
Other	-	-14
Net disposals/acquisitions	1	-
Fair value of plan asset at 31 December	**-787**	**-825**
Net Defined Benefit Obligation	**436**	**378**

Amounts Recognised on the Statement of Financial Position – Defined Benefit Plans

	As at 31 December					
	Total Defined Benefit Plans		Defined Benefit Pension Plans		Other Post-Employment Benefits	
EUR million	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Present value of funded obligations	909	893	908	893	1	-
Present value of unfunded obligations	314	310	289	286	25	24
Defined benefit obligations (DBO)	1 223	1 203	1 197	1 179	26	24
Fair value of plan assets	787	825	786	825	1	-
Net Liability in Defined Benefit Plans	**436**	**378**	**411**	**354**	**25**	**24**

Amounts Recognised in the Income Statement

	Year Ended 31 December					
	Total Defined Benefit Plans		Defined Benefit Pension Plans		Other Post-Employment Benefits	
EUR million	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Operating costs						
Current service cost	12	13	12	12	-	1
Past service cost	-	-3	-	-	-	-3
Finance cost						
Net interest on net defined benefit liability	8	9	7	8	1	1
Cost recognised in Income Statement	**20**	**19**	**19**	**20**	**1**	**-1**

Statement of Actuarial Gains and Losses

	Year Ended 31 December	
EUR million	**2016**	**2015**
Gain/loss on pension scheme assets	37	-11
Loss/gain arising on pension scheme liabilities	-99	88
Total Loss/gain	**-62**	**77**

Defined Benefit Plans: Country Assumptions Used in Calculating Benefit Obligations

	Year Ended 31 December					
	Finland		Germany		Sweden	
	2016	**2015**	**2016**	**2015**	**2016**	**2015**
Discount rate %	1.2	2.0	1.2	2.0	2.2	2.75
Future salary increase %	1.2	1.4	2.5	2.5	2.5	2.5
Future pension increase %	1.5	1.6	1.8	1.8	1.6	1.6
Average current retirement age	63.9	63.8	63.0	63.0	65.0	65.0
Weighted average life expectancy	89.0	88.8	85.0	85.0	89.3	89.3

Sensitivity of the Defined Benefit Pension Obligation

	Impact on Defined Benefit Obligation		
	Change in assumption	**Increase in assumption**	**Decrease in assumption**
Discount rate	0.50%	Decrease by 6.8%	Increase by 7.6%
Salary growth rate	0.50%	Increase by 1.5%	Decrease by 1.3%
Pension growth rate	0.50%	Increase by 5.9%	Decrease by 5.4%
		Increase by 1 year in assumption	**Decrease by 1 year in assumption**
Life expectancy		Increase by 3.4%	Decrease by 3.3%

Interest rate risk: The obligations are assessed using market rates of high-quality corporate or government bonds to discount the obligations and are therefore subject to any volatility in the movement of the market rate. The net interest income or expense recognised in profit and loss is also calculated using the market rate of interest.

Mortality risk: In the event that members live longer than assumed, the obligations may be understated originally and a deficit may emerge if funding has not adequately provided for the increased life expectancy.

Duration of Pension Plans

Years	Finland	Sweden	Germany	UK
At 31 December 2015	10.0	15.2	13.5	17.8
At 31 December 2016	10.0	15.8	13.5	18.5

Defined Benefit Plan Summary by Country as at 31 December 2016

	As at 31 December 2016				
EUR million	**Finland**	**Germany**	**Sweden**	**Other**	**Total**
Present value of funded obligations	342	19	356	192	909
Present value of unfunded obligations	-	265	22	27	314
Defined benefit obligations (DBO)	342	284	378	219	1 223
Fair value of plan assets	323	7	295	162	787
Net liability in the defined benefit plans	19	277	83	57	436
Net Liability in the Balance Sheet	**19**	**277**	**83**	**57**	**436**
Represented by					
Defined benefit pension plans	19	277	83	32	411
Other post-employment benefits	-	-	-	25	25
Net Liability in the Balance Sheet	**19**	**277**	**83**	**57**	**436**

Defined Benefit Plan Summary by Country as at 31 December 2015

	As at 31 December 2015				
EUR million	**Finland**	**Germany**	**Sweden**	**Other**	**Total**
Present value of funded obligations	348	17	338	190	893
Present value of unfunded obligations	-	263	22	25	310
Defined benefit obligations (DBO)	348	280	360	215	1 203
Fair value of plan assets	329	7	319	170	825
Net liability in the defined benefit plans	19	273	41	45	378
Net Liability in the Balance Sheet	**19**	**273**	**41**	**45**	**378**
Represented by					
Defined benefit pension plans	19	273	41	22	355
Other post-employment benefits	-	-	-	23	23
Net Liability in the Balance Sheet	**19**	**273**	**41**	**45**	**378**

Plan Assets

	As at 31 December			
	2016		2015	
EUR million	**Value**	**%**	**Value**	**%**
Equity	268	34.0	301	36.4
Government bonds	82	10.4	79	9.6
Corporate bonds	258	32.8	273	33.1
Debt	340	43.2	352	42.7
Property	68	8.7	60	7.3
Cash	53	6.8	47	5.7
Others	58	7.3	65	7.9
Total Pension Fund Assets	**787**	**100.0**	**825**	**100.0**

Plan assets do not include any real estate or other assets occupied by the group or the Company's own financial instruments. The breakdown of Finnish pension assets EUR 323 (329) million is not disclosed separately as actual asset allocations can only be estimated based on known target values published by the insurance companies concerned.

The two main financial factors affecting group pension liabilities are changes in interest rates and inflation expectations, so the aim of asset investment allocations is to neutralise these effects and maximise returns

In 2017 contributions of EUR 22 million are expected to be paid.

In 2016 reimbursements of EUR 14 (contributions EUR 22) million were paid.

Note 21 Employee variable compensation and equity incentive schemes

Accounting principles

Share awards

The costs of all employee-related share-based payments are charged to the Consolidated Income Statement as personnel expenses over the vesting period. The share programmes are hedged by Total Return Swaps (TRS) which are settled with cash payments, allowing the Company to receive cash compensation to partially offset any change in the share price between the grant and settlement dates.

The fair value of employee services received in exchange for share awards is accounted for in a manner that is consistent with the method of settlement. The group will withhold from an employee's compensation, by reducing the number of shares issued to the employee, an amount to satisfy the employee's tax liability incurred as a result of the transaction. That tax-related amount is accounted for as a cash-settled share-based compensation. The amount of shares delivered to the employee is accounted for as an equity-settled transaction.

Short Term Incentive (STI) programmes

Salaries for senior management are negotiated individually. Stora Enso has incentive plans that take into account the performance, development and results of both business units and individual employees. This performance-based variable compensation system is based on profitability as well as on attaining key business targets.

Group Executives, division and business unit management have STI programmes in which the payment is calculated as a percentage of annual base salary with a maximum level ranging from 7% to 75%. Non-management employees participate in a STI programme with a maximum incentive level of 7%. All incentives are discretionary. These performance-based programmes cover most employees globally, where allowed by local practice and regulations. For performance year 2016, the annual incentive programmes were based on financial targets as well as individually set key targets. The financial success metrics in the STI programme are Operational EBITDA and Operative Working Capital to sales.

Long Term Incentive (LTI) programmes

Starting in 2004, the Board approved the implementation of two share-based programmes (Restrictive and Performance Share programmes). From 2005 to 2016, new share-based programmes have been launched each year. Since 2009, new long-term incentive programmes for executives have been mainly performance share programmes. The 2009 to 2013 Performance Share programmes vest in portions over three years, based on annually defined targets set by the Remuneration Committee. The 2014 to 2016 programmes have three year targets and vest in only one portion after three years. Previous programmes, launched in 2009 to 2011 vested up to an absolute maximum vesting level of 150% of the number of shares awarded, provided that the result of the performance criterion exceeded the target. In programmes since 2012, the absolute maximum vesting level is 100% of the number of shares awarded.

Three quarters (75%) of the awards under the 2014 to 2016 programmes are in Performance Shares, where shares will vest in accordance with performance criteria proposed by the Remuneration Committee and approved by the Board of Directors. The financial success metric in the 2016 Performance Share Plan is 3-year Economic Value Added (EVA) for the Stora Enso Group. One quarter (25%) of the awards under the 2014 to 2016 programmes are in Restricted Shares, for which vesting is only subject to continued employment.

The fair value of employee services received in exchange for share awards is accounted for in a manner that is consistent with the method of settlement. The group will withhold from an employee's compensation, by reducing the number of shares issued to the employee, an amount to satisfy the employee's tax liability incurred as a result of the transaction. That tax-related amount is accounted for as a cash-settled share-based compensation. The amount of shares delivered to the employees is accounted for as an equity-settled transaction.

The resulting cash-settled liability related to expected tax to be paid is remeasured at each reporting date to its fair value using estimates of the number of share awards that are expected to be issued and the latest fair valuations by using the Stora Enso R share year-end closing price of EUR 10.21 (EUR 8.39), adjusted for the present value of expected dividends, with all changes recognised immediately in the Income Statement. The equity-settled share awards, net of tax, are measured at the fair value of the equity instruments at the grant date, adjusted for the present value of expected dividends. The fair value determined at the grant date of the equity-settled share-based payments is expensed on a straight-line basis over the vesting period, based on the estimate of equity instruments that will eventually vest, with a corresponding increase in equity.

The outstanding restricted and performance share awards are shown below.

Share awards at 31 December 2016

	Estimated Delivery of Outstanding Restricted and Performance Share Awards at Year End			
Number of shares	**2017**	**2018**	**2019**	**Total**
2014 programme	1 015 271	-	-	1 015 271
2015 programme	11 608	1 391 479	-	1 403 087
2016 programme	-	-	1 164 989	1 164 989
Total	**1 026 879**	**1 391 479**	**1 164 989**	**3 583 347**

The costs of the Stora Enso Share-based Programmes are recognised as costs over the vesting period, being the period between grant and award. The total impact of share-based programmes in the income statement amounted to an expense of EUR 6 (EUR 8) million, all related to restricted and performance share awards, of which the expense of EUR 2 (EUR 4) million relates to equity-settled share awards programmes. The year end liability of EUR 8 (EUR 5) million is shown in non-current operative liabilities and is all related to the restricted and performance share awards.

The share programmes are hedged by Total Return Swaps (TRS) which are settled with cash payments, allowing the Company to receive cash compensation to partially offset any change in the share price between the grant and settlement dates. Group TRS instruments do not qualify for hedge accounting and therefore periodic changes to their fair value are recorded in the Income Statement in operative costs alongside the share-based programme costs to which they relate.

At the year end, there were TRS instruments outstanding covering 2 700 000 (2 900 000) underlying Stora Enso Oyj R shares recorded at a net fair value asset of EUR 3 (liability EUR 3) million. The change from a net liability of EUR 3 million to a net asset of EUR 3 million is due to a fair value change of EUR 6 million due to the increase in share price from EUR 8.39 at 31 December 2015 to EUR 10.21 at 31 December 2016.

Note 22 Other provisions

Accounting principles

Provisions

Provisions are recognised when the group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate of the amount of the obligation can be made. Environmental provisions for site reinstatement are made when a project starts production, with the capitalised cost of the provision being depreciated over the useful life of the asset. Provisions are discounted back to their current net present value if the effect of the time value of money is material.

Environmental obligations

Environmental expenditures resulting from the remediation of an existing condition caused by past operations, and which do not contribute to current or future revenues, are expensed as incurred. Environmental liabilities are recorded when it is probable, based on current interpretations of environmental laws and regulations, that a present obligation has arisen and the amount of such liability can be reliably estimated.

Restructuring obligations

A restructuring provision is recognised in the period in which the group becomes legally or constructively committed to the plan. The relevant costs are those that are incremental to, or incurred as a direct result of, the exit plan, are the result of a continuing contractual obligation with no ongoing economic benefit, or represent a penalty incurred to cancel the obligation.

Other obligations

Other obligatory provisions are recognised regarding different legal or constructive obligations as guarantees to customers, ongoing lawsuits, claims or similar.

Other provisions

EUR million	Environmental	Restructuring	Other Obligatory	Total Provisions
Carrying Value at 1 January 2016	**91**	**55**	**14**	**160**
Translation difference	-2	-	4	2
Company disposed	-7	-6	-7	-20
Charge in Income Statement				
New provisions	11	13	1	25
Increase in existing provisions	17	1	3	21
Reversal of existing provisions	-1	-3	-3	-7
Payments	-9	-36	-2	-47
Carrying Value at 31 December 2016	**100**	**24**	**10**	**134**
Allocation between Current and Non-current Liabilities				
Current liabilities: Payable within 12 months	3	16	1	20
Non-current liabilities: Payable after 12 months	97	8	9	114
Total at 31 December 2016	**100**	**24**	**10**	**134**

Environmental obligation

Provisions for environmental remediation amounted to EUR 100 million at 31 December 2016, a net increase of EUR 9 million compared with 31 December 2015, mainly due to increase of the Kopparberg mine related provision by EUR 13 million. Other provision increases are related to closed operation sites and old landfill areas. The Kabel Mill divestment decreased the provision by EUR 4 million and Arapoti Mill divestment by EUR 3 million.

Details of the principal provisions are:

• Following an agreement between Stora Enso and the City of Falun, the group is obliged to purify runoff from the Kopparberg mine before releasing the water into the environment. The provision at year end amounted to EUR 47 (EUR 41) million.
• Skoghall Mill site contains ground pollutants that must be removed. The provision at year end amounted to EUR 16 (EUR 17) million.
• The total environmental provision in Finland amounted to EUR 11 (EUR 8) million. The increase of EUR 3 million compared with 31 December 2015 is mainly caused by the dismantling provision of EUR 5 million related to a closed operation at Oulu Mill. The largest provision relates to the cleaning of aerated water basin at closed Kemijärvi Pulp Mill and amounted to EUR 6 (EUR 6) million. Other environmental provisions include EUR 1 (EUR 1) million related to the site of the former Summa Mill.
• Stora Enso Pulp AB has been removing mercury from the harbour basin at Skutskär for a number of years in co-operation with local authorities. In addition, the Company is obliged to upgrade an old landfill previously used by the mill to comply with revised environmental regulations. At year end Stora Enso Pulp AB had environmental provisions of EUR 6 (EUR 7) million.
• The most significant item of remaining obligation relates to landfills that were not disposed of as a part of the disposal of Baienfurt Mill real estate in Germany during 2010.This environmental provision amounted to EUR 6 (EUR 6) million.
• Hylte Mill and the Commune Hylte have a contract about the restoration and leakage water handling in respective on a landfill in Hyltebruk, based on this a new provision by EUR 5 million has been recognized.

Restructuring provisions

The group has undergone major restructuring in recent years, from divestments to mill closures and administrative cost-saving programmes. New restructuring provisions by Divisions are: Paper EUR 6 million, Packaging Solutions EUR 3 million, Consumer Board EUR 2 million, Wood Products EUR 1 million and Biomaterials and Segment Other EUR 1 million combined.

The liability at the end of 2016 for restructuring provisions amounted to EUR 24 (EUR 55) million and covered the costs of closing down operations, demolition, clearance and redundancy costs for reducing staff numbers.

Restructuring provisions decreased by EUR 31 million compared with 31 December 2015. This net change contains Kabel Mill disposal amounting to EUR 6 million of earlier made provisions.

The total cash payments made during the year in respect of established restructuring provisions amounted to EUR 36 (EUR 53) million.

Stora Enso announced in June 2016 the divestment of the Kabel Coated Mechanical Paper Mill in Germany to a German based investor group. New provision amounted to EUR 2 million.

In September 2016 Packaging Solutions announced plans to consolidate manufacturing of corrugated packaging in Finland to improve profitability and competitiveness and to close Heinola Corrugated Mill permanently. The provision amounted to EUR 3 million.

In 2015, the group announced restructuring provisions in Packaging Solutions EUR 5 million, Wood Products EUR 1 million and Paper EUR 1 million. Stora Enso announced in June 2015 the permanent shutdown of the corrugated packaging converting unit in Chennai, India, due to unprofitability and a major decrease in local market demand. Provision amounted to EUR 4 million.

Details of intangible asset and property, plant and equipment impairments relating to restructurings are in Note 10 Depreciation, amortisation and impairment charges.

Other obligatory provisions

Other obligatory provisions amounted to EUR 10 million at 31 December 2016, a decrease of EUR 4 million compared with 31 December 2015. This net decrease contains the Arapoti Mill disposal by EUR 7 million and reversal of EUR 2 million of earlier made provisions regarding the shutdown of packaging converting unit in Chennai, India.

Note 23 Operative liabilities

Non-current operative liabilities

	As at 31 December	
EUR million	**2016**	**2015**
Post-employment benefit provisions (Note 20)	436	378
Other provisions (Note 22)	114	112
Share-based payments (Note 21)	8	5
Other payables	53	44
Total	**611**	**539**

Current operative liabilities

	As at 31 December	
EUR million	**2016**	**2015**
Trade payables	1 239	1 203
Payroll and staff-related accruals	227	217
Accrued liabilities and deferred income	180	182
Current portion of provisions (Note 22)	20	48
Advances received	14	14
TRS Hedges	-	3
Other payables	114	146
Total	**1 794**	**1 813**

Note 24 Financial risk management

Risk management principles and process

Stora Enso is exposed to several financial market risks that the group is responsible for managing under policies approved by the Board of Directors. The objective is to have cost-effective funding in group companies and manage financial risks using financial instruments to decrease earnings volatility. The main exposures for the group are interest rate risk, currency risk, funding risk and commodity price risk, especially for fibre and energy.

The Stora Enso Group Financial Risk Policy governs all financial transactions in Stora Enso. This policy and any future amendments take effect when approved by the Board of Directors and all policies covering the use of financial instruments must comply with it. Stora Enso Treasury Internal Risk Instruction refines the guidance into more detailed instructions. The major financial market risks are detailed below. Group's joint operations companies operate under their own financial risk policies, which may not be fully similar to group's policies.

Interest rate risk

Fluctuations in interest rates affect the interest expense of the group. The group's aim is to keep interest costs stable. The group's aggregate duration should not exceed the average loan maturity, and aiming towards longer duration. Duration above average loan maturity is approved by the Board of Directors.

As of 31 December 2016, one percentage point parallel change up or down in interest rates impacts annual net interest expenses by EUR 5 (EUR 11) million, assuming that the duration and the funding structure of the group stays constant during the year. This simulation calculates the interest effect of a 100 basis point parallel shift in interest rates on all floating rate instruments from their next reset date to the end of the year. In addition, all short-term loans maturing during the year are assumed to be rolled over at maturity to year end using the new higher interest rate.

The total group floating rate net interest-bearing liability position, excluding cash and cash equivalents but including floating legs of interest rate swaps, is some EUR 0.7 (EUR 1.4) billion. The average interest reset period for group net interest-bearing liabilities, including all interest rate derivatives but excluding cash and cash equivalents, is some 3.4 (2.9) years. A one percentage point parallel change up or down in interest rates would also result in gains or losses of EUR 15 (EUR 16) million effect before taxes in Cash flow hedge reserve in OCI regarding interest rate swaps under cash flow hedge accounting. Note 27 Derivatives summarises the nominal and fair values of the outstanding interest rate derivative contracts.

Currency transaction risk

The group is exposed to currency risk arising from exchange rate fluctuations against its reporting currency euro. Currency transaction risk is the impact of exchange rate fluctuations on the group Income Statement, which is the effect of currency rates on expected future cash flows. The group policy to mitigate this is to hedge 50% of the forecast major currency cash flows for 12 months.

The principal foreign exchange transaction exposure comprises both the geographical location of Stora Enso production facilities and the sourcing of raw material and sales outside the euro area, mainly denominated in Swedish crown, US dollars and British pounds.

The table below presents the estimated net operative foreign currency exposure for the main currencies, for the next 12 months and the related hedges in place as at 31 December, retranslated using year end exchange rates. The net operative receivables and payable exposures, representing the balances as at 31 December, include foreign currency exposures generated by external and intercompany transactions, in line with requirements of IFRS 7, although in practice mainly external exposures have been hedged through currency hedges. A positive amount of exposure in the table represents an estimated future receivable of a foreign currency amount.

Operative foreign currency exposure

	As at 31 December 2016					As at 31 December 2015				
EUR million	**SEK**	**USD**	**GBP**	**BRL**	**CZK**	**SEK**	**USD**	**GBP**	**BRL**	**CZK**
Estimated annual net cash flow exposure	-870	1 290	320	-	-180	-920	1 150	410	-	-180
Cash flow hedges next 12 months	450	-660	-170	-	80	440	-550	-220	-	70
Estimated Annual Net Cash Flow Exposure, Net of Hedges	**-420**	**630**	**150**	**-**	**-100**	**-480**	**600**	**190**	**-**	**-110**
Hedging Percentage as at 31 December for Next 12 Months	**52%**	**51%**	**53%**	**-**	**44%**	**48%**	**48%**	**54%**	**-**	**39%**
Translation exposure in Income Statement[1]	**-300**	**90**	**10**	**-150**	**-170**	**-460**	**120**	**-**	**-130**	**-170**
Operative receivables and payables exposure	35	112	19	-8	-26	36	134	29	-91	-23
Currency hedges	64	-146	-24	-	-	149	-119	-39	11	-
Statement of Financial Position Exposure, Net of Hedges	**99**	**-34**	**-5**	**-8**	**-26**	**185**	**15**	**-10**	**-80**	**-23**
Estimated Annual Operative Exposure, Net of Hedges	**-621**	**686**	**155**	**-158**	**-296**	**-755**	**735**	**180**	**-210**	**-303**

[1] Includes unhedged sales, costs and depreciation invoiced or expensed in the domestic currency of non-euro based entities, retranslated using year end exchange rates.

The table below includes the estimated effect on annual Operating Profit of a strengthening in EUR versus SEK, USD, GBP and CZK by 5% and versus BRL by 10%, as reasonably possible changes in rates, measured against year end closing rates. A corresponding decrease in the exchange rates would have approximately an equally opposite impact. A negative amount in the table reflects a potential net loss in the Income Statement or Equity and, conversely, a positive amount reflects a potential net gain. In practice, the actual foreign currency results may differ from the sensitivity analysis presented below since the Income Statements of subsidiaries with functional currencies other than the euro are translated into the group reporting currency using the average exchange rates for the year, whereas the Statements of Financial Position of such subsidiaries, including currency hedges, trade receivables and payable, are translated using the exchange rates at the reporting date.

The calculation includes currency hedges and assumes that no changes other than a single currency exchange rate movement have taken place. The currency effects are based on estimated operative foreign currency flows for the next twelve months, hedging levels at the year end and the assumption that the currency cash flow hedging levels, translation exposure in Income Statement and all other variables will remain constant during the next twelve months. Hedging instruments include foreign exchange forward contracts and foreign exchange options. Indirect currency effects with an impact on prices and product flows, such as a product becoming cheaper to produce elsewhere, have not been considered in this calculation.

Estimated currency effects of strengthening of EUR

	As at 31 December 2016					As at 31 December 2015				
EUR million	**SEK**	**USD**	**GBP**	**BRL**	**CZK**	**SEK**	**USD**	**GBP**	**BRL**	**CZK**
Currency change versus EUR	-5%	-5%	-5%	-10%	-5%	-5%	-5%	-5%	-10%	-5%
Effect on estimated annual net cash flow and translation exposure	59	-69	-17	15	18	69	-64	-21	13	18
Effect on hedging reserve before taxes as at year end[1]	-23	33	9	-	-4	-22	28	11	-	-4
EBIT impact as at year end[2]	-5	2	-	1	1	-9	-1	1	8	1
Estimated Annual EBIT Impact[3]	**31**	**-34**	**-8**	**16**	**15**	**38**	**-37**	**-9**	**21**	**15**

[1] The effect on hedging reserve (other comprehensive income) before taxes at year end is related to the fair value change in derivatives contracts qualifying as cash flow hedges of highly probable forecast cash flows.
[2] The Operating Profit impact as at year end represents the estimated currency effect related to operative payables and receivables, net of hedges.
[3] The estimated annual Operating Profit impact includes currency effects in respect of operative exposures in the Statement of Financial Position, forecast cash flows and related hedges and translation exposure in Income Statement.

The table below presents, for the main currencies, the financial foreign currency exposure and the related hedges in place as at 31 December. Net debt includes loan payables and related interest rate derivatives, net of loan receivables and cash and cash equivalents. The currency derivatives hedge mainly financial exposures in the Statement of Financial Position and from time to time also forecast cash flows not qualifying under hedge accounting. These forecast cash flows are not included in the below table. A negative amount of exposure in the table represents a net payable of a foreign currency amount.

Additionally, the table includes the estimated effect on the Income Statement of a strengthening in the EUR versus SEK, USD, CNY and PLN by

5% and versus BRL by 10%, as reasonably possible changes in rates, measured against year-end closing rates. A corresponding decrease in the exchange rates would have approximately an equally opposite impact. A negative amount in the table reflects a potential net loss in the Income Statement and, conversely, a positive amount reflects a net potential gain. In practice, the actual foreign currency results may differ from the sensitivity analysis below as the exposure amounts may change during the year.

Financial foreign currency exposure and estimated currency effects in income statement

	As at 31 December 2016					As at 31 December 2015				
EUR million	**SEK**	**USD**	**CNY**	**PLN**	**BRL**	**SEK**	**USD**	**CNY**	**PLN**	**BRL**
Net debt excluding hedges	655	-470	538	199	61	879	-603	520	218	60
Currency hedges	-754	-54	-96	-	-	-926	29	-55	-	-
Net Financial Exposure	**-99**	**-524**	**442**	**199**	**61**	**-47**	**-574**	**465**	**218**	**60**
Currency change versus EUR	-5%	-5%	-5%	-5%	-10%	-5%	-5%	-5%	-5%	-10%
Effect in the Income Statement	**5**	**26**	**-22**	**-10**	**-6**	**2**	**29**	**-23**	**-11**	**-6**

Currency translation risk

Translation risk results from fluctuations in exchange rates affecting the value of Stora Enso's net foreign currency denominated assets and liabilities. Translation risk is reduced by funding assets, whenever economically possible, in the same currency as the asset.

The Statements of Financial Position of foreign subsidiaries, equity accounted investments and foreign currency denominated available-for-sale investments are translated into euros using exchange rates prevailing at the reporting date, thus exposing consolidated group equity to fluctuations in currency rates. The resulting translation differences, along with other movements such as the translation rate difference in the Income Statement, are recorded directly in Shareholders' Equity, though these cumulative differences materialise through the Income Statement on the disposal, in whole or in part, of the foreign entity. The next table shows the translation exposure on equity before and after hedges.

Translation risk and hedges: 2016

	As at 31 December							
EUR million	**Euro area**	**USD area[2]**	**Sweden**	**China**	**Poland**	**Brazil**	**Other**	**Total**
Translation Exposure on Equity	**2 104**	**1 326**	**879**	**480**	**267**	**462**	**288**	**5 806**
EUR/USD hedges[1]	332	-332	-	-	-	-	-	-
Translation Exposure after Hedges	**2 436**	**994**	**879**	**480**	**267**	**462**	**288**	**5 806**

[1] USD denominated bonds classified as hedges of investments in foreign assets.
[2] Includes the joint operation Montes del Plata in Uruguay, which has USD as its functional currency.

Translation risk and hedges: 2015

	As at 31 December							
EUR million	**Euro area**	**USD area[2]**	**Sweden**	**China**	**Poland**	**Brazil**	**Other**	**Total**
Translation Exposure on Equity	**1 699**	**1 187**	**854**	**730**	**275**	**406**	**237**	**5 388**
EUR/USD hedges[1]	321	-321	-	-	-	-	-	-
Translation Exposure after Hedges	**2 020**	**866**	**854**	**730**	**275**	**406**	**237**	**5 388**

[1] USD denominated bonds classified as hedges of investments in foreign assets.
[2] Includes the joint operation Montes del Plata in Uruguay, which has USD as its functional currency.

The table below shows the effect on consolidated equity of a strengthening in the euro against the US dollar, Swedish crown, Chinese renminbi, Polish zloty and Brazilian real at 31 December. A corresponding decrease in the exchange rates would have approximately an equally opposite impact. The calculation includes the effects of currency hedges of net investments in foreign entities and assumes that no changes take place other than a single currency exchange rate movement on 31 December each year. The exposures used in the calculations are the foreign currency denominated equity and the hedging levels at 31 December. The hedging instruments used may be foreign currency forward contracts, currency options and foreign currency denominated borrowings. Full details of actual CTA movements and hedging results are given in Note 28 Cumulative translation adjustment and equity hedging.

Consolidated equity: Currency effects of strengthening of EUR before tax

	As at 31 December 2016			As at 31 December 2015		
EUR million	**Before Hedges**	**Hedges**	**Net Impact**	**Before Hedges**	**Hedges**	**Net Impact**
By 5% versus SEK	-44	-	-44	-43	-	-43
By 5% versus USD	-66	17	-49	-59	16	-43
By 5% versus CNY	-24	-	-24	-37	-	-37
By 5% versus PLN	-13	-	-13	-14	-	-14
By 10% versus BRL	-46	-	-46	-41	-	-41
Total Effect from Above	**-193**	**17**	**-176**	**-194**	**16**	**-178**

Liquidity and refinancing risk

Funding risk arises from the difficulty of obtaining finance for operations at a given point in time. Stora Enso's funding policy states that the average maturity of outstanding loans and committed credit facilities covering short-term borrowings should be at least four years. The policy further states that the group must have committed credit facilities to cover planned funding needs, the current portion of long-term debt, commercial paper borrowings and other uncommitted short-term loans.

Refinancing risk, or the risk that maturing debt could not be refinanced in the market, is mitigated by Stora Enso's target of maintaining an even maturity profile of outstanding debt.

The table below shows group contractual undiscounted interest-bearing financial liabilities, to be settled on a net cash basis, classified under principal headings based on the remaining period to contractual maturity at the reporting date. Forward rates were used at point of estimation for contractual finance charges.

Contractual maturity repayments of interest-bearing liabilities, settlement net: 2016

EUR million	2017	2018	2019	2020	2021	2022+	Total
Bond loans	265	237	475	-	-	728	1 705
Loans from credit institutions	254	227	173	314	143	323	1 434
Financial lease liabilities	28	27	-	-	-	1	56
Other non-current liabilities	5	7	-	-	-	-	12
Non-current Debt including Current Portion	**552**	**498**	**648**	**314**	**143**	**1 052**	**3 207**
Less fair value adjustments to carrying amounts	-	5	4	4	3	11	27
Estimated contractual finance charges	125	109	93	59	50	352	788
Contractual Repayments on Non-Current Debt	**677**	**612**	**745**	**377**	**196**	**1 415**	**4 022**
Short-term borrowings, carrying amounts	452	-	-	-	-	-	452
Contractual finance charges	12	-	-	-	-	-	12
Bank overdrafts	4	-	-	-	-	-	4
Total Contractual Repayments at 31 December 2016	**1 145**	**612**	**745**	**377**	**196**	**1 415**	**4 490**

Contractual maturity repayments of interest-bearing liabilities, settlement net: 2015

EUR million	2016	2017	2018	2019	2020	2021+	Total
Bond loans	-	295	573	545	-	421	1 834
Loans from credit institutions	200	359	172	163	302	441	1 637
Financial lease liabilities	7	27	27	-	-	-	61
Other non-current liabilities	21	10	2	-	-	5	38
Non-current Debt including Current Portion	**228**	**691**	**774**	**708**	**302**	**867**	**3 570**
Less fair value adjustments to carrying amounts	-	4	7	5	5	13	34
Estimated contractual finance charges	144	138	119	90	52	375	918
Contractual Repayments on Non-Current Debt	**372**	**833**	**900**	**803**	**359**	**1 255**	**4 522**
Short-term borrowings, carrying amounts	492	-	-	-	-	-	492
Contractual finance charges	11	-	-	-	-	-	11
Bank overdrafts	1	-	-	-	-	-	1
Total Contractual Repayments at 31 December 2015	**876**	**833**	**900**	**803**	**359**	**1 255**	**5 026**

Financial transactions counterparty credit risk

Financial counterparty risk is Stora Enso's exposure on financial contracts arising from a deterioration in counterparties' financial health.

This risk is minimised by:
• entering into transactions only with leading financial institutions and with industrial companies that have a good credit rating;
• investing in liquid cash funds only with financial institutions or companies that have a minimum rating of BBB-, with at least 50% of liquidity investments in funds with a minimum rating of A-, using Standard and Poor's credit rating symbols;
• requiring parent company guarantees when dealing with any subsidiary of a rated company.

The Group Financial Risk Policy defines the limits for accepted counterparty risk, based on the tenor of financial contract and counterparty's credit rating.

At year end 2016, the were no significant concentrations of risk with respect to counterparties of derivative contracts, with the highest counterparty exposure being at EUR 5 (EUR 7) million and credit rating of A (BBB+) using Standard and Poor's credit rating symbols.

Raw material and energy price risk

Group earnings are exposed to commodity and energy price volatility. Financial energy hedges are part of the total energy price risk management in the group, whilst commodity risks are measured and hedged if economically possible. A 10% movement in energy and raw material prices would result in a EUR 34 (EUR 24) million change in the fair value of energy and raw material hedging contracts. The majority of these fair value changes, after taxes, are recorded directly in Equity under Hedging Reserves, until the contracts mature and the result is entered in the Income Statement. These estimates represent only the sensitivity of the financial instruments to market risk and not the group exposure to raw material and energy price risks as a whole, since the actual purchases are not financial instruments within the scope of the IFRS 7 disclosure requirements. At end 2016, the maturities of the energy and commodity contracts were between one month and six years. In 2015 the maturities ranged from one month to seven years.

The greater part of group energy price risk has been covered by entering into long-term physical fixed price purchase agreements. The group also has a 15.5% holding, valued at EUR 242 (EUR 123) million, in PVO, a privately owned group of companies in the energy sector. The value of these shares is dependent on energy prices and discussed in more detail in Note 14 Available-for-sale investments.

In addition, in an effort to mitigate the other commodity risk exposures, the group is a significant shareholder in major forest companies in Finland and Sweden thus if prices increase for fibre in these countries, so do the profits from these group interests.

Share price risk

The group has certain investments in publicly traded securities (Note 14 Available-for-sale investments). The market value of these equity investments was EUR 42 (EUR 28) million at the year end. Market value changes in these investments are recorded, after taxes, directly under Shareholders' Equity in the Available-for-Sale Reserve.

Customer credit risk

Customer credit risk is Stora Enso's exposure to contracts arising from deterioration in the financial health of customers. The group uses various different measures to reduce credit risks, including but not limited to letters of credit, prepayments and bank guarantees. The group has also obtained export guarantees, covering both political and commercial risks, which are used in connection with individual customers outside the OECD area. Management considers that no significant concentration of credit risk with any individual customer, counterparty or geographical region exists for Stora Enso. The Age Analysis of Trade Receivables is given in Note 17 Receivables.

Capital risk management

Stora Enso's debt structure is focused on capital markets, whereas banks are primarily used to provide back-up facilities. Group objectives when managing capital are to safeguard the ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders, as well as to maintain an optimal capital structure to reduce the cost of capital. In order to maintain or adjust the capital structure, the group may, subject to shareholder approval as appropriate, vary the dividend paid to shareholders, buy its own shares in the market, return capital to shareholders, issue new shares or sell assets to reduce debt.

The group monitors its capital on the basis of a target debt-to-equity ratio of 0.80 or less, indicating a strong financial position, and financial flexibility. Debt-to-equity ratios are shown below:

Capital structure

	As at 31 December	
EUR million	**2016**	**2015**
Interest-bearing liabilities	3 774	4 197
Interest-bearing assets	1 048	957
Interest-bearing Net Debt	**2 726**	**3 240**
Equity Attributable to Owners of the Parent	**5 806**	**5 388**
Debt / Equity Ratio	**0.47**	**0.60**

In joint operation Montes del Plata and in subsidiary Stora Enso (Guangxi) Packaging Company Ltd. there are financial covenants related to the debt-to-assets ratio which have been complied with during the reported years.

Note 25 Fair values

Accounting principles

Investments

The group classifies its investments in marketable debt and equity securities, and investments in unlisted equity securities into three categories being trading, held-to-maturity and available-for-sale. Investments acquired principally for the purpose of generating a profit from short-term fluctuations in price are classified as trading investments and are therefore fair valued through the Consolidated Income Statement and presented as current assets. Investments with fixed maturity, which management has the intent and ability to hold to maturity, are classified as held-to-maturity, to be disclosed in non-current assets. Investments in listed and unlisted shares are classified as available-for-sale. Management determines the classification of its investments at the time of the purchase and re-evaluates such designation on a regular basis.

Fair value of financial instruments

The fair values of publicly traded derivatives, along with trading and available-for-sale securities, are based on quoted market prices at the reporting date; the fair values of interest rate swaps are calculated as the present value of the estimated future cash flows and the fair values of foreign exchange forward contracts are determined using forward exchange rates at the reporting date. The valuation principles for derivative financial instruments have been described in more detail in Note 27 Derivatives.

In assessing the fair values of non-traded derivatives and other financial instruments, the group uses a variety of methods and makes assumptions based on market conditions at each reporting date. Quoted market prices or dealer quotes for identical or similar instruments are used for non-current debt. Other techniques, such as option pricing models and estimated discounted value of future cash flows, are used to determine fair values for the remaining financial instruments. The face values, less any estimated credit adjustments, for financial assets and liabilities with a maturity of less than one year are assumed to approximate their fair values. The fair values of financial liabilities for disclosure purposes are estimated by discounting the future contractual cash flows at the current market interest rates available to the group for similar financial instruments.

Purchases and sales of financial instruments are recognised on the trade date, which is the date on which the group commits to purchasing or selling the financial instrument. Financial instruments are derecognised when the rights to receive or the cash flows from the financial instruments have expired or have been transferred and the group has transferred substantially all risks, rewards and obligations of the ownership of the financial instrument asset or liability.

Fair value hierarchy

The group uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:
- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities;
- Level 2: other techniques for which all inputs which have a significant effect on the recorded fair value are observable, either directly or indirectly;
- Level 3: techniques which use inputs which have a significant effect on the recorded fair values that are not based on observable market data.

See Note 14 Available-for-sale investments for more information on Level 3 fair value measurement of available-for-sale investments.

Carrying amounts of financial assets and liabilities by measurement category: 2016

EUR million	Loans and Receivables	Financial Items at Fair Value through Income Statement	Hedging Derivatives	Available-for-Sale Investments	Carrying Amounts	Fair Value	Note
Financial Assets							
Available-for-sale	-	-	-	295	295	295	14
Non-current loan receivables	7	-	-	-	7	7	17
Trade and other operative receivables	870	3	-	-	873	873	17
Interest-bearing receivables	5	12	29	-	46	46	17
Cash and cash equivalents	953	-	-	-	953	953	
Total	**1 835**	**15**	**29**	**295**	**2 174**	**2 174**	

EUR million	Financial Items at Fair Value through Income Statement	Hedging Derivatives	Measured at Amortised Cost	Carrying Amounts	Fair Value	Note
Financial Liabilities						
Non-current debt	-	-	2 655	2 655	2 684	26
Current portion of non-current debt	-	-	552	552	552	26
Interest-bearing liabilities	7	50	506	563	563	26
Trade and other operative payables	23	-	1 468	1 491	1 491	23
Bank overdrafts	-	-	4	4	4	
Total	**30**	**50**	**5 185**	**5 265**	**5 294**	

Carrying amounts of financial assets and liabilities by measurement category: 2015

EUR million	Loans and Receivables	Financial Items at Fair Value through Income Statement	Hedging Derivatives	Available-for-Sale Investments	Carrying Amounts	Fair Value	Note
Financial Assets							
Available-for-sale	-	-	-	159	159	159	14
Non-current loan receivables	68	-	-	-	68	70	17
Trade and other operative receivables	987	-	-	-	987	987	17
Interest-bearing receivables	12	12	29	-	53	53	17
Cash and cash equivalents	808	-	-	-	808	808	
Total	**1875**	**12**	**29**	**159**	**2 075**	**2 077**	

EUR million	Financial Items at Fair Value through Income Statement	Hedging Derivatives	Measured at Amortised Cost	Carrying Amounts	Fair Value	Note
Financial Liabilities						
Non-current debt	-	-	3 342	3 342	3 445	26
Current portion of non-current debt	-	-	228	228	228	26
Interest-bearing liabilities	22	48	556	626	626	26
Trade and other operative payables	24	-	1 421	1 445	1 445	23
Bank overdrafts	-	-	1	1	1	
Total	**46**	**48**	**5 548**	**5 642**	**5 745**	

In the previous tables, fair value is estimated to be equal to the carrying amount for short-term financial assets and financial liabilities such as trade receivables and payables due to short time to maturity and limited credit risk. The fair value of non-current debt, considered as a level 2 fair value measurement, is estimated based on discounted cash flow analysis in which yield curves observable at commonly quoted intervals are used as a discount factor in the model. In 2015 the fair value of non-current loan receivables included Papyrus loan note fair valuation and the fair value, categorised on level 3 in the fair value hierarchy, was estimated based on discounted cash flow analysis with the most significant input being the discount rate. Papyrus Holdings AB voluntarily prepaid the full loan note balance and related interests in November 2016.

In 2014, Stora Enso acquired 100% of the shares of the US-based company Virdia Inc. The transaction included potential payouts depending on completion of specific technical and commercial milestones. The present value of the estimated payouts, considered as a level 3 fair value measurement, is estimated based on certain probability criteria and discounted cash flow analysis. At year end, the fair value amounted to EUR 23 (EUR 21) million and is presented in the above table under trade and other operative payables.

Fair value measurements recognised in the statement of financial position: 2016

	As at 31 December			
EUR million	**Level 1**	**Level 2**	**Level 3**	**Total**
Derivative Financial Assets				
Hedging derivatives	-	29	-	29
Derivatives at fair value through profit and loss	-	12	-	12
Available-for-Sale Investments				
Listed securities	42	-	-	42
Unlisted shares	-	-	253	253
Trade and Other Operative Assets				
Operative receivables through profit and loss	-	3	-	3
Total	**42**	**44**	**253**	**339**
Derivative Financial Liabilities				
Hedging derivatives	-	50	-	50
Derivatives at fair value through profit and loss	-	7	-	7
Trade and Other Operative Liabilities				
Operative payables through profit and loss	-	-	23	23
Total	**-**	**57**	**23**	**80**

Fair value measurements recognised in the statement of financial position: 2015

	As at 31 December			
EUR million	**Level 1**	**Level 2**	**Level 3**	**Total**
Derivative Financial Assets				
Hedging derivatives	-	29	-	29
Derivatives at fair value through profit and loss	-	12	-	12
Available-for-Sale Investments				
Listed securities	28	-	-	28
Unlisted shares	-	-	131	131
Total	**28**	**41**	**131**	**200**
Derivative Financial Liabilities				
Hedging derivatives	-	48	-	48
Derivatives at fair value through profit and loss	-	22	-	22
Trade and Other Operative Liabilities				
Operative payables through profit and loss	-	3	21	24
Total	**-**	**73**	**21**	**94**

Reconciliation of levels 3 fair value measurement of financial assets

EUR million	**2016**	**2015**
Opening balance at 1 January	131	444
Gains/Losses recognised through income statement	5	-2
Gains/Losses recognised in Available-for-Sale Investments reserve	125	-325
Additions	2	14
Disposals	-10	-
Closing Balance at 31 December	**253**	**131**

Note 26 Debt

Accounting principles

Debt

Debt is recognised initially at fair value, net of transaction costs incurred. In subsequent periods, it is stated at amortised cost using the effective interest method; any difference between proceeds, net of transaction costs, and redemption value is recognised in the Consolidated Income Statement over the period of the borrowings. Interest expenses are accrued for and recorded in the Consolidated Income Statement for each period.

Debt with an original maturity greater than 12 months is classified as non-current debt in the Consolidated Statement of Financial Position, though repayments falling due within 12 months are presented in current liabilities under the current portion of non-current debt. Short-term commercial paper, bank and other interest-bearing borrowings for which the original maturity is less than 12 months are presented in current liabilities under interest-bearing liabilities.

Finance leases

Leases of property, plant and equipment under which the group has substantially all the rewards and risks of ownership are classified as finance leases. Finance leases are capitalised at the commencement of the lease at the lower of the fair value of the leased property or the estimated present value of the minimum lease payments. Each lease payment is allocated between the capital liability and finance charges so as to achieve a constant interest rate on the finance balance outstanding. The corresponding rental obligations, net of finance charges, are included in interest-bearing liabilities with the interest element of the finance charge being taken to the Consolidated Income Statement over the lease period. Property, plant and equipment acquired under finance leasing contracts are depreciated over the lesser of the useful life of the asset or lease period.

The below table includes a breakdown of the group's interest-bearing liabilities and the related changes in the balances.

Interest-bearing liabilities

	As at 31 December	
EUR million	**2016**	**2015**
Bond loans	1 705	1 834
Loans from credit institutions	1 434	1 637
Finance lease liabilities	56	61
Other non-current liabilities	12	38
Non-current Debt including Current Portion	**3 207**	**3 570**
Short-term borrowings	452	492
Interest payable	54	64
Derivative financial liabilities (see Note 25)	57	70
Bank overdrafts	4	1
Total Interest-bearing Liabilities	**3 774**	**4 197**

EUR million	**2016**	**2015**
Carrying Value at 1 January	4 197	4 894
Proceeds of new long-term debt	368	435
Repayment of long-term debt	-781	-1 181
Change in short-term borrowings and interest payable	-50	-15
Change in derivative financial liabilities	-13	-110
Translation differences and other	53	174
Total Interest-bearing Liabilities	**3 774**	**4 197**

Borrowings have various maturities, details of which are set out in Note 24 Financial risk management, the longest being in 2036, and have either fixed or floating interest rates ranging from 0.6% (0.3%) to 8.6% (8.6%). The majority of group loans are denominated in euros, US dollars and Swedish crown. At 31 December 2016 unused committed credit facilities were unchanged at EUR 700 million. The EUR 700 million committed credit facility agreement with a syndicate of 13 banks matures in January 2019. The facility is used as a backup for general corporate purposes. In addition, Stora Enso has access to various long-term sources of funding up to EUR 1 000 (EUR 850) million mainly from Finnish pension funds.

During 2016, Stora Enso has successfully issued a new bond under its EMTN (Euro Medium Term Note) programme. The EUR 300 million seven-year bond pays a fixed coupon of 2.125% and matures in June 2023.

In June 2016, Stora Enso repurchased in a public tender part of its outstanding EUR 500 million fixed rate notes with a nominal value of EUR 285 million from the 2018 bond, and of EUR 67 million from the 2019 bond, issued in 2012. Including the previously mentioned repayments, Stora Enso's total repayments of EUR, SEK and USD bond notes amounted to a nominal of EUR 427 (EUR 964) million during 2016.

In 2016, net interest-bearing liabilities decreased by EUR 514 million to EUR 2 726 million. Net interest-bearing liabilities are equal to total interest-bearing liabilities less total interest-bearing assets. Cash and cash equivalents net of overdrafts increased by EUR 142 million to EUR 949 million at 31 December 2016.

Bond loans in non-current debt

Issue/ Maturity Dates	Description of Bond	Interest Rate %	Currency of Bond	Nominal Value Issued	Outstanding As at 31 December		Carrying Value As at 31 December	
					2016	2015	2016	2015
All Liabilities are Held by the Parent Company				**Currency million**			**EUR million**	
Fixed Rate								
1993-2019	Series C Senior Notes 2019	8.600	USD	50	50	50	47	47
2006-2036	Global 7.250% Notes 2036	7.250	USD	300	300	300	281	272
2012-2017	Euro Medium Term Note	5.750	SEK	500	480	500	50	54
2012-2018	Euro Medium Term Note	5.000	EUR	500	212	500	212	498
2012-2019	Euro Medium Term Note	5.500	EUR	500	428	500	427	498
2016-2023	Euro Medium Term Note	2.125	EUR	300	300	-	298	-
Total Fixed Rate Bond Loans							**1 315**	**1 369**
Floating Rate								
2006-2018	Euro Medium Term Note	Euribor+0.96	EUR	25	25	25	25	25
2006-2018	Euro Medium Term Note	Euribor+0.72	EUR	50	-	50	-	50
2012-2017	Euro Medium Term Note	Stibor+3.90	SEK	2 200	2 060	2 200	215	240
2015-2025	Euro Medium Term Note	Euribor+2.25	EUR	125	125	125	125	125
2015-2027	Euro Medium Term Note	Euribor+2.35	EUR	25	25	25	25	25
Total Floating Rate Bond Loans							**390**	**465**
Total Bond Loans							**1 705**	**1 834**

Finance lease liabilities

At 31 December 2016 Stora Enso had a small number of finance leasing agreements for machinery and equipment for which capital costs of EUR 21 (EUR 27) million were included in property, plant and equipment; the depreciation and impairment thereon was EUR 8 (EUR 9) million. The aggregate leasing payments for the year amounted to EUR 8 (EUR 10) million, the interest element being EUR 1 (EUR 2) million. There was one new finance lease transaction during 2016 amounting EUR 2 million.

Finance lease liabilities

	As at 31 December	
EUR million	**2016**	**2015**
Minimum Lease Payments		
Less than 1 year	29	9
1-2 years	28	28
2-3 years	-	27
3-4 years	-	-
4-5 years	-	-
Over 5 years	1	-
	58	**64**
Future finance charges	-2	-3
Present Value of Finance Lease Liabilities	**56**	**61**
Present Value of Finance Lease Liabilities		
Less than 1 year	28	7
1-2 years	27	27
2-3 years	-	27
3-4 years	-	-
4-5 years	-	-
Over 5 years	1	-
	56	**61**

Note 27 Derivatives

Accounting principles

Derivative financial instruments and hedging

Financial derivatives are initially recognised in the Consolidated Statement of Financial Position at fair value and subsequently measured at their fair value at each reporting date, though the method of recognising the resulting gains or losses is dependent on the nature of the item being hedged. When derivative contracts are entered into, the group designates them as either hedges of the exposure to changes in the fair value of recognised assets or liabilities (fair value hedges), hedges of forecast transactions or firm commitments (cash flow hedges), hedges of net investments in foreign entities or derivative financial instruments not meeting the hedge accounting criteria in accordance with IAS 39.

At the inception of a transaction, the group documents the relationship between hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking various hedge transactions. This process includes linking all financial instruments designated as hedges to specific assets and liabilities or to specific firm commitments or forecast transactions. The group also documents its assessment, both at the hedge inception and on an ongoing basis, of whether the derivatives used in hedging transactions are highly effective in offsetting changes in fair value or cash flows of hedged items.

Fair value hedges

In case of fair value hedges, the group uses either derivatives or borrowings for this purpose. The gains and losses on hedging instruments designated and qualifying as fair value hedges, and which are highly effective, are recorded in the Consolidated Income Statement, along with any changes in the fair value of the hedged assets or liabilities attributable to the hedged risk.

Cash flow hedges

Changes in the fair value of derivatives designated and qualifying as cash flow hedges, and which are effective, are recognised in cash flow hedges reserve within OCI, the movements of which are disclosed in the Consolidated Statement of Comprehensive Income. The cumulative gain or loss of a derivative deferred in equity is transferred to the Consolidated Income Statement and classified as income or expense in the same period in which the hedged item affects the Consolidated Income Statement. In respect of hedges of exposures to foreign currency risk of future transactions resulting in the recognition of non-financial assets, the gains and losses deferred to cash flow hedges reserve within OCI are transferred from equity to be included in the initial acquisition cost of the non-financial assets at the time of recognition. The deferred amounts are ultimately recognised in the Income Statement through depreciation over the lifetime of those non-financial assets. The changes in the time value component of the currency options are classified as financial income and expense and not included in the hedge designation.

When a hedging instrument expires, or is sold, terminated or exercised, or has its designation revoked or no longer meets the criteria for hedge accounting under IAS 39, any cumulative gain or loss deferred in equity at that time remains in equity and is accounted for as an adjustment to income or expense when the committed or forecast transaction is ultimately recognised in the Consolidated Income Statement. However, if the forecast transaction is no longer expected to occur, the cumulative gain or loss reported in equity from the period when the hedge was effective is recognised in the Consolidated Income Statement immediately.

Net investment hedges

Hedges of net investments in foreign entities are accounted for similarly to cash flow hedges, the group using either derivatives or borrowings for this purpose. If the hedging instrument is a derivative, any gain or loss thereon relating to the effective portion of the hedge is recognised in equity in CTA, as disclosed in the Consolidated Statement of Comprehensive Income; the gain or loss relating to the ineffective portion is immediately recognised in the Consolidated Income Statement. In addition, exchange gains and losses arising on the translation of a borrowing that hedges such an investment are also recognised in CTA, any ineffective portion being immediately recognised in the Consolidated Income Statement.

Fair value through profit and loss derivatives

Certain derivative transactions, while providing effective economic hedges under group risk management policies, do not qualify for hedge accounting under the specific rules in IAS 39 and therefore changes in the fair value of such non-qualifying hedge instruments together with any ineffectiveness of hedge-accounted instruments are accounted for at fair value through the Consolidated Income Statement. Fair value changes of derivative instruments relating to sales, purchases and staff benefits are presented under operating profit and specified in Note 27 Derivatives and in Note 6 Personnel expenses. Fair value changes from all other derivatives are recognised in the Consolidated Income Statement under financial items.

Valuation of derivatives

Derivative financial instruments are recorded in the Statement of Financial Position at their fair values defined as the amount at which the instrument could be exchanged in an orderly transaction between market participants at the measurement date. The fair values of such financial items have been estimated on the following basis:

- Currency and equity option contract values are calculated using year-end market rates together with common option pricing models.
- The carrying amounts of foreign exchange forward contracts are calculated using forward exchange rates at the reporting date.
- The fair values of interest rate swaps are calculated using a discounted cash flow analysis.
- Interest rate option fair values are calculated using year-end interest rates together with common option pricing models.
- Commodity contract fair values are computed with reference to quoted market prices on futures exchanges.
- The fair values of commodity options are calculated using year-end market rates together with common option pricing models.
- The fair values of Total Return (Equity) Swaps are calculated using year-end equity prices as well as year-end interest rates.

Shareholders' equity – other comprehensive income

Certain derivatives are designated as cash flow hedges and measured at fair value with the fair value movements being recorded in the separate equity category of OCI: Cash Flow Hedges Reserve. The other component of OCI is the Available-for-Sale Investments Reserve representing the difference between the reporting date fair value of investments and their initial fair value at acquisition (see Note 14 Available-for-sale investments).

Cash flow hedges

In the group the estimated net amount of unrealised cash flow hedge loss net of taxes amounted to EUR 11 (EUR loss 24) million of which a loss of EUR 23 (EUR loss 9) million related to currencies and a gain of EUR 12 (EUR loss 15) million to commodities. The minority's share of unrealised cash flow hedge result net of taxes amounted to nil (EUR gain 1 million). The unrealised gains and losses are expected to be recycled through the Income Statement within one to three years with the longest hedging contract maturing in 2027 (2027), however the majority are expected to mature in 2017. Any hedge ineffectiveness is presented as an adjustment to sales or to materials and services, depending on the underlying exposure, totalling EUR loss 2 (EUR nil) million for commodity contract hedges and nil for currency hedges in both 2016 and 2015. Derivatives used in currency cash flow hedges are mainly forward contracts and options, with swaps mainly used in commodity hedges and interest rate cash flow hedges.

In the Beihai Mill project in Guangxi, China, the group has hedged its exposures to the foreign currency risk of future transactions resulting in the recognition of non-financial assets. The gains and losses deferred to OCI cash flow hedges reserve are transferred from equity to be included in the initial acquisition cost of the non-financial assets at the time of recognition. During the year, the total amount removed from equity and included in the initial cost of non-financial assets amounted to loss of EUR 4 (EUR loss 9) million.

In 2015, the group entered into new interest rate swap derivatives with a total nominal value of EUR 150 million. The swaps have been designated as cash flow hedges of newly issued EUR bond notes maturing in 2025 and 2027 with hedge result being booked to Cash Flow Hedges Reserve within OCI. During 2015 the group closed majority of its non-hedge accounted interest rate swaps and all of its outstanding non-hedge accounted interest rate options and interest rate collars.

Equity accounted investments

Associate companies record hedges and pensions-related amounts directly in equity, and the group records its share of these amounts also in equity in the "OCI of Equity Accounted Investments" classification.

OCI equity accounted investments

	Year Ended 31 December	
EUR million	**2016**	**2015**
Bergvik Skog AB	-19	-17
Tornator Oyj	-	-2
Total	**-19**	**-19**

Fair values of derivatives

Hedge gains and losses in financial items

	Year Ended 31 December	
EUR million	**2016**	**2015**
Net losses on fair value hedges	-	-2
Fair value changes in hedged items	-	1
Net Losses on Fair Value Hedges in Financial Items	**-**	**-1**
Non-qualifying Hedges		
Net losses/gains on interest rate derivatives	-4	1
Net gains on currency derivatives	30	1
Net Gains in Financial Items	**26**	**2**

Derivatives used in fair value hedges are mainly interest rate swaps.

Hedge gains and losses in operating profit

	Year Ended 31 December	
EUR million	**2016**	**2015**
Fair Value Hedge Accounted		
Net losses on fair value hedges	-	-16
Fair value changes in hedged items	-	16
Net Gains on Fair Value Hedges	**-**	**-**
Cash Flow Hedge Accounted		
Currency hedges	8	-120
Commodity contract hedges	3	-39
Total	**11**	**-159**
As adjustments to Sales	16	-128
As adjustments to Materials and services	-5	-31
Realised from OCI through Income Statement	**11**	**-159**
Commodity contract hedge ineffectiveness	-2	-
Net Gains/Losses from Cash Flow Hedges	**9**	**-159**
Non-qualifying Hedges		
Currency hedges	-9	-14
Commodity contract hedges	-	-5
Net Losses on Non-Qualifying Hedges	**-9**	**-19**
Net Hedge Losses in Operating Profit	**-**	**-178**

In 2016 the group ceased hedge accounting for one of its subsidiaries due to the fact that the forecasted future transactions were no longer expected to occur. This resulted to a loss of EUR 2 million being booked to operating profit and the loss being presented in the above table as ineffectiveness from cash flow hedges.

Fair values of derivative instruments

	As at 31 December			
EUR million	**Positive Fair Values**	**Negative Fair Values**	**Net Fair Values**	**Net Fair Values**
	2016			**2015**
Cash flow hedge accounted				
Currency forward contracts	8	-17	-9	-2
Currency options	4	-23	-19	3
Commodity contracts	16	-1	15	-17
Interest rate swaps	1	-8	-7	-2
Non-qualifying hedges				
Interest rate swaps	-	-	-	7
Currency forward contracts	12	-7	5	-16
Commodity contracts	-	-	-	-1
Equity swaps (TRS)	3	-	3	-3
Total	**44**	**-56**	**-12**	**-31**

Positive and negative fair values of financial instruments are shown under Interest-bearing Receivables and Liabilities and Non-current Debt with the exception of TRS, which is shown under Operative Receivables and Liabilities.

The presented fair values in the previous table include accrued interest and option premiums.

Nominal values of derivative financial instruments

	As at 31 December	
EUR million	**2016**	**2015**
Interest Rate Derivatives		
Interest rate swaps		
Maturity under 1 year	-	301
Maturity 2–5 years	-	-
Maturity 6–10 years	181	187
Maturity over 10 years	25	
Total	**206**	**488**
Foreign Exchange Derivatives		
Forward contracts	1 783	1 706
Currency options	1 525	2 044
Total	**3 308**	**3 750**
Commodity Derivatives		
Commodity contracts	319	250
Total	**319**	**250**
Total Return Swaps		
Equity swaps (TRS)	25	27
Total	**25**	**27**

The following table analyses the group's derivative financial instruments to be settled on a gross basis into relevant maturity groupings based on the remaining contract period at the reporting date. For Stora Enso maturities are for one year only.

Contractual derivatives maturity repayments gross settlement

	As at 31 December 2016		As at 31 December 2015	
EUR million	**2017**	**2018+**	**2016**	**2017+**
Currency Forwards and Options: Cash Flow Hedges				
Outflow	1 214	-	1 087	-
Inflow	1 190	-	1 080	-
Currency Forwards and Options: Fair Value in Income Statement				
Outflow	1 053	92	1 365	-
Inflow	1 054	81	1 350	-

Contractual payments for net-settled derivative financial liabilities were in the following maturity groupings: within one year EUR 23 (EUR 37) million and within two to five years EUR 10 (EUR 22) million.

The group enters into derivative transactions under master netting agreements agreed with each counterparty. In case of an unlikely credit event, such as default, all outstanding transactions under the agreements are terminated and only a single net amount per counterparty is payable in settlement of all transactions. The agreements do not meet the criteria for offsetting in the Statement of Financial Position due to the reason that offsetting is enforceable only on the occurrence of certain future events.

Financial impact of netting for instruments subject to an enforceable master netting agreement 2016

	Not offset in the Statement of Financial Position			
EUR million	**Gross amount of recognised financial instruments**	**Related liabilities (-) or assets (+) subject to Master Netting Agreements**	**Collateral received (-) or given (+)**	**Net Exposure**
Derivative assets	40	-40	-	-
Derivative liabilities	-56	40	-	-16

Financial impact of netting for instruments subject to an enforceable master netting agreement 2015

	Not offset in the Statement of Financial Position			
EUR million	**Gross amount of recognised financial instruments**	**Related liabilities (-) or assets (+) subject to Master Netting Agreements**	**Collateral received (-) or given (+)**	**Net Exposure**
Derivative assets	33	-33	-	-
Derivative liabilities	-71	33	-	-38

Note 28 Cumulative translation adjustment and equity hedging

Cumulative translation adjustment

	Year Ended 31 December	
EUR million	**2016**	**2015**
At 1 January		
CTA on net investment in non-euro foreign entities	-155	-183
Hedging thereof	12	45
Net currency losses/gains in equity	-143	-138
Tax on hedging	-4	-11
	-147	**-149**
CTA Movement for the Year Reported in OCI		
Restatement of opening non-euro denominated equity	95	10
Difference in Income Statement translation	1	13
Internal equity injections and dividends	5	9
Other	-	-8
CTA release through the Income Statement	23	4
	124	**28**
Hedging of Net Investment for the Year Reported in OCI		
Hedging result	-11	-33
Taxes	2	7
	-9	**-26**
At 31 December		
CTA on net investment in non-euro foreign entities	-31	-155
Hedging thereof (see below)	1	12
Cumulative net currency losses in equity	-30	-143
Tax on hedging	-2	-4
Net CTA in Equity	**-32**	**-147**
Hedging of Net Investment in Foreign Entities		
Hedging	1	12
Tax on hedging	-2	-4
Net Hedging Result in Equity	**-1**	**8**
Realised gains	45	45
Unrealised gains/losses	-46	-37
Total Gains	**-1**	**8**

The group is currently hedging only its equity exposure to the US dollar. The main movements in CTA in 2016 were a gain of EUR 125 (loss of EUR 145) million related to the Brazilian real, a gain of EUR 45 (EUR 107) million related to the US dollar, a loss of EUR 33 (gain of EUR 16) million related to the Swedish crown, a loss of EUR 27 (gain of EUR 45) million related to the Chinese renminbi and a gain of EUR 24 (loss of EUR 10) million related to Russian rouble. The most significant accumulated CTA balances are in the US dollar area, amounting to a gain of EUR 241 (EUR 196) million, in Sweden, amounting to a loss of EUR 196 (EUR 163) million, in Brazil, amounting to a loss of EUR 128 (EUR 253) million and in China, amounting to a gain of EUR 97 (EUR 124) million.

The release of cumulative translation adjustments to the Income Statement amounted to a loss of EUR 23 (loss of EUR 4) million in 2016 and was mainly related to the disposal of Arapoti mill in Brazil.

Amounts recognised in the statement of financial position - CTA and equity hedging

	As at 31 December					
	Cumulative Translation Adjustments (CTA)		**Equity Hedges**		**Net CTA in the Statement of Financial Position**	
EUR million	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Brazil	-128	-253	-	-	-128	-253
China	97	124	-	-	97	124
Czech Republic	26	26	-9	-9	17	17
Poland	-34	-24	17	17	-17	-7
Russia	-45	-69	-	-	-45	-69
Sweden	-196	-163	50	50	-146	-113
Uruguay	227	188	-57	-46	170	142
USA	14	8	-	-	14	8
Others	9	8	-	-	9	8
CTA before Tax	**-31**	**-155**	**1**	**12**	**-30**	**-143**
Taxes	-	-	-2	-4	-2	-4
Net CTA in Equity	**-31**	**-155**	**-1**	**8**	**-32**	**-147**

Amounts recognised in the statement of other comprehensive income - CTA and equity hedging

	As at 31 December					
	Cumulative Translation Adjustments (CTA)		**Equity Hedges**		**Net CTA in the Statement of Financial Position**	
EUR million	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Brazil	125	-145	-	-	125	-145
China	-27	45	-	-	-27	45
Czech Republic	-	3	-	-	-	3
Poland	-10	4	-	-	-10	4
Russia	24	-10	-	-	24	-10
Sweden	-33	16	-	-	-33	16
Uruguay	39	103	-11	-33	28	70
USA	6	4	-	-	6	4
Others	1	8	-	-	1	8
CTA before Tax	**124**	**28**	**-11**	**-33**	**113**	**-5**
Taxes	-	-	2	7	2	7
Amounts recognised in OCI	**124**	**28**	**-9**	**-26**	**115**	**2**

Hedging of net investment in foreign entities

Group policy for translation risk exposure is to minimise this by funding assets whenever possible and economically viable in the same currency, but if matching of the assets and liabilities in the same currency is not possible hedging of the remaining translation risk may take place. The gains and losses net of tax on all financial liabilities and instruments used for hedging purposes are offset in CTA against the respective currency movements arising from the restatement of the net investments at current exchange rates on the reporting date; the net amount of losses included in CTA during the period as shown in the previous table came to EUR 9 (losses of EUR 26) million.

Hedging instruments and unrealised hedge losses

	As at 31 December					
	Nominal amount (Currency)		Nominal amount (EUR)		Unrealised Losses (EUR)	
EUR million	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Borrowings						
USD area	350	350	332	321	-46	-37
Total Hedging			**332**	**321**	**-46**	**-37**

Note 29 Commitments and contingencies

Accounting principles

Guarantees

The guarantees entered into with financial institutions and other credit guarantors generally oblige the group to make payment in the event of default by the borrower. The guarantees have off-Balance-Sheet credit risk representing the accounting loss that would be recognised at the reporting date if the counterparties failed to perform completely as contracted. The credit risk amounts are equal to the contract sums assuming the amounts are not paid in full and are irrecoverable from other parties.

Operating Leases

Payments made under operating leases are expensed on a straight-line basis over the lease periods. When an operating lease is terminated before the expiry of the lease period, any obligatory payment to the lessor by way of penalty is recognised as an expense in the period in which termination takes place. Lease termination benefits are recognised on a discounted basis.

Commitments

	As at 31 December	
EUR million	**2016**	**2015**
On Own Behalf		
Mortgages	9	4
On Behalf of Equity Accounted Investments		
Guarantees	4	17
On Behalf of Others		
Guarantees	34	30
Other Commitments Own		
Operating leases in next 12 months	86	83
Operating leases after next 12 months	747	804
Pension liabilities	1	0
Other commitments	9	11
Total	**890**	**949**
Mortgages	9	4
Guarantees	38	47
Operating leases	833	887
Pension liabilities	1	0
Other commitments	9	11
Total	**890**	**949**

In 2016, the group's commitments amounted to EUR 890 (EUR 949) million. In addition, parent company Stora Enso Oyj has guaranteed the liabilities of many of its subsidiaries and joint operations up to EUR 2 123 (EUR 2 352) million as of 31 December 2016.

In 2015, Stora Enso Logistic AB's time charter arrangements relating to vessels MV Schieborg and MV Slingeborg were reorganised and Stora Enso Logistics AB entered into time charter parties with subsidiaries of Koninklijke Wagenborg B.V., the new owners of the vessels. In connection therewith, Stora Enso Oyj issued a guarantee to a third-party creditor securing certain obligations of the owners under the term facilities agreement entered into by and between the owners, Koninklijke Wagenborg B.V. and the creditor. The group's maximum exposure under the guarantee amounted to EUR 21 (EUR 25) million plus interests and costs at year end.

The group leases office and warehouse space, cars, machinery and equipment under various non-cancellable operating leases, some of which contain renewal options. There were no leases deemed onerous at the end of 2016 and 2015. The future cost for contracts exceeding one year and for non-cancellable operating leasing contracts are:

Repayment schedule of operating lease commitments

	As at 31 December	
EUR million	**2016**	**2015**
Less than 1 year	86	83
1–2 years	73	73
2–3 years	66	64
3–4 years	59	59
4–5 years	53	55
Over 5 years	496	553
Total	**833**	**887**

The group has rental commitments for up to 50 years, with the option to terminate after 20 years, on approximately 84 000 (86 000) hectares of land contracted to date in China, as well as being obliged to pay for the standing trees on land it has contracted to rent. Future land rental payments reported under operating leases are estimated at EUR 562 (EUR 599) million for the plantations.

Stora Enso Oyj has also signed a 15-year take-or-pay contract with Rederi AB Trans-Atlantic for the operation of ships between Finland and Sweden. The group's commitment amounted to EUR 68 (EUR 81) million for the remaining five years at the end of 2016.

Capital expenditure commitments at the balance sheet date but not recognised in the financial statements amounted to EUR 171 (EUR 196) million. These include the group's share of direct capital expenditure contracts in joint operations. Commitments in relation to capital expenditure mainly relate to ongoing projects at Guangxi in China and at Imatra Mills in Finland.

Contingent liabilities

Stora Enso has undertaken significant restructuring actions in recent years which have included the divestment of companies, sale of assets and mill closures. These transactions include a risk of possible environmental or other obligations the existence of which would be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the group.

Stora Enso is party to legal proceedings that arise in the ordinary course of business and which primarily involve claims arising out of commercial law. The management does not consider that liabilities related to such proceedings before insurance recoveries, if any, are likely to be material to the group's financial condition or results of operations.

Latin American cases

Veracel

Fibria and Stora Enso each own 50% of Veracel, and the joint ownership is governed by a shareholder agreement. In May 2014, Fibria initiated arbitration proceedings against Stora Enso claiming that Stora Enso was in breach of certain provisions of the shareholder agreement. Fibria has estimated that the interest to be paid regarding the dispute should be approximately USD 54 (EUR 51) million. Stora Enso denies any breach of contract and disputes the method for calculating the interest to be paid. No provisions have been made in Stora Enso's accounts for this case.

On 11 July 2008, Stora Enso announced that a federal judge in Brazil had issued a decision claiming that the permits issued by the State of Bahia for the operations of Stora Enso's joint operations company Veracel were not valid. The judge also ordered Veracel to take certain actions, including reforestation with native trees on part of Veracel's plantations and a possible fine of BRL 20 (EUR 6) million. Veracel disputes the decision and has filed an appeal against it. Veracel operates in full compliance with all Brazilian laws and has obtained all the necessary environmental and operating licences for its industrial and forestry activities from the relevant authorities. In November 2008, a Federal Court suspended the effects of the decision. No provisions have been recorded in Veracel's or Stora Enso's accounts for the reforestation or the possible fine.

Legal proceedings in Finland

In December 2009, the Finnish Market Court fined Stora Enso for competition law infringements in the market for roundwood in Finland from 1997 to 2004. Stora Enso did not appeal against the ruling. In March 2011 Metsähallitus of Finland initiated legal proceedings against Stora Enso, UPM and Metsäliitto claiming compensation for damages allegedly suffered due to competition law infringements. The total claim against the defendants amounted to approximately EUR 160 million and the secondary claim against Stora Enso to approximately EUR 87 million. In its ruling issued in June 2016, the Helsinki District Court dismissed Metsähallitus' claim for damages against Stora Enso, Metsäliitto and UPM. Metsähallitus has appealed this ruling. In addition, certain Finnish municipalities and private forest owners initiated similar legal proceedings. The total amount claimed from the defendants amounts to approximately EUR 25 million, the secondary claims solely against Stora Enso amount to approximately EUR 6 million. Stora Enso denies that the plaintiffs suffered any damages whatsoever and will forcefully defend itself. No provisions have been made in Stora Enso's accounts for these lawsuits.

Legal proceedings in Sweden

Insurance claim

Stora Enso was informed in July that six Swedish Insurance companies are filing lawsuits against Stora Enso. The claimed amount is approximately SEK 300 (EUR 31) million attributable to insurance compensation paid to injured parties in connection with the forest fire in Västmanland, Sweden in 2014. Stora Enso denies liability and will respond within the frame of the legal proceedings.

Norrsundet Pulp Mill environmental case

The production of pulp at Norrsundet Mill in Sweden was permanently closed in December 2008. Provisions for refuse handling contamination on site and sea sediment have been recognized. In 2011 some chemical substances were found in the sea sediment outside the mill area. Discussions with the country administrative board about responsibility and possible actions are ongoing and no decisions had been taken by the balance sheet date. Stora Enso has, however, initiated mapping of the extent of possible sediments.

Veracel's potential tax exposure arising from PIS/COFINS tax credits

In December 2011 Veracel Celulose SA (Veracel) received a tax audit report, in which the tax authority claimed that part of the PIS (social intergration programme) and COFINS (contribution for the financing of social security) paid by Veracel on the purchase of raw material and services, was not eligible for tax credit. Stora Enso and Veracel consider the claim unjustified and no provisions have been made in Stora Enso's or Veracel´s accounts for this matter. The dispute is still pending.

Note 30 Principal subsidiaries and joint operations

The following is a list of the Company's fifty principal operating subsidiary undertakings ranked by external sales. These companies along with the parent account for 98% (98%) of group external sales. The principal country in which each subsidiary operates is the country of incorporation. The group's effective interest in the undertakings is 100% except where indicated, and is held in each case by a subsidiary undertaking except for those companies marked with "+" which are held directly by the Parent Company. Subsidiaries operating outside the euro area are indicated by "◊".

Subsidiary companies (Ranked by external sales)

		Country	Sales %	Consumer Board	Packaging Solutions	Biomaterials	Wood Products	Paper	Other
Stora Enso Oyj		**Finland**	**31.08**	•	•	•		•	•
Stora Enso Paper AB	◊	Sweden	8.45					•	
Stora Enso Skoghall AB	◊	Sweden	6.46	•					
Stora Enso Fors AB	◊	Sweden	3.64	•					
Stora Enso Amsterdam B.V.		Netherlands	3.28			•		•	
Stora Enso Skog AB	◊	Sweden	3.25						•
Stora Enso Wood Products GmbH		Austria	2.78				•		
Stora Enso Poland S.A.	+/◊	Poland	2.58		•				
Stora Enso Publication Papers Oy Ltd	+	Finland	2.48					•	•
Stora Enso Maxau GmbH		Germany	2.39					•	
Stora Enso Langerbrugge NV	+	Belgium	2.30					•	
Stora Enso Ingerois Oy	+	Finland	2.13	•					
Stora Enso Pulp AB	◊	Sweden	2.08			•			•
Stora Enso Kabel GmbH & Co. KG[1]		Germany	1.95					•	•
Sydved AB (66.7%)	◊	Sweden	1.69						•
Stora Enso Wood Products Oy Ltd	+	Finland	1.49				•		
Puumerkki Oy		Finland	1.46				•		
Stora Enso Sachsen GmbH		Germany	1.40					•	•
Stora Enso Timber AB	◊	Sweden	1.30				•		
Stora Enso Eesti AS	+	Estonia	1.24				•		
OOO Stora Enso Packaging BB	◊	Russia	1.06		•				
Stora Enso Wood Products Zdirec s.r.o.	◊	Czech Republic	1.00				•		
Stora Enso Narew Sp.z.o.o.	+/◊	Poland	0.97		•				
Stora Enso Australia Pty Ltd	◊	Australia	0.93				•	•	
Stora Enso Packaging AB	◊	Sweden	0.93		•				
Stora Enso WP Bad St. Leonhard GmbH		Austria	0.86				•		
Stora Enso Packaging Oy	+	Finland	0.83		•				
Stora Enso Timber Deutschland GmbH		Germany	0.71				•		
Stora Enso Bioenergi AB	◊	Sweden	0.66						•
Stora Enso Huatai (Shandong) Paper Co Ltd (60%)	◊	China	0.59					•	
Stora Enso Wood Products d.o.o. Koper		Slovenia	0.53				•		
Stora Enso Inpac Packaging Co. Ltd (90%)	◊	China	0.51		•				
Stora Enso Suzhou Paper Co Ltd (97.9%)[1]	◊	China	0.51					•	

Stora Enso (Guangxi) Packaging Company Ltd (80.1%)	◊	China	0.50	●					
Stora Enso Wood Products Planá s.r.o.	◊	Czech Republic	0.46				●		
Stora Enso (Guangxi) Forestry Company Ltd. (80.1%)	◊	China	0.43	●					
AS Stora Enso Latvija		Latvia	0.37				●		
Dongguan Stora Enso Inpac Packaging Co. Ltd (90%)	◊	China	0.35		●				
Stora Enso Bois SAS		France	0.34				●		
Stora Enso Paper GmbH	+	Germany	0.32					●	
UAB Stora Enso Lietuva		Lithuania	0.29				●		
Stora Enso Timber UK Ltd	◊	UK	0.25				●		
Guangxi Stora Enso Forestry Co Ltd (89.5%)	◊	China	0.22	●					
Stora Enso Timber DIY Products B.V.		Netherlands	0.22				●		
Stora Enso Wood Products Sp.z.o.o.	◊	Poland	0.21				●		
Stora Enso Packaging SIA		Latvia	0.17		●				
VLAR Papier NV (65%)		Belgium	0.17					●	
Stora Enso Packaging UAB		Lithuania	0.16		●				
Stora Enso North American Sales, Inc.	+/◊	USA	0.16					●	
DanFiber A/S (51%)	◊	Denmark	0.15					●	
Puumerkki AS		Estonia	0.15				●		

[1] Business operations of Stora Enso Kabel GmbH & Co. KG in Germany and Stora Enso Suzhou Paper Co Ltd in China were divested during 2016.

The following is a list of the Company's joint operations. The Company holds a 50% interest in joint operations and they are consolidated into the group's financial statements. The countries operating outside the euro area are indicated by "◊". Sales of the joint operations occur via subsidiaries.

Joint operations

		Country	Consumer Board	Packaging Solutions	Biomaterials	Wood Products	Paper	Other
Montes del Plata (50%)	◊	Uruguay			●			
Veracel Celulose SA (50%)	◊	Brazil			●			

Note 31 Related party transactions

Balances and transactions between the group and its subsidiaries and joint operations, which are classified as related parties, have been eliminated on consolidation and are not disclosed in this note.

The key management personnel of the group are the members of the Group Leadership Team and the Board of Directors. The compensation of key management personnel is presented in Note 7 Board and executive remuneration.

In the ordinary course of business, the group engages in transactions on commercial terms with equity accounted investments and other related parties that are not more favourable than would be available to other third parties – with the exception of Veracel and Pohjolan Voima Oy (PVO). Stora Enso intends to continue with transactions on a similar basis with its equity accounted investments further details of which are shown in Note 13 Equity accounted investments.

The group's principal subsidiary companies and joint operations are listed in Note 30 Principal subsidiaries and joint operations.

Energy

The group holds a 15.5% interest in Pohjolan Voima Oy (PVO), a privately owned group of companies in the energy sector that produces electricity and heat for its shareholders in Finland. Each subsidiary of the PVO group has its own class of shares that entitle the shareholder to the energy produced in proportion to its ownership of that class of share. Stora Enso is the second-largest shareholder in PVO, being entitled to a capacity share of 468 MW and Seppo Parvi, as group representative, has been the Deputy Chairman of PVO's Board of Directors since 2015. Prices paid to PVO for electricity are based on production costs, which are generally lower than market prices and in 2016, amounted to EUR 37 (EUR 38) million. For information about the amount of electricity generated, purchased and sold, please see Stora Enso Sustainability Report 2016, section Materials, water & energy (Energy). Sustainability Report 2016 is part of Stora Enso's Annual Report 2016 and available online in PDF format at storaenso.com/annualreport.

Financial arrangements

The group borrows from or has financial arrangements with several financial institutions where certain members of the Stora Enso Board of Directors or Group Leadership Team also act as members of the Board of Directors, Supervisory Board or Executive Management Group of one or more of those bodies. All group borrowings and financial arrangements have been negotiated on arms-length terms and several have existed for a number of years and prior to the current Board membership.

In 2014, International Finance Corporation (IFC) agreed to invest in an equity stake of CNY 356 million (EUR 49 million) in Stora Enso's Guangxi project, representing a 5% shareholding in the project. By the end of 2016, IFC has already invested CNY 245 million (EUR 33 million). Stora Enso's outstanding loan balances from IFC amounted to EUR 436 (EUR 423) million at year end. The funding is based at USD 6-month LIBOR plus margins ranging from +2.30% to +2.80%.

Research and development

Stora Enso conducts research and development in its own research centres and together with an external network. In addition, interests are held in the following research partners: Swetree Technologies AB, Cellutech AB and Clic Innovation Ltd.

Paper for recycling

The group owns non-controlling interests in several paper recyclers from which paper for recycling is purchased at market prices.

Forest assets and wood procurement

The group has a 41% interest in Tornator with the remaining 59% being held mainly by Finnish institutional investors. Stora Enso has long-term purchase contracts with the Tornator Group for approximately 2 million cubic metres of wood annually at market prices, and in 2016 purchases of 2 (2) million cubic metres came to EUR 65 (EUR 60) million.

In 2016, the group has a 49% interest in Bergvik Skog with the remaining 51% held mainly by institutional investors. The group has long-term supply contracts with Bergvik Skog under which Bergvik Skog sells some 5 million cubic metres of wood annually to Stora Enso at market prices. In 2016, these purchases of 5 (5) million cubic metres amounted to EUR 103 (EUR 95) million and group sales, mainly forest management services, to Bergvik Skog amounted to EUR 41 (EUR 35) million.

Stora Enso has a significant land leasing contract with its non-controlling interest partner Guangxi Forestry Group Co. Ltd. in China. The leases paid during 2016 amounted to EUR 16 (EUR 16) million.

Stevedoring

The group owns 34.4% of the shares of Steveco Oy, a Finnish company engaged in loading and unloading vessels. The other shareholders in Steveco are UPM-Kymmene, Finnlines, Ahlström Capital and Myllykoski. Stevedoring services are provided by Steveco at market prices and in 2016 amounted to EUR 25 (EUR 26) million.

Note 32 Earnings per share and aquity per share

Accounting principles

Basic earnings per share, applicable to owners of the parent, is calculated by dividing the net profit attributable to shareholders by the weighted average number of ordinary shares in issue during the year, excluding ordinary shares purchased by the group and held as treasury shares. Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares plus the diluted effect of all potential ordinary shares dilutive such as shares from the share-based payments.

Earnings per share

	Year Ended 31 December	
	2016	**2015**
Net profit for the period attributable to the owners of the parent, EUR million	463	807
Total comprehensive income attributable to the owners of the parent, EUR million	679	573
Weighted average number of A and R shares	788 619 987	788 619 987
Weighted average number of share awards	1 268 485	1 189 457
Weighted diluted number of shares	789 888 472	789 809 444
Basic Earnings per Share, EUR	**0.59**	**1.02**
Diluted Earnings per Share, EUR	**0.59**	**1.02**
Total Recognised Income and Expense per Share, EUR	**0.86**	**0.73**

Equity per share

	As at 31 December	
	2016	**2015**
Shareholders' equity, EUR million	5 806	5 388
Market value, EUR million	8 085	6 618
Number of A and R shares	788 619 987	788 619 987
Share awards	1 338 213	1 198 756
Diluted number of shares	789 958 200	789 818 743
Basic Shareholders' Equity per Share, EUR	**7.36**	**6.83**
Diluted Shareholders' Equity per Share, EUR	**7.35**	**6.82**
Dividend per Share Paid/Declared, EUR	**0.37**	**0.33**
Market Value per Share, EUR		
A shares	10.40	8.40
R shares	10.21	8.39

Extract from the Parent Company Stora Enso Oyj Financial Statements

Accounting principles

The Parent Company Financial Statements are prepared according to Generally Accepted Accounting Principles in Finland (Finnish GAAP); see Group Consolidated Financial Statements Note 1, Accounting Principles. The main differences between the accounting policies of the Group and the Parent Company relate to:

Accounting of amortisation of capitalised goodwill
The valuation of certain financial assets, financial liabilities, financial instruments and securities
Accounting of post-employment Defined Benefit Plans
The presentation and accounting of deferred tax
Accounting of equity incentive schemes
Accounting of financial leases.

Change in the presentation method

The amended Accounting Act came into effect on 1 January 2016. With the amendment, the group containing extraordinary income and expenses was removed from the income statement. The merger loss of EUR 18.1 million that was recognised in extraordinary expenses in 2015 was transferred to other operating expenses. Consequently, operating profit for 2015 were decreased by the same amount. The Group contribution of EUR 0.2 million that was recognised in extraordinary income in 2015 was transferred to appropriations. The corresponding changes were also made to the cash flow statement.

The company has changed its presentation of derivatives in accordance with Finnish Accounting Board's opinion 13.12.2016 1963/2016. Hedge accounted derivatives that are hedging parent company's own highly probable cash flows are now measured at fair value in the balance sheet according to IFRS standards with effective hedge result being recognised in the fair value reserve in equity. The fair values of such derivatives were previously presented as off-balance sheet items. At the end of the period, the fair value reserve was EUR 16.6 million negative (EUR 10.6 million negative in 2015). The company has also changed presentation of certain non-hedge accounted derivatives with unrealised losses being immediately recognised in the Income Statement while any unrealised gains only being recognized at maturity or when derivative result otherwise realises. In 2016 the change had a negative impact of EUR 35.5 million on the Income Statement (EUR 13.9 million negative in 2015). As a consequence the negative impact on parent company's equity totaled EUR 52.1 million (EUR 22.8 million negative in 2015). Comparative periods have not been restated due to the change.

Parent Company income statement

	Year Ended 31 December	
EUR million	**2016**	**2015**
Sales	3 453	3 440
Changes in inventories of finished goods and work in progress	-9	-
Production for own use	1	-
Other operating income	174	199
Materials and services	-2 167	-2 187
Personnel expenses	-318	-313
Depreciation and value adjustments	-145	-126
Other operating expenses	-741	-744
Operating Profit	**248**	**269**
Net financial items	-73	1
Profit before Appropriations and Taxes	**175**	**270**
Appropriations	-43	-76
Income tax expense	-	-1
Net Profit for the Period	**132**	**193**

Parent Company statement of financial position

Assets

EUR million	As at 31 December 2016	2015
Fixed Assets and Non-current Investments		
Intangible assets	85	63
Tangible assets	926	940
Shares in Group companies	6 179	6 192
Other investments	782	1 292
	7 972	**8 487**
Current Assets		
Inventories	442	445
Long-term receivables	1	-
Short-term receivables	947	1 388
Cash and cash equivalents	2 259	1 123
	3 649	**2 956**
Total Assets	**11 621**	**11 443**

Equity and Liabilities

EUR million	As at 31 December 2016	2015
Share capital	1 342	1 342
Share premium	3 639	3 639
Fair value reserve	-17	-
Invested non-restricted equity fund	633	633
Retained earnings	722	789
Net profit for the period	132	193
	6 451	**6 596**
Appropriations	**180**	**136**
Provisions	**17**	**21**
Non-current Liabilities	**1 752**	**2 347**
Current Liabilities	**3 221**	**2 343**
Total Equity and Liabilities	**11 621**	**11 443**

The presentation of Intangible assets and Tangible assets has been further specified with regard to the comparison period.

Parent Company cash flow statement

EUR million	Year Ended 31 December 2016	2015
Cash Provided by Operating Activities		
Net profit for the period	132	193
Taxes	-	1
Appropriations	43	76
Depreciation and value adjustments	145	126
Unrealised foreign exchange wins and losses	-29	70
Other non-cash items	-6	-2
Financial income and expenses	73	-1
Interest received	61	71
Interest paid net of amounts capitalised	-122	-130
Dividends received	133	246
Other financial items paid net	-116	-106
Income taxes paid	-1	-1
Change in net working capital	110	63
Net Cash Provided by Operating Activities	**423**	**606**
Net Cash from Investing Activities		
Capital expenditure	-154	-237
Proceeds from sale of fixed assets	3	5
Purchases of other investments	-5	-9
Investment in subsidiary shares	-91	-12
Proceeds from disposal of subsidiary shares	-	326
Proceeds from disposal of shares in other companies	11	-
Proceeds from long-term receivables net	964	51
Net Cash Provided in Investing Activities	**728**	**124**
Cash Flow from Financing Activities		
Proceeds from (payment of) long-term liabilities net	-587	-461
Proceeds from (payment of) short-term borrowings net	827	-433
Capital repayment / dividend per share paid/declared	-260	-237
Group contributions paid and received	-	40
Net Cash Used in Financing Activities	**-20**	**-1 091**
Net Increase (Decrease) in Cash and Cash Equivalents	**1 131**	**-361**
Translation adjustment	5	-10
Cash and cash equivalents at start of year	1 123	1 494
Cash and Cash Equivalents at Year End	**2 259**	**1 123**

The Board of Director's Proposal for the distribution of dividend

The Parent Company distributable shareholders' equity on 31 December 2016 amounted to EUR 1 470 552 196.69, including the profit for the period of EUR 132 174 538.59. The Board of Directors proposes to the Annual General Meeting of the Company that the distributable funds be used as follows:

Dividend of EUR 0.37 per share from the distributable shareholders' equity to be distributed on 788 619 987 shares, not to exceed	EUR 291 789 395.19
Remaining in distributable shareholders' equity	EUR 1 178 762 801.50
Distributable shareholders' equity on 31 December 2016, total	EUR 1 470 552 196.69

There have been no material changes in the Parent Company's financial position since 31 December 2016. The liquidity of the Parent Company remains good and the proposed dividend does not risk the solvency of the Company.

Helsinki, 3 February 2017

Gunnar Brock
Chairman

Jorma Eloranta
Vice Chairman

Anne Brunila

Elisabeth Fleuriot

Hock Goh

Mikael Mäkinen

Richard Nilsson

Hans Stråberg

Karl-Henrik Sundström
CEO

Auditor's report

(Unofficial translation from the Finnish original)

To the Annual General Meeting of Stora Enso Oyj

Report on the Audit of Financial Statements

Opinion

We have audited the financial statements of Stora Enso Oyj (business identity code 1039050-8) for the year ended 31 December, 2016. The financial statements comprise the consolidated statement of financial position, income statement, statement of comprehensive income, statement of changes in equity, statement of cash flows and notes, including a summary of significant accounting policies, as well as the parent company's balance sheet, income statement, cash flow statement and notes to the financial statements.

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial performance and financial position in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations gov-erning the preparation of financial statements in Finland and comply with statutory requirements.

Basis for opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of Financial Statements section of our report.

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matter	How our audit addressed the key audit matter
Valuation of Biological Assets Refer to Note 1, Note 2 and Note 12 The fair value of Group's Biological assets through subsidiaries, joint operations and associates amounts to EUR 3 386 million as of December 31, 2016. The value of Biological assets is measured at fair value less costs to sell. The fair value is determined using discounted cash flows based on sustainable forest management plans taking into account the growth potential of one cycle. The one cycle varies depending on the geographic location and species. These discounted cash flows requires estimates of growth, harvest, sales price and costs. Due to the level of judgment involved in the valuation of Biological Assets, complexity of the governance structure as well as the significance of biological assets to the Group's financial position, this is considered to be a key audit matter.	As part of our audit procedures, we have gained understanding over the management review and monitoring controls for interpretation of group policy and IAS 41 standard. We have tested management's controls and effectiveness of systems in place for the existence and valuation of Biological assets directly owned by the subsidiary companies. We have assessed the key assumptions contained within the fair value calculations including sales price assumptions, growth assumptions and discount rates. We have used Deloitte specialists where applicable. We have performed analytic review of the results of the IAS 41 valuations to highlight outliers which warrant further procedures. We have assessed and tested the controls and procedures around management's recording of Joint Operations results, including impact of Biological assets valuation. As part of our audit procedures, we have assessed and tested the controls and procedures around management's recording of Forest associate results including impact of Biological assets valuation, as this has direct impact to Group's Equity accounted investments Balance Sheet line item. As part of our audit procedures, we have communicated with the auditors of the four largest associates and Joint Operations. As part of the communication, among other things we have gone through the key audit procedures performed. We have assessed the appropriateness of presentation in the consolidated financial statements.

Key audit matter	How our audit addressed the key audit matter
Valuation of property, plant and equipment, goodwill and other intangible assets Refer to Note 2, Note 10 and Note 11 As at 31 December 2016, the Group has Goodwill of EUR 238 million, which is assessed at least annually for impairment, and EUR 5 791 million property, plant and equipment and other intangible assets, which are assessed for impairment where possible impairment indicators are identified. In 2016 the Group recorded an impairment of EUR 92 million for property, plant and equipment and other intangible assets. Impairment related mainly to Newsprint Europe Cash generating unit in Paper Division, for which an impairment of EUR 78 million was recorded due to further weakened long-term earnings expectations resulting from decline in the European Paper markets. In addition, the Group recorded EUR 11 million impairment of Goodwill, which was fully relating to Corrugated China operations in Packaging Solutions Division. As at 31 December 2016, the value of Stora Enso Oyj's subsidiary shares amounted to EUR 6 179 million in the parent company's financial statements prepared in accordance with the Finnish Gaap. Under Finnish Gaap, an impairment is recorded when it is considered to be substantial and permanent. In 2016 impairment of subsidiary shares amounted to EUR 58 million. The assessment of the recoverable amount requires significant judgment, in particular relating to estimated cash flow projections and discount rates. Due to the level of judgment, market environment and significance to the Group's financial position, this is considered to be a key audit matter. The Group has significant investment projects with Property, plant and equipment, and other intangible assets additions of EUR 638 million during the year ended 31 December 2016. The significant level of additions requires consid-eration of the nature of costs incurred to ensure that capitalization of property, plant and equip-ment, and intangible assets meets the recogni-tion criteria of IAS 16 and IAS 38, and the appli-cation of the judgment assigning appropriate useful economic lives. Thus, this is considered to be a key audit matter.	As part of our audit procedures we have evaluated the robustness of budgeting process, which is basis for the valuations. We have tested the controls and review procedures around identification of impairment indicators. We have critically evaluated management's methodologies in preparing impairment models and documented basis for key assumptions. We performed procedures on those Cash Generating Units where management has identified impairment indicators; or where the recoverable amount is close to carrying value. As part of our audit procedures we assessed the assumptions contained within the calculations including growth assumptions, discount rates and implications of industry changes. In addition, we have analysed earlier estimates against actual business development. We have used Deloitte specialists where applicable. We have reviewed the appropriateness of the controls relating to the significant investment projects, such as the controls over accounting being in line with IFRS and group policy. As part of our audit procedures we assessed the validity of amounts capitalised and assumptions relating to depreciations.

Key audit matter	How our audit addressed the key audit matter
Provisions and contingent liabilities Refer to Note 2, Note 22 and Note 29 As of 31 December 2016 the Group had environmental, restructuring and other provisions totalling EUR 134 million. In addition the Group has disclosed significant open legal cases and other contingent liabilities in Note 29. The assessment of the existence of the present legal or constructive obligation, analysis of the probability of the related payment and analysis of a reliable estimate, requires management's judgement to ensure appropriate accounting or disclosures. Due to the level of judgement relating to recog-nition, valuation and presentation of provisions and contingent liabilities, this is considered to be a key audit matter.	As part of our audit procedures we have assessed man-agement's processes to identify new possible obligations and changes in existing obligations for compliance with group policy and IAS 37 requirements. We have analysed significant changes from prior periods and obtain a detailed understanding of these items and assumptions applied. We have obtained legal representation letters on the main outstanding legal cases. As part of our audit procedures we have reviewed minutes of board meetings (including the sub-committees). We have held regular meetings with management and legal counsels. We have assessed the appropriateness of presentation in the consolidated financial statements.

Responsibilities of the Board of Directors and the Chief Executive Officer for the financial statements

The Board of Directors and the Chief Executive Officer are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Chief Executive Officer are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Chief Executive Officer are responsible for assessing the parent company's and the group's ability to continue as going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or cease operations, or there is no realistic alternative but to do so.

Auditor's responsibilities in the audit of financial statements

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Chief Executive Officer's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit. We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Reporting Requirements

Other information

The Board of Directors and the Chief Executive Officer are responsible for the other information. The other information comprises information included in the report of the Board of Directors and in the Annual Report, but does not include the financial statements and our report thereon. We obtained the report of the Board of Directors prior to the date of the auditor's report, and the Annual Report is expected to be made available to us after the date of the auditor's report.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed, we conclude that there is a material misstatement in the information included in the report of the Board of Directors, we are required to report this fact. We have nothing to report in this regard.

Other opinions

We support that the financial statements should be adopted. The proposal by the Board of Directors regarding the treatment of distributable funds is in compliance with the Limited Liability Companies Act. We support that the Board of Directors of the parent company and the Chief Executive Officer should be discharged from liability for the financial period audited by us.

Helsinki, 3 February 2017

Deloitte & Touche Oy

Audit Firm

Jukka Vattulainen
Authorised Public Accountant (KHT)

Unaudited

Capacities by mill in 2017

Consumer Board

Consumer board	Location	Grade	Capacity 1 000 t
Beihai[1]	CHN	LPB, CKB, FSB, FBB	390
Fors	SWE	FBB	455
Imatra	FIN	SBS, FBB, LPB	1 155
Ingerois	FIN	FBB	280
Skoghall	SWE	LPB, CUK	855
Total			**3 135**

[1] Ramping-up

Plastic coating			
Skoghall (Forshaga)	SWE	Plastic coating	120
Imatra	FIN	Plastic coating	285
Total			**405**

Packaging Solutions

Containerboards	Location	Grade	Capacity 1 000 t
Heinola	FIN	SC fluting	300
Ostrołeka	POL	Testliner, PfR fluting, sack paper, wrapping paper	723
Varkaus	FIN	Kraftliner, white-top kraftliner	390
Total			**1 413**

Corrugated packaging	Grade	Capacity million m^2
Baltic states	Corrugated packaging	**135**
Kaunas		
Riga		
Tallinn		
Finland	Corrugated packaging	**160**
Heinola		
Lahti		
Kristiinankaupunki		
Poland	Corrugated packaging	**395**
Łódz		
Mosina		
Ostrołęka		
Tychy		
Russia	Corrugated packaging	**345**
Arzamas		
Balabanovo		
Balabanovo offset		
Lukhovitsy		
Sweden	Corrugated packaging	**275**
Jönköping		
Skene		
Vikingstad		
Total	Corrugated packaging	**1 310**

Inpac	Location	Grade	Capacity million pcs	Capacity million m^2
Gaobu, Dongguan	CHI	Corrugated and consumer packaging	285	50
Jiashan, Zhejiang	CHI	Corrugated and consumer packaging	50	10
Qian'an, Hebei	CHI	Corrugated and consumer packaging	495	55
Total			**830**	**115**

Biomaterials

Mill	Location	Grade	Division	Capacity 1 000 t
Enocell	FIN	Short and long-fibre	Biomaterials	475
Skutskär	SWE	Short, long-fibre and fluff pulp	Biomaterials	540
Sunila	FIN	Long-fibre pulp	Biomaterials	375
Montes del Plata (50% share)	URU	Short-fibre pulp	Biomaterials	675
Veracel (50% share)	BRA	Short-fibre pulp	Biomaterials	575
Total				**2 640**

Chemical Pulp

Mill	Location	Grade	Division	Capacity 1 000 t
Heinola	FIN	Neutral Sulphite Semi-Chemical Pulp	Packaging Solutions	265
Kaukopää, Imatra	FIN	Short and long-fibre	Consumer Board	825
Nymölla	SWE	Short and long-fibre	Paper	340
Ostrołęka	POL	Long-fibre	Packaging Solutions	110
Oulu	FIN	Long-fibre	Paper	360
Skoghall	SWE	Long-fibre	Consumer Board	375
Tainionkoski, Imatra	FIN	Short and long-fibre	Consumer Board	195
Varkaus	FIN	Short and long-fibre	Packaging Solutions	310
Veitsiluoto	FIN	Short and long-fibre	Paper	380
Chemical Pulp Total (incl. Biomaterials)				**5 800**
of which market pulp [1]				2 150

[1] market pulp defined as dried pulp shipped out from the mill to external customers.

Deinked Pulp (DIP)

Mill	Location	Grade	Division	Capacity 1 000 t
Hylte	SWE	DIP	Paper	290
Langerbrugge	BEL	DIP	Paper	680
Maxau	GER	DIP	Paper	295
Ostrołęka	POL	Recycled fibre based pulp	Packaging Solutions	615
Sachsen	GER	DIP	Paper	430
Total				**2 310**

CTMP

Mill	Location	Grade	Division	Capacity 1 000 t
Beihai[1]	CHN	BCTMP	Consumer Board	150
Fors	SWE	CTMP	Consumer Board	185
Kaukopää	FIN	CTMP	Consumer Board	220
Skoghall	SWE	CTMP	Consumer Board	270
Total				**825**

[1] Ramping-up

Lignin

Mill	Capacity 1 000 t
Sunila	50

Wood Products

Mill	Location	Sawing Capacity 1 000 m^3	Further Processing Capacity 1 000 m^3	Pellet capacity 1 000 t	CLT capacity 1 000 m^3	LVL capacity 1 000 m^3
Ala	SWE	370	45	75	-	-
Alytus	LIT	200	90	-	-	-
Amsterdam	NLD	-	50	-	-	-
Bad St. Leonhard	AUT	350	105	-	72	-
Brand	AUT	440	255	-	-	-
Gruvön	SWE	370	150	100	-	-
Honkalahti	FIN	310	70	-	-	-
Imavere	EST	335	155	100	-	-
Impilahti	RUS	120	10	15	-	-
Kitee	FIN	260	110	25	-	-
Launkalne	LAT	190	20	-	-	-
Murow	POL	250	210	-	-	-
Nebolchi	RUS	180	30	35	-	-
Näpi	EST	40	120	15	-	-
Pfarrkirchen	GER	-	130	-	-	-
Planá	CZE	360	220	-	-	-
Uimaharju	FIN	240	20	-	-	-
Varkaus[1]	FIN	125	-	-	-	65
Veitsiluoto[2]	FIN	200	-	-	-	-
Ybbs	AUT	550	430	-	78	-
Zdírec	CZE	550	220	65	-	-
Total		**5 440**	**2 440**	**430**	**150**	**65**

[1] Varkaus LVL ramping-up

[2] Veitsiluoto Sawmill belongs to division Paper.

Paper

Mill	Location	Grade	Capacity 1 000 t
Anjala	FIN	Impr. news, book	435
Dawang	CHN	SC	140
Hylte	SWE	News	480
Kvarnsveden	SWE	SC, news, impr. news	665
Langerbrugge	BEL	SC, news, impr. news, dir.	555
Maxau	GER	SC	530
Nymölla	SWE	WFU	485
Oulu	FIN	WFC	1 080
Sachsen	GER	News, directory	310
Veitsiluoto	FIN	LWC, MWC, WFU	790
Total			**5 470**

Abbreviations used in the tables:

CLT	cross-laminated timber
CTMP	chemi-thermo-mechanical pulp
CUK	coated unbleached kraftboard
DIP	deinked pulp
FBB	folding boxboard
HWC	heavy-weight coated paper
LPB	liquid packaging board
LVL	laminated veneer lumber
LWC	light-weight coated paper
MWC	medium-weight coated paper
PfR	paper for recycling
SBS	solid bleached sulphate board
SC	super-calendered paper
WFC	wood free coated paper
WFU	wood free uncoated paper
WLC	white lined chipboard
WTL	white top liner

The formula: (Sum of net saleable production of two best consecutive months / Available time of these two consecutive months) x Available time of the year

Unaudited

Information for Shareholders

Annual General Meeting (AGM)

Stora Enso Oyj's AGM will be held at 16.00 (Finnish time) on Thursday 27 April 2017 at the Marina Congress Center, Katajanokanlaituri 6, Helsinki, Finland.

Nominee-registered shareholders wishing to attend and vote at the AGM must be temporarily registered in the Company's register of shareholders on the record date, 13 April 2017. Instructions for submitting notice of attendance will be given in the invitation to the AGM, which can be consulted on the Company's website at storaenso.com/agm.

AGM and dividend in 2017

13 April	Record date for AGM
27 April	Annual General Meeting (AGM)
28 April	Ex-dividend date
2 May	Record date for dividend
9 May	Dividend payment

Dividend

The Board of Directors proposes to the AGM that a dividend of EUR 0.37 per share be paid to the shareholders for the fiscal year ending 31 December 2016. The dividend payable on shares registered with Euroclear Sweden will be forwarded by Euroclear Sweden AB and paid in Swedish crown. The dividend payable to ADR holders will be forwarded by Citibank, N.A. (Citi) and paid in US dollars.

Publication dates for 2017

4 February	Financial results for 2016
Week 8	Annual Report 2016
27 April	Interim Report for January–March
26 July	Interim Report for January–June
24 October	Interim Report for January–September

Distribution of financial information

Stora Enso's **Annual Report 2016** consists of four reports: Progress Book, Sustainability Report, Financial Report, and Corporate Governance Report. You can find the highlights of the year and the online Financial Report at storaenso.com/annualreport.

Progress Book is published in English, Finnish, and Swedish. Progress Book 2016 is downloadable as a PDF file from the Company's website.

Sustainability report is published in English and is downloadable as a PDF file from the Company's website.

Financial Report is published in English and is downloadable as a PDF file from the Company's website. The Official Financial Statements (in Finnish), an English translation of the Parent Company Financial Statements, and the list of principal subsidiaries can be found on the Company's website.

Corporate Governance Report is published in English and is downloadable as a PDF file from the Company's website. A Finnish translation of the report can be found on the Company's website.

Interim Reports are published in English, Finnish and Swedish at storaenso.com/press.

Information for holders of American Depositary Receipts (ADRs)

The Stora Enso dividend reinvestment and direct purchase plan is administered by Citibank, N.A. The plan makes it easier for existing ADR holders and first-time purchasers of Stora Enso ADRs to increase their investment by reinvesting cash distributions or by making additional cash investments. The plan is intended for US residents only. Further information on the Stora Enso ADR programme is available at citi.com/DR.

Contact information for Stora Enso ADR holders

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Email: citibank@shareholders-online.com

Toll-free number: (877)-CITI-ADR
Direct dial: (781) 575-4555

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