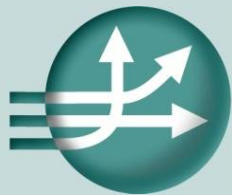


Sustainable Value Assessment of the Carbon Performance of Nordic Companies

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Ralf Barkemeyer, Andrea Liesen, University of Leeds
Frank Mueller, IZT Berlin



SustainableValue
Research Ltd



What This Presentation is About

- The Sustainable Value approach
- Sustainable Value Assessment of the Carbon Performance of Nordic Companies using the example of pulp and paper companies, i.e.
- our new study

What is Sustainable Value?

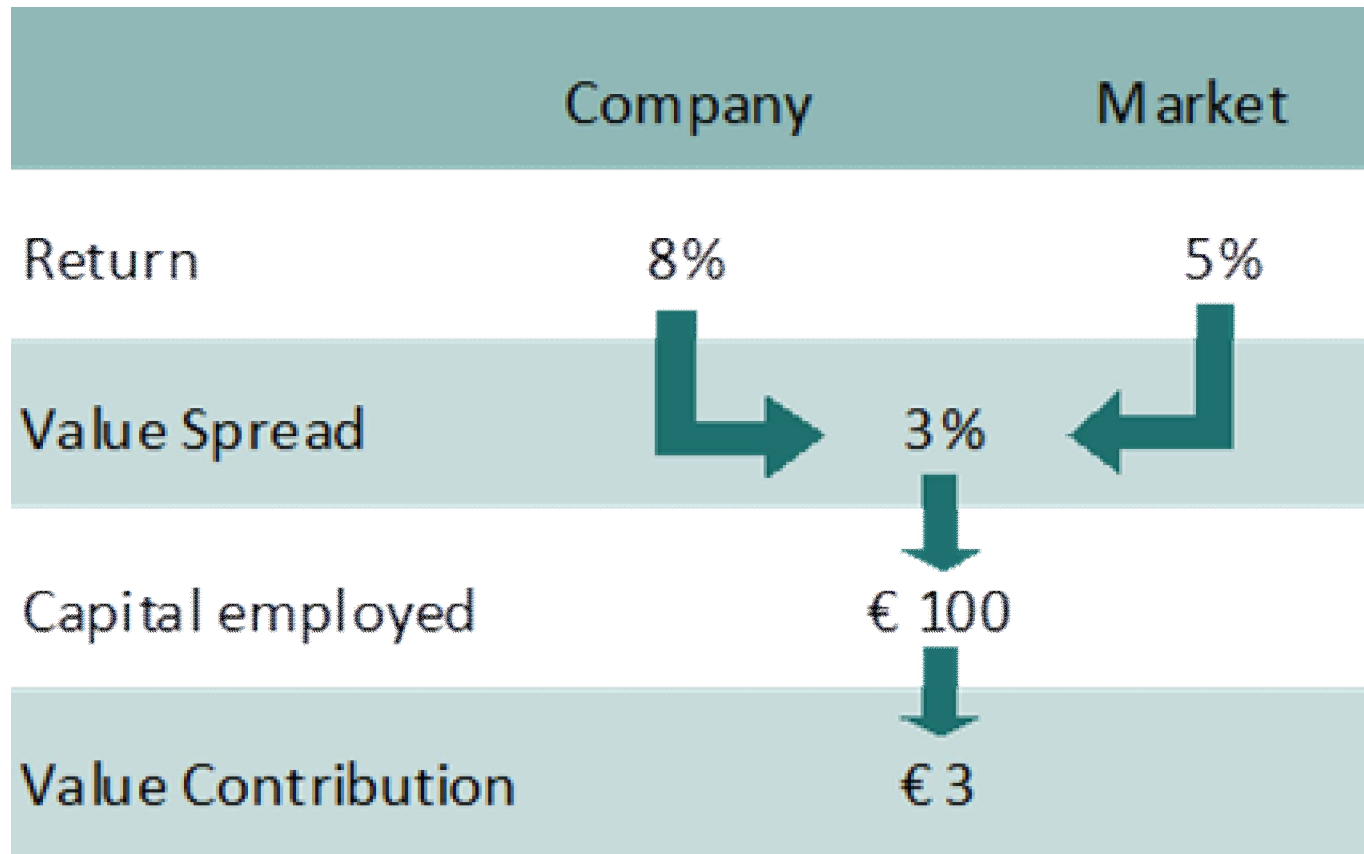
- Sustainable Value
 - is the first value-oriented approach worldwide to assess corporate sustainability performance.
 - assesses environmental and social resources analogously to the way economic resources are valued, i.e. using opportunity cost thinking (like e.g. Economic Value Added – EVA™).
 - expresses the sustainable performance of a company in monetary terms (like e.g. in SEK, €, £, \$).
 - shows which companies use their economic, environmental and social resources in a value-creating way.
 - more information on www.SustainableValue.com

David Green, 1894

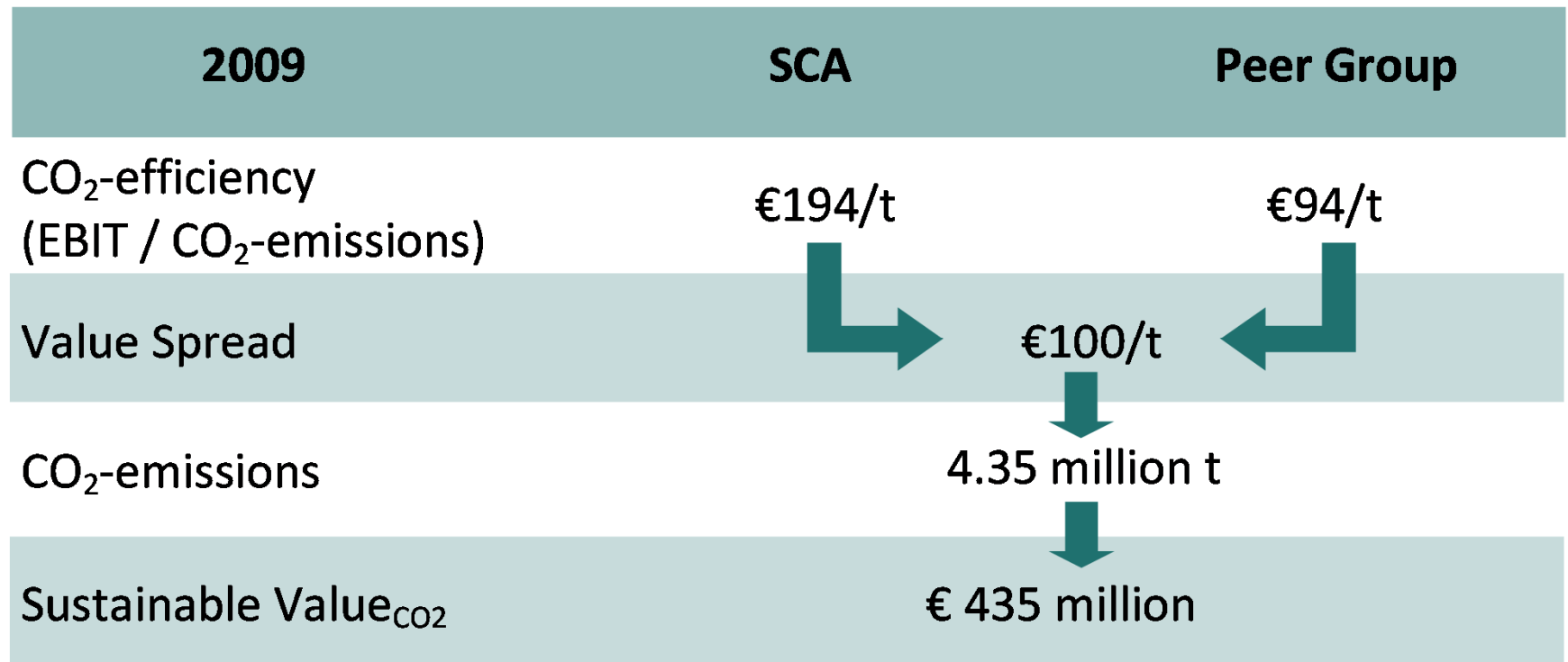
But, when we once recognize the sacrifice of opportunity as an element in the cost of production, we find that the principle has a very wide application. Not only time and strength, but commodities, capital, and many of the free gifts of nature, such as mineral deposits and the use of fruitful land, must be economized if we are to act reasonably. Before devoting any one of these resources to a particular use, we must consider the other uses from which it will be withheld by our action; and the most advantageous opportunity which we deliberately forego constitutes a sacrifice for which we must expect at least an equivalent return.

Green, 1894: 224

Assessing Economic Performance...



... and Environmental Performance, analogously.



Advantages of the Sustainable Value Approach

- The Sustainable Value approach applies the logic of financial management and opportunity cost thinking to sustainability management.
- It allows practitioners in the financial markets to use corporate environmental and social information for an integrated assessment of corporate sustainability performance.
- It is a practical tool for measuring corporate sustainability performance in the same way corporate economic performance is measured.
- The Sustainable Value approach therefore provides a link between corporate sustainability and the value-based approach that is traditionally used in management practice and corporate financial analysis.

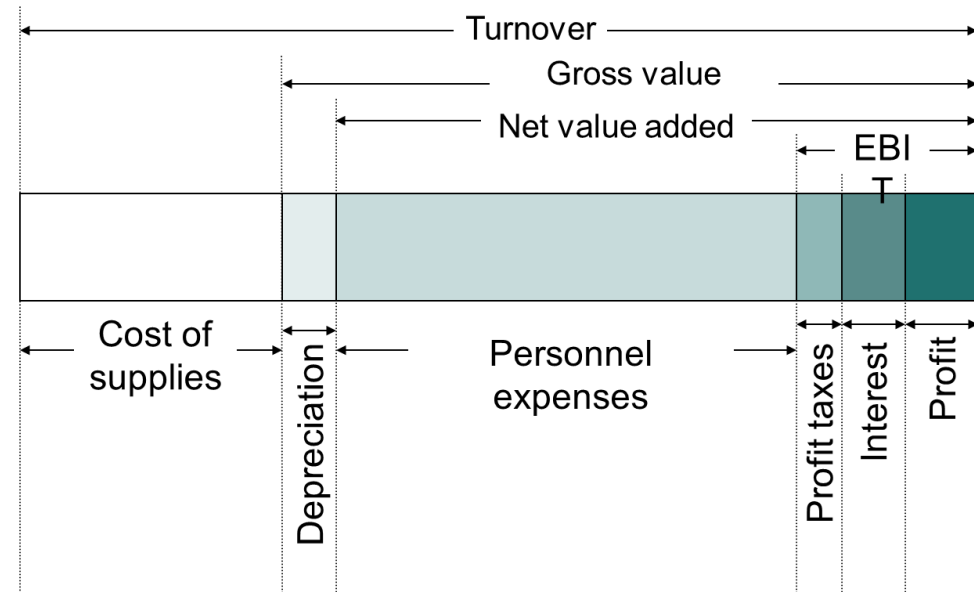
Sustainable Value Creation by Pulp & Paper Companies

Industry Affiliation	Number of Companies
Paper mills	11
Pulp mills	4
Wood products	3
Packaging paper and plastics film, coated and laminated	2
Converted paper and paperboard products	1
Corrugated and solid fiber boxes	1
Paperboard mills	1
Sanitary paper products	1
Sawmills and planing mills, general	1
Total	25

Country	Number of Companies
Sweden	6
Finland	5
USA	4
Canada	2
Australia	1
Great Britain	1
Great Britain/South Africa	1
Ireland	1
Japan	1
Norway	1
Portugal	1
Spain	1
Total	25

2 Scenarios: EBIT & NVA

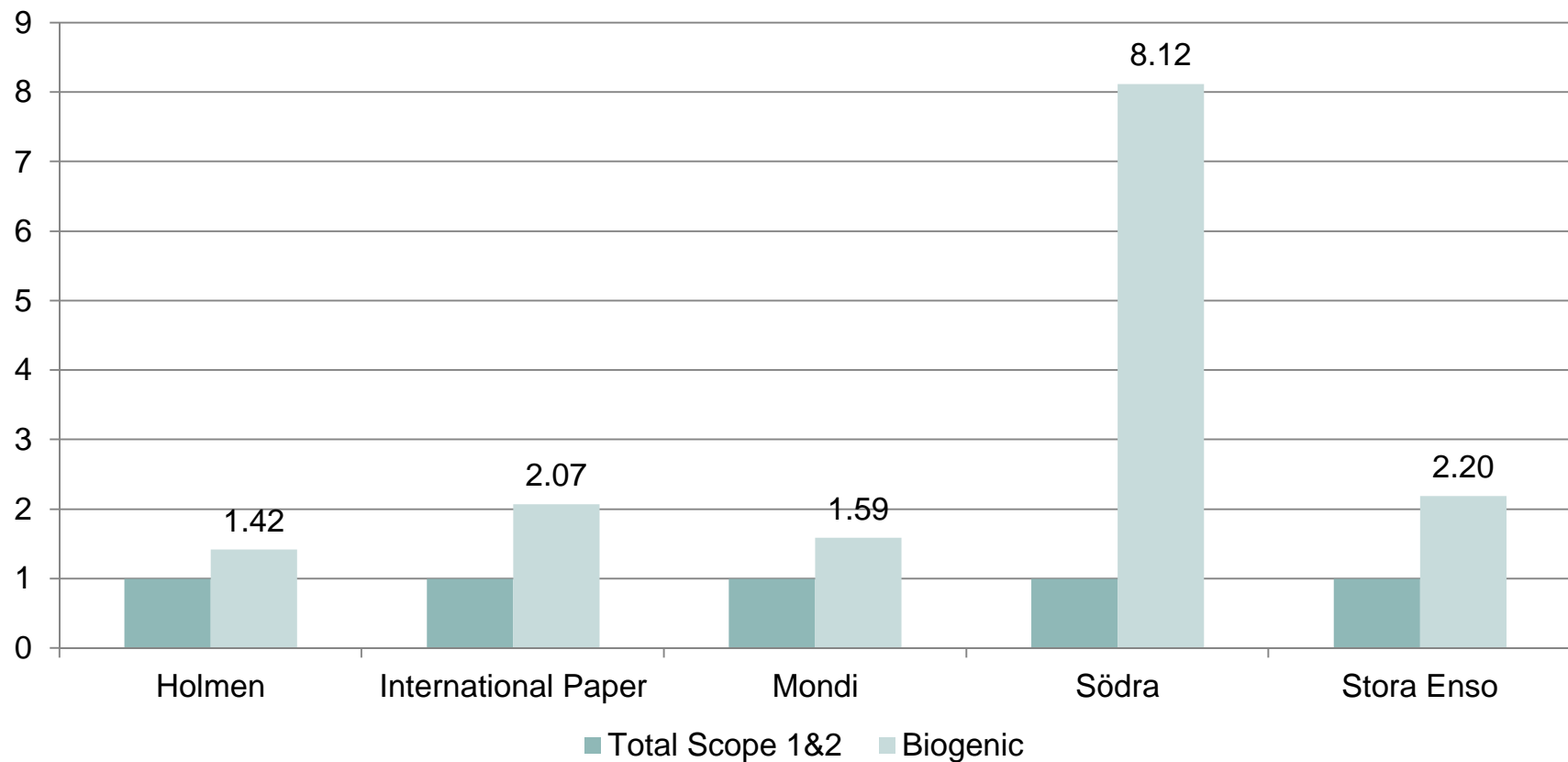
- For this study, 2 return figures have been used
 - EBIT
 - Net Value Added



CO ₂ -efficiency of the benchmark	2005	2006	2007	2008	2009
EBIT scenario	€ 79 per t	€ 98 per t	€ 91 per t	€ 52 per t	€ 94 per t
NVA scenario	€ 255 per t	€ 320 per t	€ 332 per t	€ 362 per t	€ 348 per t

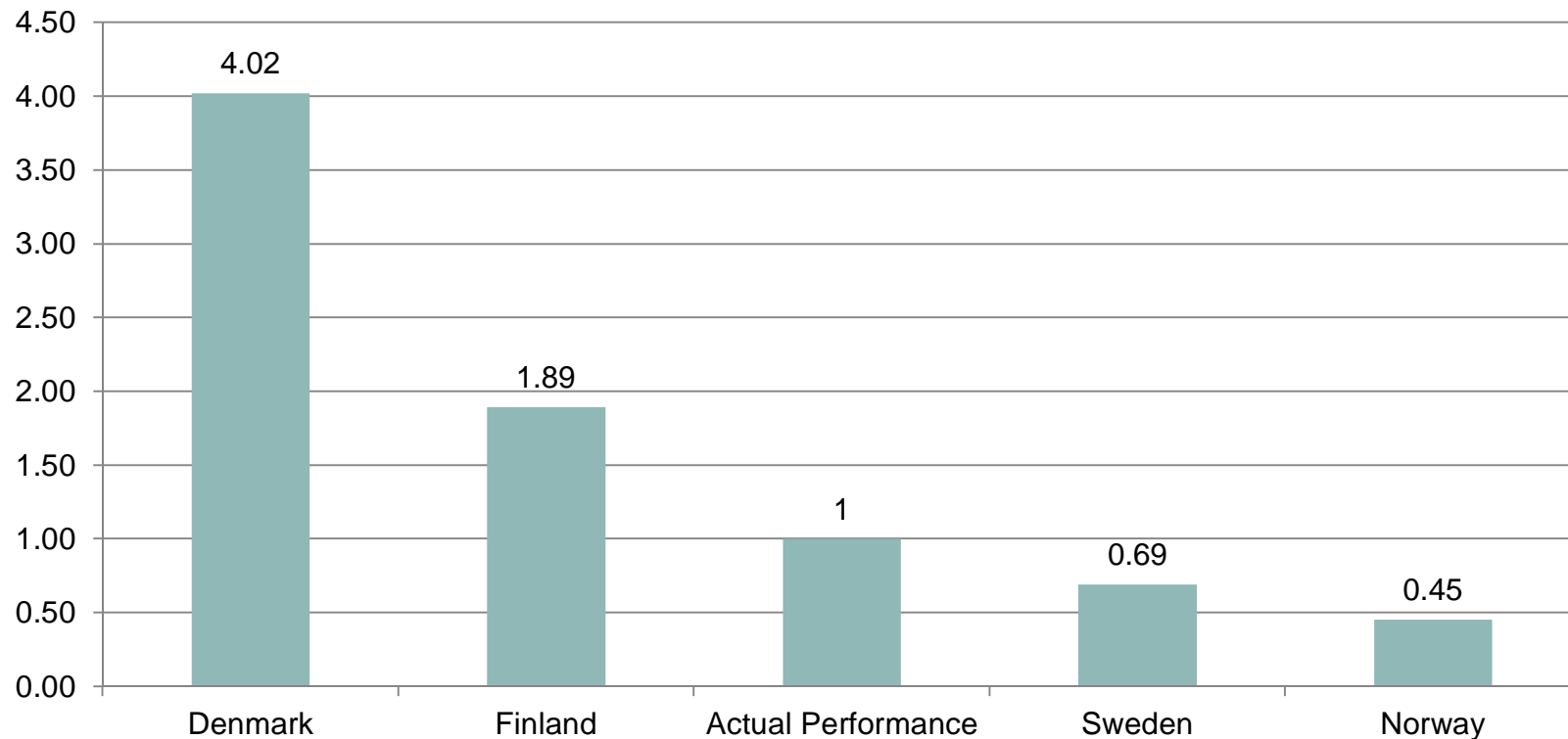
Biogenic Emissions

- Biogenic emissions as a multiple of scope 1&2 emissions: selected companies (2009)



Indirect Emissions

- Hypothetical example of Holmen in 2009
 - Holmen's overall emissions in 2009 if electricity use had exclusively taken place in Denmark, Finland, Sweden or Norway (compared to actual performance)



Data Quality

- One of our pet topics.
- Data quality and reliability of published data is the elephant in the room.
- They are doing it again – published data is not very reliable. We have to
 - Correct data
 - Eliminate some companies
 - ...
- This is an unashamed publicity plug for our workshop on corporate sustainability information and for Andrea's presentation.

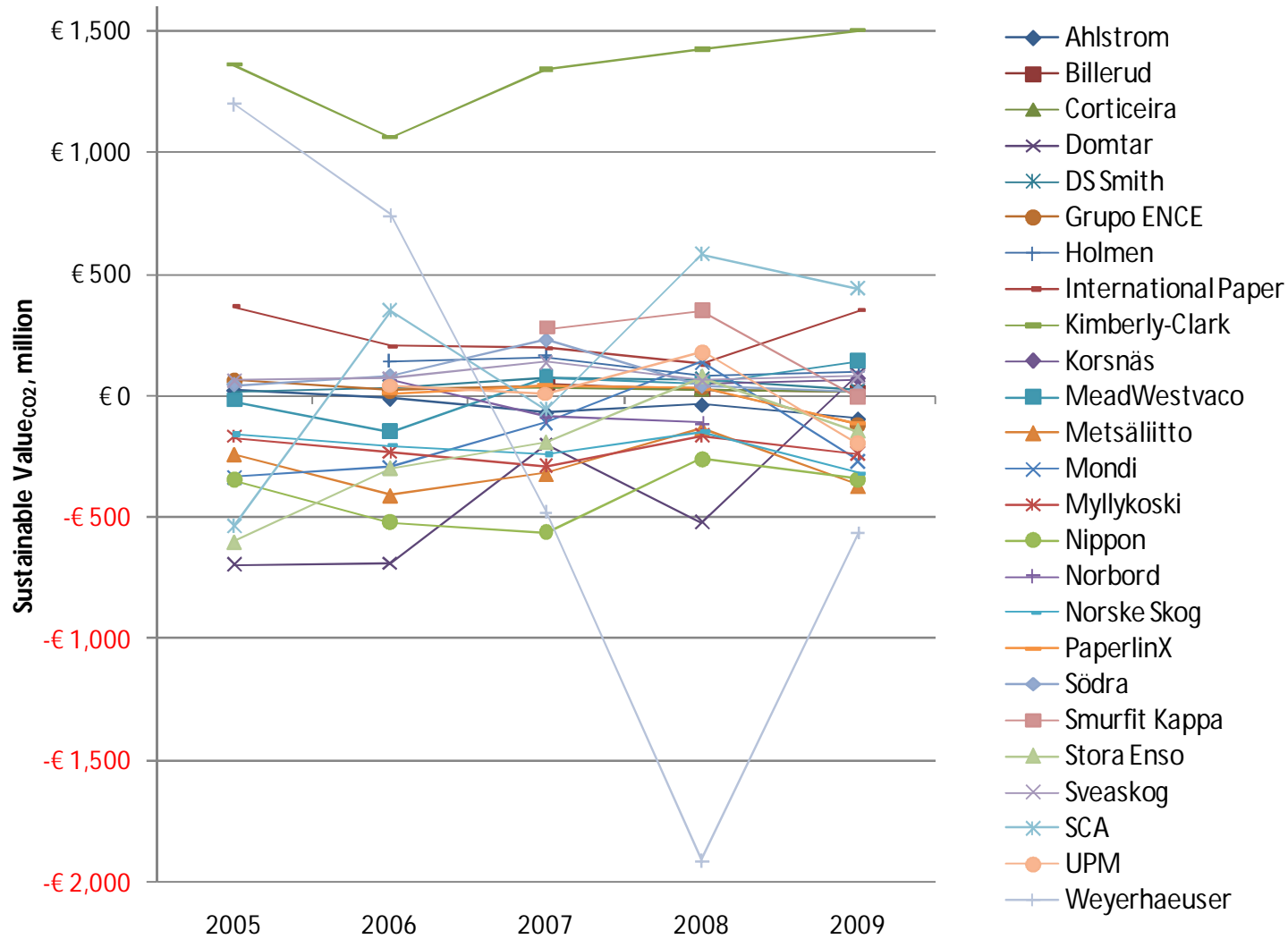
Absolute Sustainable Value (EBIT Scenario)

	2005	Rank	2006	Rank	2007	Rank	2008	Rank	2009	Rank
Ahlstrom	€ 20,007	7/17	-€ 14,588	14/22	-€ 73,638	15/24	-€ 40,052	18/25	-€ 97,957	14/24
Billerud	N/A	N/A	N/A	N/A	€ 45,214	9/24	€ 20,348	17/25	€ 12,445	12/24
Corticeira	N/A	N/A	€ 27,992	11/22	€ 31,540	12/24	€ 22,504	16/25	€ 13,358	11/24
Domtar	-€ 697,036	17/17	-€ 692,875	22/22	-€ 201,805	19/24	-€ 523,240	24/25	€ 85,594	6/24
DS Smith	€ 15,196	8/17	€ 35,037	10/22	€ 75,157	7/24	€ 63,749	9/25	€ 20,217	9/24
Grupo ENCE	€ 61,691	4/17	€ 18,466	12/22	€ 37,441	11/24	€ 31,993	14/25	-€ 122,545	16/24
Holmen	N/A	N/A	€ 140,696	5/22	€ 157,216	5/24	€ 78,163	7/25	€ 97,460	5/24
International Paper	€ 360,431	3/17	€ 197,053	4/22	€ 190,715	4/24	€ 125,831	6/25	€ 344,008	3/24
Kimberly Clark	€ 1,362,069	1/17	€ 1,060,360	1/22	€ 1,340,261	1/24	€ 1,422,580	1/25	€ 1,500,688	1/24
Korsnas	N/A	N/A	N/A	N/A	N/A	N/A	€ 45,345	12/25	€ 66,424	8/24
MeadWestVaco	-€ 20,274	9/17	-€ 148,519	15/22	€ 72,887	8/24	€ 50,313	11/25	€ 141,509	4/24
Metsäliitto	-€ 240,958	12/17	-€ 410,915	20/22	-€ 322,167	22/24	-€ 135,414	20/25	-€ 371,820	23/24
Mondi	-€ 337,198	13/17	-€ 292,514	18/22	-€ 115,252	17/24	€ 135,567	5/25	-€ 269,400	20/24
Myllykoski	-€ 170,947	11/17	-€ 235,556	17/22	-€ 289,888	21/24	-€ 165,831	22/25	-€ 242,707	19/24
Nippon	-€ 347,629	14/17	-€ 522,515	21/22	-€ 564,071	24/24	-€ 259,893	23/25	-€ 343,694	22/24
Norbord	N/A	N/A	€ 60,447	8/22	-€ 90,540	16/24	-€ 113,428	19/25	N/A	N/A
Norske Skog	-€ 161,827	10/17	-€ 206,521	16/22	-€ 242,846	20/24	-€ 150,834	21/25	-€ 319,048	21/24
Paperlinx	N/A	N/A	€ 9,250	13/22	€ 41,814	10/24	€ 29,353	15/25	-€ 116,226	15/24
Sodra	€ 41,880	6/17	€ 77,881	6/22	€ 226,425	3/24	€ 36,064	13/25	€ 13,859	10/24
Smurfit Kappa	N/A	N/A	N/A	N/A	€ 275,115	2/24	€ 347,224	3/25	-€ 9,736	13/24
Stora	-€ 602,306	16/17	-€ 300,432	19/22	-€ 194,750	18/24	€ 73,976	8/25	-€ 147,794	17/24
Sveaskog	€ 59,598	5/17	€ 70,700	7/22	€ 134,455	6/24	€ 59,391	10/25	€ 75,581	7/24
SCA	-€ 540,045	15/17	€ 349,641	3/22	-€ 58,345	14/24	€ 581,364	2/25	€ 438,265	2/24
UPM	N/A	N/A	€ 36,990	9/22	€ 4,754	13/24	€ 178,301	4/25	-€ 202,608	18/24
Weyerhaeuser	€ 1,197,348	2/17	€ 739,920	2/22	-€ 479,690	23/24	-€ 1,913,375	25/25	-€ 565,871	24/24

in million €



Absolute Sustainable Value (EBIT Scenario)



Sustainable Value and Company Size

- The absolute Sustainable Value shows the amount of value that has been created by the use of the set of environmental, social and economic resources by a company in comparison to the sector on average.
- Bigger companies tend to produce higher Sustainable Value indicators (positive as well as negative) as they produce more.
- To correct for firm size, Sustainable Value can be divided by sales (Sustainable Value Margin).
- The Sustainable Value Margin expresses Sustainable Value created by a company as the percentage of the sales of a company.

Sustainable Value Margin (EBIT Scenario)

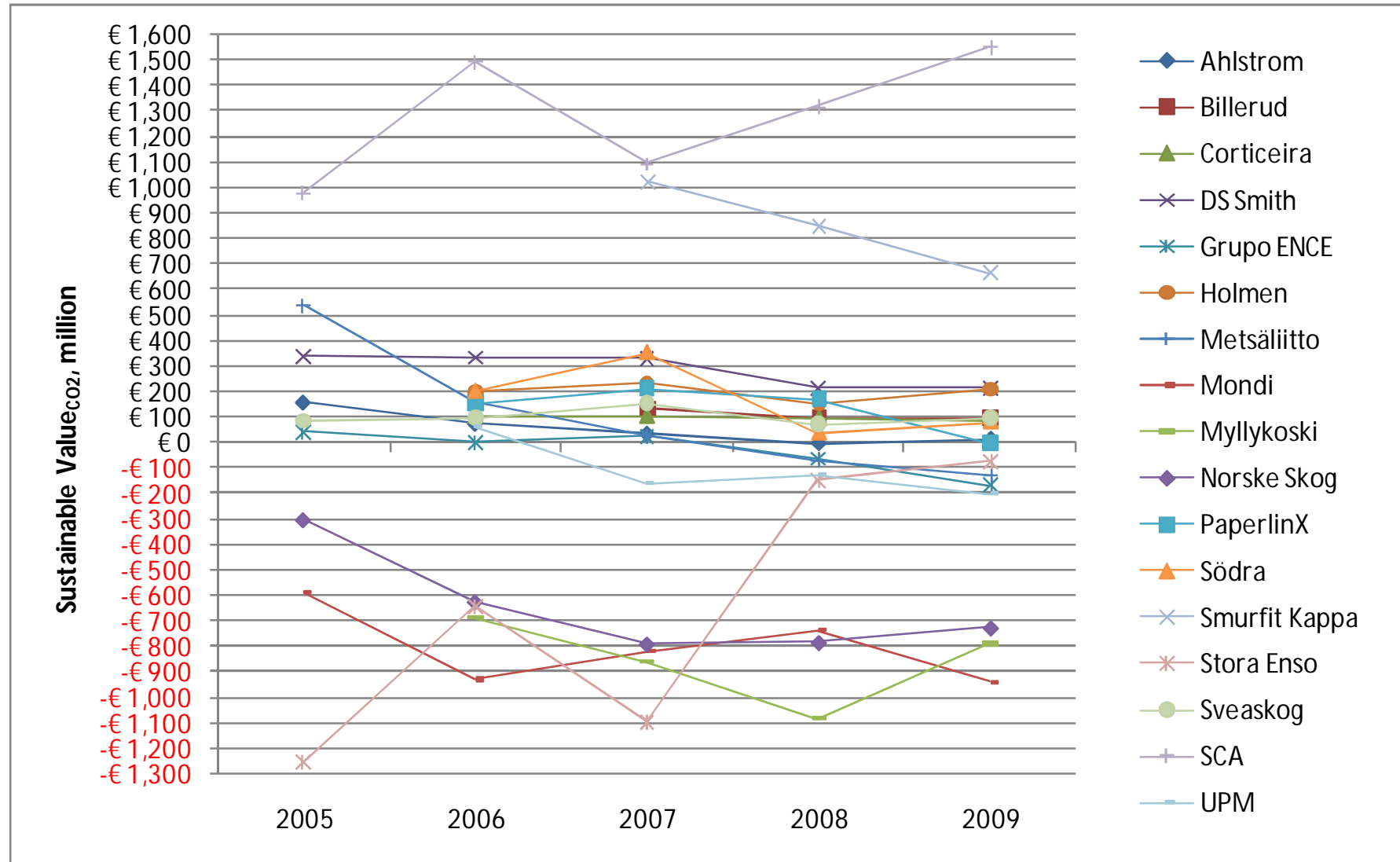
	2005	Rank	2006	Rank	2007	Rank	2008	Rank	2009	Rank
Ahlstrom	1.29%	7/17	-0.91%	14/22	-4.18%	17/24	-2.22%	19/25	-6.14%	19/24
Billerud	N/A	N/A	N/A	N/A	5.39%	7/24	2.51%	10/25	1.64%	10/24
Corticeira	N/A	N/A	6.33%	5/22	6.95%	5/24	4.81%	6/25	3.22%	7/24
Domtar	-25.17%	17/17	-27.60%	22/22	-4.64%	19/24	-11.98%	23/25	2.18%	8/24
DS Smith	0.63%	8/17	1.47%	10/22	2.90%	9/24	2.56%	9/25	0.86%	11/24
Grupo ENCE	10.80%	1/17	2.96%	9/22	5.88%	6/24	4.73%	7/25	-22.88%	24/24
Holmen	N/A	N/A	6.84%	4/22	7.59%	4/24	3.88%	8/25	5.53%	4/24
International Paper	1.96%	6/17	1.18%	11/22	1.28%	11/24	0.71%	15/25	2.12%	9/24
Kimberly Clark	10.10%	2/17	8.34%	2/22	10.80%	2/24	10.20%	1/25	11.31%	2/24
Korsnas	N/A	N/A	N/A	N/A	N/A	N/A	5.89%	3/25	8.77%	3/24
MeadWestVaco	-0.41%	9/17	-2.85%	16/22	1.44%	10/24	1.11%	14/25	3.25%	6/24
Metsäliitto	-2.79%	10/17	-4.43%	17/22	-4.20%	18/24	-2.10%	18/25	-7.69%	20/24
Mondi	-6.29%	15/17	-5.09%	18/22	-1.84%	16/24	2.14%	12/25	-5.12%	18/24
Myllykoski	-11.76%	16/17	-15.37%	21/22	-20.06%	24/24	-11.27%	22/25	-20.03%	23/24
Nippon	-4.29%	11/17	-6.97%	20/22	-7.37%	22/24	-2.86%	20/25	-3.94%	17/24
Norbord	N/A	N/A	6.06%	6/22	-11.22%	23/24	-17.60%	24/25	N/A	N/A
Norske Skog	-5.04%	13/17	-5.76%	19/22	-7.18%	21/24	-4.68%	21/25	-13.05%	21/24
Paperlinx	N/A	N/A	0.20%	13/22	0.89%	12/24	0.64%	17/25	-3.29%	16/24
Sodra	2.47%	5/17	2.97%	8/22	8.40%	3/24	2.33%	11/25	0.85%	12/24
Smurfit Kappa	N/A	N/A	N/A	N/A	3.78%	8/24	4.92%	5/25	-0.16%	13/24
Stora	-4.57%	12/17	-2.06%	15/22	-1.46%	15/24	0.67%	16/25	-1.65%	14/24
Sveaskog	8.99%	3/17	10.85%	1/22	17.12%	1/24	7.88%	2/25	13.29%	1/24
SCA	-5.20%	14/17	3.19%	7/22	-0.51%	14/24	5.06%	4/25	4.05%	5/24
UPM	N/A	N/A	0.36%	12/22	0.46%	13/24	1.88%	13/25	-2.62%	15/24
Weyerhaeuser	7.50%	4/17	7.23%	3/22	-6.46%	20/24	-32.87%	25/25	-14.75%	22/24

Absolute Sustainable Value (NVA Scenario)

	2005	Rank	2006	Rank	2007	Rank	2008	Rank	2009	Rank
Ahlstrom	€ 158,882	4/9	€ 75,471	9/15	€ 35,782	10/17	-€ 845	10/17	€ 15,767	9/17
Billerud	N/A	N/A	N/A	N/A	€ 134,352	8/17	€ 98,050	6/17	€ 101,351	5/17
Corticeira	N/A	N/A	€ 105,741	7/15	€ 105,002	9/17	€ 97,510	7/17	€ 89,910	7/17
DS Smith	€ 337,651	3/9	€ 333,087	2/15	€ 326,248	4/17	€ 214,141	3/17	€ 214,125	3/17
Grupo ENCE	€ 41,272	6/9	-€ 91	11/15	€ 23,596	12/17	-€ 63,287	11/17	-€ 168,468	13/17
Holmen	N/A	N/A	€ 199,410	4/15	€ 233,849	5/17	€ 154,584	5/17	€ 211,695	4/17
Metsäliitto	€ 538,042	2/9	€ 163,909	5/15	€ 26,430	11/17	-€ 68,776	12/17	-€ 125,984	12/17
Mondi	-€ 587,344	8/9	-€ 926,847	15/15	-€ 817,957	15/17	-€ 734,202	15/17	-€ 938,436	17/17
Myllykoski	N/A	N/A	-€ 689,871	14/15	-€ 862,418	16/17	-€ 1,081,157	17/17	-€ 790,239	16/17
Norske Skog	-€ 304,532	7/9	-€ 624,554	12/15	-€ 789,814	14/17	-€ 783,882	16/17	-€ 726,735	15/17
Paperlinx	N/A	N/A	€ 152,452	6/15	€ 212,020	6/17	€ 168,623	4/17	-€ 4,910	10/17
Sodra	N/A	N/A	€ 201,355	3/15	€ 353,182	3/17	€ 36,462	9/17	€ 80,445	8/17
Smurfit Kappa	N/A	N/A	N/A	N/A	€ 1,022,885	2/17	€ 849,459	2/17	€ 665,620	2/17
Stora	-€ 1,250,761	9/9	-€ 642,155	13/15	-€ 1,091,924	17/17	-€ 147,762	14/17	-€ 70,783	11/17
Sveaskog	€ 85,372	5/9	€ 97,880	8/15	€ 155,250	7/17	€ 72,282	8/17	€ 95,202	6/17
SCA	€ 981,419	1/9	€ 1,494,026	1/15	€ 1,092,857	1/17	€ 1,316,585	1/17	€ 1,550,157	1/17
UPM	N/A	N/A	€ 60,185	10/15	-€ 159,341	13/17	-€ 127,784	13/17	-€ 198,720	14/17

in million €

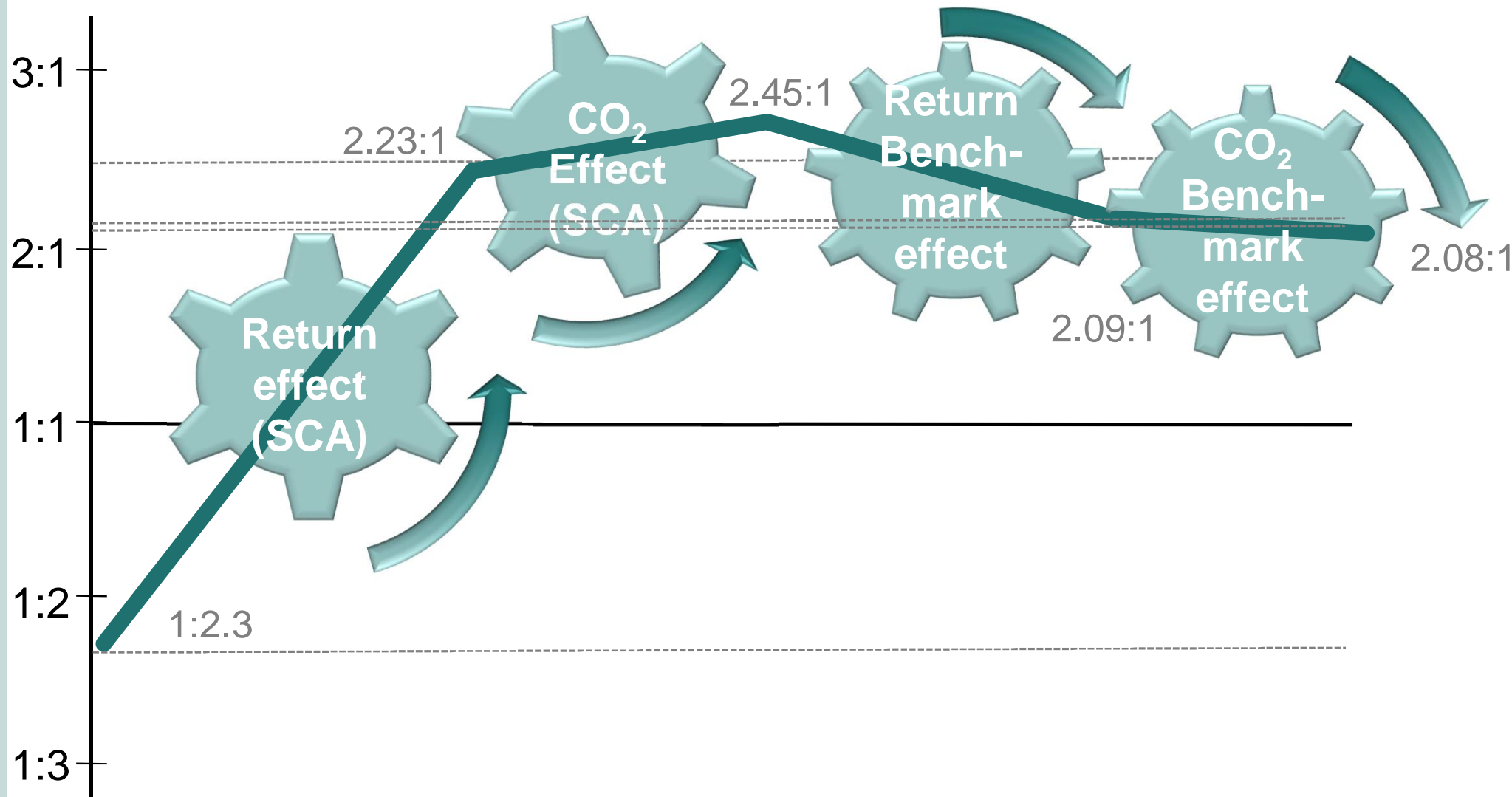
Absolute Sustainable Value (NVA Scenario)



Sustainable Value Margin (NVA Scenario)

	2005	Rank	2006	Rank	2007	Rank	2008	Rank	2009	Rank
Ahlstrom	10.23%	3/9	4.72%	7/15	2.03%	11/17	-0.05%	10/17	0.99%	9/17
Billerud	N/A	N/A	N/A	N/A	16.01%	3/17	12.08%	2/17	13.39%	4/17
Corticeira	N/A	N/A	23.89%	1/15	23.14%	1/17	20.82%	1/17	21.65%	1/17
DS Smith	14.08%	1/9	13.97%	3/15	12.60%	6/17	8.60%	6/17	9.10%	7/17
Grupo ENCE	7.23%	5/9	-0.01%	11/15	3.70%	10/17	-9.36%	14/17	-31.46%	16/17
Holmen	N/A	N/A	9.70%	5/15	11.29%	7/17	7.68%	7/17	12.01%	5/17
Metsäliitto	6.23%	6/9	1.77%	9/15	0.34%	12/17	-1.07%	11/17	-2.60%	13/17
Mondi	-10.95%	9/9	-16.12%	13/15	-13.05%	14/17	-11.57%	15/17	-17.85%	14/17
Myllykoski	N/A	N/A	-45.00%	15/15	-59.68%	17/17	-73.50%	17/17	-65.20%	17/17
Norske Skog	-9.48%	7/9	-17.43%	14/15	-23.34%	16/17	-24.30%	16/17	-29.72%	15/17
Paperlinx	N/A	N/A	3.36%	8/15	4.51%	9/17	3.69%	8/17	-0.14%	10/17
Sodra	N/A	N/A	7.69%	6/15	13.11%	5/17	2.35%	9/17	4.94%	8/17
Smurfit Kappa	N/A	N/A	N/A	N/A	14.07%	4/17	12.03%	3/17	10.99%	6/17
Stora	-9.48%	8/9	-4.40%	12/15	-8.16%	13/17	-1.34%	12/17	-0.79%	11/17
Sveaskog	12.87%	2/9	15.02%	2/15	19.77%	2/17	9.59%	5/17	16.74%	2/17
SCA	9.45%	4/9	13.63%	4/15	9.54%	8/17	11.45%	4/17	14.34%	3/17
UPM	N/A	N/A	0.59%	10/15	-15.40%	15/17	-1.35%	13/17	-2.57%	12/17

SCA Effect Analysis 2005-2009 (EBIT)



Preliminary Conclusions/Way forward

- Sustainable Value applies the logic of investment performance assessment to environmental resources
- Sustainable Value compares the resources use of a company to a benchmark and thus defines the cost of a resource via opportunity costs
- In our new study, we assess the Sustainable Value_{CO₂} of 25 pulp & paper companies worldwide (focusing on the Nordic countries)
- We are not yet satisfied with the number of companies we have found reliable data for in the Nordic countries and continue with the data mining for a little bit longer.
- Target: More than 100 Nordic companies with reliable data.
Not easy.



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