

# The business conception of sustainable development: a view from corpus linguistics

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## 1 Introduction

Of the many problems arising in the ongoing public debate about sustainable development, perhaps none is more vexing than that of the term’s meaning. Enthusiastically adopted by academia, public policy bodies and the media, the notion has gained widespread prominence in the “unprecedented outbreak of environmental discourse” (Lash et al., 1996, 1) of the past three decades. Much of this enthusiasm stems from the promise of a common ground between environmental, social and economic goals that the concept offers (Khosla, 1987). However, there is a widespread fear that this promise may be entirely illusory, and that despite the common label, the meanings that sustainable development has for different actors remain irreconcilable (Huckle, 1991).

In an early critique, Tolba (1984) lamented that the term was used as “an article of faith”, with little effort to explain its meaning. The World Commission on Environment and Development (1987, 34) offered the now standard definition of “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”, but it was soon pointed out that no straightforward way to operationalise this goal was available (Lélé, 1991, 611). Participants in the environment/development debate —most prominently ecologists and environmental activists, on the one hand, and economic policy agencies and the business world on the other— bring different presuppositions about what such needs are, how they should be ranked and how conflicts are to be resolved. Without a clear assessment of where these differences lie, it seems impossible to provide principled judgement on the sustainability of current practices and, *a fortiori*, to consensually design future policy.

Rivers of ink have been spilled trying to more or less systematically map the contentious points (e.g., Barbier, 1987; Brookfield, 1988; Brown et al., 1987; Goodland, 1995; Hopwood et al., 2005; Huckle, 1991; Redclift, 1992; Slocombe and Bers, 1991; Tisdell, 1988; Williams and Millington, 2004), but the considerable effort expended does not seem to have brought consensus any closer. Even if the scientific literature has made limited advance in distinguishing and defining different qualitative aspects of the issue — ecologic, economic, ethical, institutional, political, social, etc. (Čiegis et al., 2009)—, the difficulties in harmonising these various conceptions pale in comparison with those involved in bridging the gap between them and non-academic approaches. The beliefs and

priorities of other important agents in the debate —such as government institutions, environmental activists or the business world— are normally formulated using forms of argument and standards of proof that do not easily map to disciplinary practices. Given the convincing arguments raised against the *deficit model* —where non-scientific actors are seen as lacking expertise and knowledge, and thus disqualified from participating in the debate (Irwin, 1995)—, it seems clear that an integration of the different perspectives is necessary, but the possibility of doing so is still less than certain.

An especially acute debate has arisen over the adoption of the sustainable development terminology by business actors, which has become commonplace since the 1990s. Both environmental activists and critically-oriented scholars have contended that the moral, social and ecological beliefs underpinning “business as usual” are such that cannot be harmonised with a principled conception of sustainability, and that the involvement of the business world has served to co-opt the debate and preclude its genuine goals (Dryzek, 2005; Hajer, 1997; Rutherford, 2006). By couching their reports and policies in the sustainable development vocabulary, it is argued, companies broaden or alter the definition of sustainability to present it as something entirely manageable according to standard business principles (Bridge and McManus, 2000, 35), and downplay or obscure the more radical measures that may be necessary to achieve ecologically and socially sustainable development. This danger is compounded by the structurally privileged position of business within the Western economic system, where it has immediate access to an unmatched range of high-impact discursive resources through advertising, reporting, lobbying and participation in policy institutions (Rutherford, 2006, 84).

While this claim seems plausible in principle, the evidence provided to support it has been less than conclusive. Many researchers have adopted formal approaches, analysing the way in which (dictionary) definitions of “sustainable” and “development” intersect, and how each of the possible combinations sits with other tenets of the sustainability project (e.g., Barbier, 1987; Goodland, 1995; Simon, 1989; Čiegis et al., 2009). However, several problems limit the usefulness of such analyses. Even if the parts were more transparent than the whole —which is not the case, given the long history of disagreements over the meaning of “development” (Leys, 1996)—, language is rich in phrases whose meaning is not simply the logical intersection of the meaning of its elements: a “blackboard” is not necessarily black, a “red herring” is neither red nor a herring, and the actual meanings of both idioms cannot be identified from their constituent parts. Furthermore, the meaning of lexical items “[without] any support from a cotext” (Sinclair, 2004, 21) has been shown to be a very weak predictor of the behaviour that they show when contextualised. Many factors, from the overall topic of the discussion to the formal characteristics of the text, to the specific grammatical and lexical co-text, help convey definite meanings in discourse that are not captured by general definitions. Yet, the above kind of research tends to proceed with little or no empirical evidence for how the terms is actually used.

Other strands of enquiry have shown more sensitivity to actual discourse features, employing close reading and other forms of qualitative analysis to extract the conceptual underpinnings that “sustainable development” shows in a given text (e.g., Porter, 2005; Sandstrom, 2005; Triandafyllidou and Fotiou, 1998). However, such research requires labour-intensive manual annotation and anal-

ysis (Bednarek, 2009), and consequently most discourse analytic enquiries tend to focus on small sets of texts, and to select their methodology opportunistically in the light of the textual features evident on initial reading. While enabling highly sophisticated and rich interpretation, such research is unlikely to provide conclusive evidence regarding the hypothesis of a business appropriation of “sustainability”, given the considerable problems of replicability, generalisability and representativeness it poses. An incremental approach to the problem is difficult as well because of variations in methods and materials.

A potential solution to this conundrum is illustrated by the growing body of research employing corpus linguistic methods for discourse analysis. In this paper, I seek to provide an empirically-based analysis of the meaning attributed to “sustainable development” by business actors by systematically accounting for the term’s use in a large corpus of corporate public communication. Drawing on an ad-hoc 700’000+-token corpus built from financial and social responsibility reports for 2008 issued by 50 large Swedish corporations, we explore the frequencies and collocations of terms describing sustainability and related concepts, in order to identify the semantics they acquire when used in this genre.

The following section briefly reviews previous approaches to business conceptions of sustainable development, and Section 3 presents some applications of corpus methods to related problems. Section 4 describes the corpus used in the present research, as well as the computer-assisted procedures employed for analysis. Section 5 presents the quantitative results, which is further explored by the qualitative analysis of concordances in Section 6.

## 2 Researching the contested meaning of sustainability

The contribution of business actors to public discourse on sustainability has steadily increased over the past years, and the topic seems now well entrenched in corporate communication. Since the publication of the first Club of Rome reports in the early 1970s, business sources have provided significant input to international conferences and commissions on the environment and sustainability, and their involvement was eventually institutionalised with the formation of the Business Council for Sustainable Development to provide official representation for the sector in the 1992 Rio summit. These industry-wide initiatives provided a unified front for business discourse on the environment, and helped stabilise a distinctive discursive repertoire.

It is difficult, in principle, to judge whether the adoption of the environmental vocabulary is sincere (Lyon and Maxwell, 2008, 3–5) or merely a calculated attempt to gain public support by “greenwashing” their image: selectively presenting decontextualised facts with no adequate criteria for evaluation, while strongly expressing a commitment to the environmental cause (Rowell, 1996). Nevertheless, it is doubtless that the projected image of the business world has shifted from actively confronting environmentalist organizations in the 1960s, to broadly espousing environmental responsibility and publicly exhibiting their credentials and commitment to the sustainability cause. Statements such as “America’s modern mining industry is also in the business of environmental protection” (quoted in Bridge and McManus, 2000, 35), unthinkable from organ-

isations such as the US National Mining Association not long ago, are nowadays routine.

The noted vagueness of the concept of sustainability has left ample room for such pronouncements (Dryzek, 2005; Hajer, 1997), but the question was soon raised whether this would not eventually entail abandoning genuine environmental commitment. The “business case for sustainable development” (Schmidheiny, 1992), for example, argues for investment in sustainability on the grounds that it improves financial performance. However, this provides no guarantees that companies will remain environmentally responsible if this ceases to be the case. Given the privileged position of business actors in Western capitalism (Haas, 1990; Newell and Paterson, 1998; Scott, 1991) many have claimed that such endorsements may actually shift public perceptions of what sustainability should be away from a coherent model, and imbue the debate with ultimately unsustainable short-term-profit-oriented presuppositions (Burchell and Cook, 2006, 132–3).

Identifying the traces of this influence —let alone measuring their magnitude— has posed significant problems. Works in the sociological or political economic traditions (such as Bridge and McManus, 2000) often make use of the notions of “discourse”, “text” or “narrative” to describe sets of related beliefs about a topic, usually deployed in a more-or-less routine and organised fashion (“big-D Discourses”), but do not provide a rationale for identifying the specific communicative utterances and rhetorical, stylistic and linguistic features (“small-d discourses”) that embody them. Claims are “made about a probabilistic phenomenon, but no refutable findings or methods are provided” (Stubbs, 1997, 104), which makes it difficult to measure how accurately their theoretical constructs describe actual communication practices. While speculative insight may illuminate possible avenues for research in an understudied field, a more systematic approach seems necessary to avoid confirmation bias, specially in the face of the contested nature of the concept.

Even much of the research claiming to employ discourse analytic methods remains rather aloof from the observable patterns of language-in-use<sup>1</sup>. Rutherford (2006), for example, seeks to establish the thematic discontinuities in two key reports by the World Business Council for Sustainable Development, but provides no inkling of the textual features that he regarded as relevant for interpretation, which makes his results effectively impossible to compare with other texts on sustainability. Porter (2005) claims to develop an approach to analysing the construction of socio-cognitive identities in sustainability texts, as part of “[questioning] the linguistic and ideological framing that conditions views of sustainability that are possible in a text or discourse”, but does not identify even a single analysable feature or provide samples of the texts he studied. Similarly, Sandstrom (2005) discusses the view of sustainable development presented by the business-friendly NGO The Natural Step in complete abstraction of its observable nature, linguistic or otherwise.

Similar problems are visible in many analyses of sustainability texts using *frames*, first theorised by Goffman (1974) as tacit principles of communication that selectively foreground interpretations and evaluations of events. The notion has considerable analytic purchase, but much disagreement remains about how best to identify them (for a comprehensive discussion, see Benford and Snow, 2000; D’Angelo, 2002). Many studies ignore previous work on linguistic expressions of semantic frames (Fillmore, 1982), are extremely laconic in their

description of the analytic process (Koenig, 2004), and fail to address the acute question of the appropriate level of generality or abstraction.

Triandafyllidou and Fotiou (1998), for example, seek to identify competing framing strategies in a corpus of semistructured interviews with several stakeholders in the European sustainable development debate, but both the rationale for their list of frames and the bases for identification remain unspecified; in their work, frames are best understood as different types of principles used to buttress authors' claims, such as moral, scientific or economic. Buhr and Reiter (2006) operate with a broadly similar definition in their diachronic analysis of environmental and social responsibility reports by a large Canadian mining company. On the other hand, Gray et al. (2007, 12) analyse interviews with actors involved in longstanding conflicts about sustainable development using a notion of frames much akin to big-D Discourses. They thus speak of "business" and "environmentalist" frames which are orthogonal to the moral/scientific/economic distinction. However, and while the authors display an admirably sophisticated awareness of the theoretic issues regarding framing and discourse, their account of the "logic and reasoning specific actors are working with in their framing of the relevant issues" only offers a partial and ad-hoc account of the linguistic features that support it. Needless to say, no kind of systematic comparison or validation is available for studies of this sort.

### 3 Corpus approaches to sustainable development

While speculative interpretation is essential in social research, seeking to substantiate intuitions requires moving to representative empirical data, and systematic approaches to studying the relations between specific instances of language use and the language system.

Corpus linguistics, developed over the past half century, has provided the tools for such an undertaking. Following the seminal work of Firth (1935, 27), it has sought to research "the detailed contextual distribution of sociologically important words, what one might call *focal* or *pivotal* words" by identifying all instances of their use across very large corpora of thousands or millions of words. These technologies of observation make apparent syntactic and semantic patterns not easily discoverable to the naked eye, as well as offer empirical evidence with which to support hypotheses generated otherwise. With the help of adequately constructed corpora providing accurate, complete and searchable data, researchers can reliably account for how language usage becomes entrenched and leads to changes in the language system (for a thorough discussion of the models of language use underwriting corpus research, see Stubbs, 2007).

Corpus techniques were first applied to lexicographical and syntactic matters, but in the past two decades have become increasingly more common in discourse research. Since "discourses 'word' or 'lexicalize' the world in particular ways" (Fairclough, 2003, 129), analysis of the routine collocations and syntactic patterns in which keywords are deployed provides robust evidence on how texts construe their subjects. In this developing field, a few works have addressed sustainability issues.

The earliest corpus-based discussion of sustainability came from Alexander (2002), who sought evidence of "greenwash" in the Shell 1999 and 2000 CSR reports. He explored the collocates of **sustainable**, finding an overwhelmingly

positive semantic prosody but few references to concrete processes. Mentions of sustainability in his corpus often seemed linked to issues of principle or commitment, but did little to enlighten the reader on the precise meaning ascribed to the term. His discussion is brief and largely theory-driven, however, and together with the small sample this precludes him from offering a comprehensive analysis.

Laine (2005) employed a primitive form of corpus analysis—a hand-made concordance of all instances of **sustainable** in a corpus of Finnish annual reports—to explore the meanings attributed to sustainable development. Even though seemingly unaware of more refined CL techniques and theory, which could have provided further support for his interpretation, this analysis allowed him to identify several thematic continuities in the reports. He found that sustainable development is portrayed as compatible with unlimited growth and, more globally, with current economic arrangements; business actors are invariably portrayed as voluntarily supporting sustainable development; and sustainable development is often referred to in the form of “principles”, but rarely given concrete content.

Leitch and Davenport (2007) used a similar method to investigate shifts in the meaning of “sustainability” in five major policy documents by the New Zealand government. They found that the term was used in several different ways within each document, which they argue has the goal of enabling business participation and projecting uniformity where there is none. Their specific focus was the ambiguity maintained throughout repeated usage, with different meanings slipping into one another via either partial satisfaction of the overall definition or by shifting the frame of reference (economic, social, political, natural, etc.). Differences in the production process of each report and the agents involved are linked to various strategies for producing ambiguity.

Parsons and McKenna (2005) followed a different approach in analysing CSR reports, systematically exploring self-references to identify what actions were reported. They found that concrete material actions in the past, those most intuitively associated with report-type texts, were altogether scarcely described, while broad statements about the companies environmental and social credential were commonplace. Using algorithms for clustering keywords according to co-occurrence, they also showed that sustainable development is discussed together with corporate performance and business strategy, and quite detached from the actual description of the firm’s actual production process.

The most sophisticated corpus analysis of sustainability to date was carried out by Mahlberg (2007), who drew on a year’s worth of articles in the British newspaper *The Guardian* to identify patterns in discussing sustainable development. Based on the collocates, colligates and semantic preferences found in these texts, Mahlberg identified eleven local textual functions (i.e., fully contextualised meanings) in her 150’000+ word corpus, most of which were concerned with: (a) discussing (the meaning of) sustainable development; (b) the promotion of and requirements for sustainable development; or (c) forms of institutionalisation of the sustainable development project, such as organisations, conferences and frameworks. Her findings refine some previous claims, showing for example a good deal of negative prosody in discussions of the meaning of sustainable development, but are most useful in showing how different forms of talking about sustainable development reflect the social issues and conflicts regarding the matter. The multiplicity of meanings, in this view, is less a sign

of growing emptiness than a mark of the ongoing negotiations regarding the usefulness and desirability of sustainable development.

A further interesting contribution was made by Kajikawa et al. (2007), who used a term vector model to identify and graph the key terms in a 10'000-abstract corpus of academic articles on sustainable development. Mutual citation as well as textual co-occurrence were employed to create a topological network of 93 distinct yet interrelated clusters. Their analysis shows business-oriented discussions of sustainable development to be closely related to those in (ecological) economics, but only very distantly to matters of biodiversity, wildlife, health or sustainable urban planning, suggesting that even academic treatment of the topic in a business context fails to acknowledge the concerns of several important stakeholders.

## 4 Methods and materials

As this paper seeks to substantiate previous hypotheses and findings about the meaning of sustainable development in business discourse, a suitably broad collection of data was a primary requisite. No ready-made corpora of current business English are available, and comprehensively sampling across the range of corporate genres would be a major undertaking on its own, as well as requiring a significantly larger database to maintain random sampling error within acceptable limits; therefore, one was compiled specifically for this project.

Annual reports, being “the most publicized and visible document produced by publicly owned companies” (Henriques and Sadorsky, 1999, 91), seemed the obvious choice for the study. They possess the requisite uniformity in communicative function (Sinclair, 2005, 1), are the main voice for corporate beliefs about the role of the organisation in society, its mediate and immediate goals, its obligations and its interlocutors (Fiol, 1989, 278), and have conspicuously incorporated social and environmental responsibility concerns over the past decades.

To avoid factoring national variations in legal requirements and practices, the decision was made to focus on reports issued in a single country. CSR and environmental reports for 2008 —whether standalone or integrated in financial reports— were collected from the 75 largest Swedish companies, identified as those (a) traded in the Stockholm Stock Exchange; or (b) owned by the Swedish state. Since not all the selected firms had issued such documents, the final corpus consisted of 50 texts totalling 721'322 tokens.

The documents were digitally converted to raw text, retaining all tables and charts but ignoring pictorial and layout data, and hand-checked for conversion errors before loading the documents for analysis in the corpus analysis toolkit AntConc (Anthony, 2005)<sup>2</sup>. Due to the nature of the analysis, no part-of-speech or other tagging was necessary. The software generates word lists, keyword-in-context concordances and collocation lists, as well as calculating statistical significance measures for collocates, of which the mutual information (MI) score<sup>3</sup> is most relevant to the paper's purposes.

Concordances were prepared for the lemma SUSTAIN\*<sup>4</sup>, yielding a total of 1589 occurrences, and their most frequent collocates. The analysis of concordance lines focused on both the semantic features common to frequent collocates —the *semantic preference* of the node—, which can range from cohyponymy to more abstract relations to a topic or phenomenon (Sinclair, 1991, 111–112); and

Rank	Freq	Freq(L)	Freq(R)	MI	collocate
1	383	48	335	8.067	report
2	228	13	215	7.590	development
3	152	32	120	6.431	work
4	94	12	82	6.594	performance
5	93	44	49	5.603	business
6	91	16	75	6.849	reporting
7	86	11	75	6.784	issues
8	77	58	19	5.000	group
9	61	18	43	7.262	strategy
10	53	31	22	4.385	environmental
11	52	5	47	6.917	society
12	52	20	32	5.002	management
13	47	22	25	5.664	information
14	46	35	11	4.967	responsibility
15	45	15	30	6.928	guidelines
16	38	6	32	6.616	index
17	38	27	11	5.100	environment
18	36	31	5	6.164	long
19	35	22	13	5.345	corporate
20	34	8	26	7.355	reports
21	34	8	26	6.145	data
22	34	16	18	6.472	approach
23	32	31	1	6.181	term
24	32	7	25	6.662	targets
25	32	24	8	5.929	annual

Table 1: Most frequent lexical collocates of SUSTAIN\*

the evaluative meaning conveyed by collocates of the node, often derived in turn from the interplay between the collocate and the terms it usually co-occurs with. Variouslly called *semantic* or *discourse prosody*, this aspect is the result of words acquiring traits “from the company they keep” (Xiao and McEnery, 2006).

## 5 Quantitative results

Table 1 shows the top 25 collocates for the node SUSTAIN\*, ranked by joint frequency. Function words as well as proper names were excluded, as is usual in corpus-based discourse research, and a minimum MI-score of 3 was established as a cutoff point for excluding chance associations. The higher the MI score, the less likely that co-occurrence is due to chance. By showing the textual environment in which the lemma tends to appear in, collocates offer a first approach to the context or domain to which it is discursively linked. Four such domains can be identified in the table.

It should come as no surprise that **development** appears as a prominent collocate with a high MI-score, highlighting the ongoing lexicalisation of the phrase. In fact, the apparent oddity is finding it ranked, both in raw frequency and statistical association, below **report**, which —together with **reporting**, **information**, **guidelines**, **index**, **reports**, **data** and **annual**— is part of the



set of terms related to the first domain, the communication of sustainability activities and performance.

A second group —comprising **business**, **strategy**, **management**, **corporate**, **group** and **targets**— is related to the broader context of the business domain (concordances show that these last two terms refer, in this context, to conglomerates and yearly-defined performance goals, respectively). References to non-business stakeholders —**environmental**, **environment** and **society**— make up the third group, while a fourth is made up of very abstract and general terms relating to intentions, processes and outcomes: **work**, **performance**, **issues**, **responsibility** and **approach**. The two remaining items in the list are explained by the frequency of the modifier **long-term** when discussing sustainability plans and actions.

These patterns are interesting on their own, showing that SUSTAIN\* tends to keep the company of words related to business structure and planning, as well as —perhaps more surprisingly— to reporting and communication activities. They also suggest that concrete processes are not described as sustainability-related with enough frequency to be statistically significant. However, their main value for corpus-aided discourse analysis lies in identifying points of entry for further exploration. The top 100 collocates of SUSTAIN\* were examined, this time including function words, in order to see whether collocational behaviour is consistent across syntactic roles. Since it would be possible for **sustainability** and **sustainable**, which cover over 99.5% of the instances of the lemma, to have different textual functions, their collocates were analysed separately. For brevity reasons, only the top 25 are shown in Tables 2 and 3.

## 5.1 Sustainability

For **sustainability**, the most frequent form in the corpus ( $n = 1520$ ), more than half the collocates are nouns. Examination of concordance lines for the syntactically ambiguous word forms at the top of the frequency list —such as **work** and **report**— shows that they appear mostly as nouns as well, for a total tally of 67% of the collocate types within the top 100.

Examination of the expanded co-text shows that most of these collocations, including the most frequent ones, tend to appear in noun-noun compounds. Since noun compounds are very productive and allow for a large number of possible interpretations, the semantic relations for the top 25 noun collocations were further classified according to the model of Moldovan et al. (2004); the results are described below in section 6.4.

Very few verbs seem to regularly co-occur with **sustainability**, especially in finite form; of the 14 verbal collocates, two have a chiefly prepositional function (**regarding** and **including**), a further three occur mainly as gerunds heading a noun phrase, four are past participles appearing as modifiers, and only **reported**, **includes**, **ensures**, **covers** and **improve** are finite. Except for the last, the semantics of these verbs are mostly concerned with the description of the report and the reporting process rather than with the actual business of the firm.

Fifteen of the 100 most frequent collocates are adjectival in nature, including the four participles mentioned *supra*. They comprise a few key terms for the business domain —**corporate**, **global**, **financial**, as well as **annual**, always used in these cases as part of the frequent cluster **annual report**—, others

Rank	Freq	Freq(L)	Freq(R)	MI	collocate
1	378	45	333	6.757	report
2	212	144	68	3.414	for
3	135	23	112	4.969	work
4	114	66	48	3.335	our
5	90	15	75	5.542	reporting
6	89	11	78	5.224	performance
7	79	5	74	5.370	issues
8	75	53	22	4.133	its
9	68	51	17	3.530	group
10	56	15	41	5.848	strategy
11	47	22	25	4.372	information
13	40	22	18	3.094	business
12	40	11	29	5.467	guidelines
14	36	5	31	5.246	index
15	35	16	19	3.140	management
16	34	22	12	4.012	corporate
17	34	8	26	4.853	data
18	33	8	25	6.021	reports
19	31	24	7	4.592	annual
20	30	22	8	3.058	responsibility
22	28	1	27	4.105	policy
21	28	5	23	5.178	targets
24	26	3	23	3.621	based
23	26	6	20	4.541	related
25	25	12	13	4.737	approach

Table 2: Most frequent collocates of **sustainability**

Rank	Freq	Freq(L)	Freq(R)	MI	collocate
1	216	8	208	7.512	development
2	194	99	95	3.039	and
3	142	131	11	3.166	to
4	108	85	23	3.733	for
5	103	88	15	3.467	a
6	50	21	29	4.708	business
7	42	3	39	6.608	society
8	40	36	4	4.857	more
9	26	23	3	5.695	long
10	24	2	22	6.268	solutions
11	24	24	0	5.766	term
12	23	2	21	7.283	forestry
13	22	22	0	6.885	contribute
14	20	16	4	6.713	environmentally
15	17	0	17	3.813	production
16	17	9	8	3.271	work
17	16	9	7	3.852	environment
18	16	4	12	3.302	management
19	16	13	3	3.443	responsibility
20	16	6	10	3.912	use
21	15	1	14	5.008	supply
22	14	3	11	5.386	chain
23	14	11	3	4.509	most
24	13	2	11	5.896	growth
25	13	1	12	5.713	practices

Table 3: Most frequent collocates of **sustainable**

describing importance —**important**, **relevant** and **significant**— and others that, in context, are used to qualify reporting activities: **complete**, **specific** and **separate**. A positive prosody, which will be explored further in the next section, is clearly visible in the latter two groups.

## 5.2 Sustainable

For **sustainable**, the overall distribution is similar: 57% of the top 100 collocates are nouns, 14% verbs, and 11% adjectives. Predictably, the most frequent collocate by far is **development**, also the only lexical word among the top five. Many of the noun collocates are shared with **sustainability** — **business**, **solutions**, **work**—, although those regarding reporting activities tend to give way to terms concerning the production process: **sustainable forestry**, **sustainable production**, **sustainable supply chain**. **Society** is also remarkably more frequent. Verbal collocates also show a markedly different profile, with an overwhelmingly positive prosody —**contribute**, **promote**, **achieve**— and a large majority of abstract material processes. Adjectives also tend to carry positive evaluation —**responsible**, **safe**—, or else very broadly relate to the business domain: **long-term**, **global**, **economic**. An especially remarkable finding is that the expression **not sustainable** appears only once

in the whole corpus—in a passage transcribed in section 6.2 as Excerpt (1-a)—, which clearly suggests the presence of focusing bias.

The profile resulting from this quantitative analysis shows SUSTAIN\* to be mentioned almost exclusively in the context of planning and communicating business activities, to the exclusion of discussions of measurement and control of social and environmental impacts. Specific stakeholders, such as the workforce or government regulators, are for the most part omitted from these reports. While the companies issuing these documents clearly seek to be associated with sustainable development—as shown by the prominent position of the determiner **our** among the collocates for **sustainability**—, no other actor is portrayed with enough frequency to be statistically associated with it. A second association relates talk about sustainable development to highly general and abstract nouns, many of them deverbal, as well as to abstract material processes; discussion of reporting activities provides the only instances of concrete description.

## 6 Qualitative analysis

The quantitative evidence in the preceding section identified terms that occur near SUSTAIN\* with greater than random probability, and suggested some semantic domains where they can be subsumed. However, this form of analysis forcibly decontextualises these lexical items, and sheds very little light on the specific role they may be playing in the texts. A qualitative analysis of the relevant concordances, on the other hand, can provide a more precise collocational profile by revealing the concrete grammatical patterns in which these associations are realised, as well as identifying other terms from these domains that contribute to the overall prosody while not being statistically significant enough to appear on their own.

### 6.1 Sustainable development and agentivity

Let us focus first on the verbal collocates and their grammatical patterning. Concordance data can show what thematic roles SUSTAIN\* tends to occupy, as well as the kind of actions it is routinely related to. A random sample of the instances of verbs within a +1 to +3 window, presented in Concordance 1, shows that SUSTAIN\* rarely appears as agent, and only a fraction of these constructions have it as the grammatical subject. Most instances show it in a rather peripheral position within the clause, within a prepositional phrase or in an equivalent noun compound.

In other words, and despite its high lexical frequency, SUSTAIN\* does not seem to play a topical role in the reporting of events in the corpus. Unlike other environmental phenomena currently under public discussion—such as climate change (Olausson, 2009)—, the communication of sustainability and sustainable development in the corpus is not primarily concerned with the results arising from sustainability activities, or with defining the concept. SUSTAIN\* qualifies other clausal features, most frequently as the stated subjective cause or purpose of participants' actions, but due to the highly indirect nature of this construal most texts provide little overt characterisation of sustainable development and sustainability.

About one sixth of the clauses in the concordance have SUSTAIN\* as a main participant, but in most cases this occurs in relational processes: those that purport to define the subject, list properties ascribed to it or exemplify its occurrences. Lines 2 and 22 of Concordance 1 are instances of this kind, and Concordance 2 provides a broader sample, in which the vagueness about sustainable development is again remarkable. While some variation is apparent, in a significant proportion of the cases the description is merely a flat statement of subjective importance —“an overriding goal”, “integrated in our every day operations”— that provide no actual definition of sustainability. Some such statements are directly linked to traditional corporate goals. Describing sustainable development in terms of “creating confidence” among investors or obtaining “business success” clearly does not represent a departure from a business-as-usual frame. Only three out of the fifty reports give a more comprehensive account, quoting the Brundtland report, although they relegate this endorsement of the WCED definition to the margins of the text —the introduction or the glossary— rather than make it integral to its development.

This lack of definition throws into even sharper relief the strong bias evident in the few clauses where SUSTAIN\* is portrayed in a participant role in material or behavioral processes, some of which are presented in Concordance 3. The strongly profit-oriented ethos apparent in the above definitions is repeated here, with the recipient of the process being most often the company itself, and its goals being circumscribed to the business domain. SD is in these texts closely linked with **opportunities**, **benefits** and (economic) **value**, improving relationships with customers and the workforce, preserving corporate prestige and, especially, making **good business sense**<sup>5</sup>.

A positive prosody is evident from the verbs and adjectives appearing in these clauses —**provide**, **help**, **enable**, **enduring**, **good**, **positive**, **best**—, but no rationale is adduced for this evaluation. The arguments presented to justify involvement in sustainability activities remain bound to business-as-usual objectives of increased wealth and improved stakeholder relations, and no other environmental or social concerns are explored.

## 6.2 Sustainable development in other thematic roles

Looking to the left of SUSTAIN\* for verbs that take it as a complement affords a view of its behaviour in other thematic roles: as the outcome, goal or beneficiary of specific activities. A random sample of the instances of verbs within a -1 to -3 window — given in Concordance 4— suggests that the degree of vagueness regarding sustainable development is not significantly lower in these cases. Remarkably, only three clauses in the whole corpus explicitly assert that a given practice is (or is not) sustainable; of these, only two offer empirical data to warrant the claim. While such statements would seem intuitively to deserve a central place in any kind of sustainability reporting, their very low frequency suggests that this is not the kind of information that companies are interested in communicating, leaving the question open of what the pragmatic point of these reports is.

- (1) a. More than 98% of the energy use in the transport sector stems from fossil fuels (97% from crude oil). Today, there is more or less consensus that we soon are approaching the peak of world crude oil

production since conventional crude oil supplies are declining. The main discussion is about the timing of the peak oil and not about whether or not it will occur. However, the conclusion is that the current use of crude oil is not sustainable and that the pending shortage should not be solved by introduction of transport fuels derived from coal or tar sands.

- b. Following inventories during the preceding two years, the long-term harvesting plan for SCA’s forests was updated in 2007. The inventories showed that current harvesting levels are sustainable. Yields can be retained at today’s levels for two decades, after which a sustainable increase of about 20% is possible.

Several of the most frequent collocates in this subset are, semantically speaking, verbs of orientation that only express an agent’s overt intention to perform an action or achieve a certain state —**promote**, **support**, **encourage**. Others, such as **achieve**, **attain** and **ensure**, clearly tie in with them in projecting sustainable development as a goal, while scarcely developing its content. A third important set comprises verbs of perception, such as **focus** or **view**, which are again concerned with presenting corporate (subjective) attitudes rather than actual deeds.

Although the concordance lines do not always capture the full syntactic environment, examination of the expanded cotext shows that in many cases these clauses appear as complements of a nominalisation, which further obscures their concrete reference by removing data such as tense, aspect and mood from the nominalised verb. In the sample excerpts below, it is impossible to determine whether the actions described are ongoing or merely planned, whether sustainable development is expected to be realised in the present or an indeterminate future, and, *a fortiori*, to assess how well is the company’s commitment matched by their reported actions:

- (2)
  - a. Each investment in and action toward ensuring sustainable development should be measurable and pay off in economic terms
  - b. SCA creates value by fulfilling the needs of customers and consumers in a spirit of innovation, through continuous efficiency enhancements and with an expressed desire to contribute to sustainable development
  - c. Vattenfall’s success will be determined by our ability to support sustainable development in society, and we are relentlessly striving towards that goal

Detailed examination supports the impression of a positive prosody suggested by the quantitative data in the previous section. While many of the verbs employed do not necessarily entail a positive evaluation by the speaker in all contexts —one may describe how someone **promotes** or **supports** a cause without necessarily adhering to it oneself (Bednarek, 2006, 137)—, the implication that the promoter or supporter does is part of their core meaning, and the concordance shows that the subject regularly associated with this verbs is the reporting company itself. Others, such as **achieve** or **attain**, are only employed with positively-evaluated objects.

This combination of evaluative meaning and low content seems to support the “greenwash” hypothesis: companies devote significant effort to presenting

their environmental commitment, but fail to explain what they are committed to, at least in terms that would make informed judgment possible. Looking specifically at material processes —those concerned with physical, concrete events— provides further corroboration. While a few material clauses actually provide a warrant for their use of the term “sustainable” in describing a given process, as in lines 29 and 49 in Concordance 4, they remain scarce and are drowned out by the many clauses describing the reporting process itself. Up to one in six instances of material clauses is directly concerned with explaining corporate attitudes and guidelines towards preparing, processing and publishing sustainability documents.

Some of these may be explained as legally-mandated boilerplate, and dispersion plots show a somewhat higher density of such clauses near the end of most texts, where it is routine to provide an external statement of assurance. In all cases, however, discussion of reporting activity crops up repeatedly throughout the document. Together with expressing orientation and commitment, meta-discussion about communicating sustainability emerges as one of the main themes in <VERB> + SUSTAIN\* constructions in the corpus, and plays a much more central role than definition or description of sustainability activities.

### 6.3 Adjectival collocates

The quantitative analysis in Section 5 showed that only a small set of adjectives co-occur with SUSTAIN\* with any regularity, and that these were largely limited to signalling importance and a business orientation. However, there are many possible relations not captured by such a global look; the adjectives may, for example, describe other entities regularly mentioned together with sustainable development. A contextualised look at the occurrences of these adjectives in Concordance 5 shows that a number of different relations are at play here. Some of the most frequent collocates —**safe**, **responsible**— routinely appear in coordination with **sustainable** in fixed clusters, suggesting that the terms are understood to be very close in reference, even if not synonymous in normal parlance by any stretch of the imagination.

- (3)
  - a. We seek to improve lives everywhere we operate, aiming for a healthy, safe and sustainable environment.
  - b. stainless steel is a safe and sustainable material
  - c. Another ambition is to further integrate and embed responsible and sustainable practices throughout the organisation.
  - d. For us, sustainable and responsible business is successful business.
  - e. The 2008 list, which included H&M, identified eight business brands that are considered to contribute to the development of society by behaving in a sustainable, socially responsible and humanistic way, while remaining successful and profitable.

While **safe** shares a number of semantic traits with **sustainable**, **responsible** falls clearly in a different class. The first two terms both describe qualities that, while relative to a contextually determined class of comparison, are liable to empirical measurement, and are primarily predicated of processes and results. On the other hand, “responsibility” in its literal sense is a property of animate actors, and can only be applied to inanimate entities obliquely, by virtue of their

being carried out by responsible agents. This shifts the emphasis to the moral nature of the participants, and therefore the term speaks more of the intention of actors than of the intrinsic quality of their actions. This trend is consistent with the emphatic use of verbs of orientation seen in the previous section. The concordance shows other adjectives of this kind that are too infrequent to be statistically significant on their own, but nevertheless contribute to the overall prosody: **trustful**, **reasonable**, **humanistic**.

Other terms occur near SUSTAIN\* because they are regarded as co-hyponyms of a vague, undefined set that we might call “eco-friendly”. **Clean**, **organic**, **renewable**, **natural** and **healthy** all belong to this set, which, while semantically consistent, is sometimes used in unexpected ways. In the following excerpt, for example, the collocation **organic development** seems incoherent, as the apparently relevant meaning of the adjective (“produced from natural substances, usually without the addition of chemicals”, OED) cannot be meaningfully predicated:

- (4) a. AAK has adopted a long-term approach and is absolutely committed to promoting organic and sustainable development, to protect the environment, as well as the health and safety of those affected by AAK’s operations.

Similarly, **natural** is not intended to be understood in any of its usual meanings in the example below, since the process of electricity generation certainly may be sustainable, but cannot help involving human-designed processes and artificial materials. The adjective, as used here, merely conveys an imprecise and untestable assertion of “conformance to nature”, whose rhetorical use as a warrant for the eco-friendliness of the firm’s activities is clear from the expanded context:

- (5) a. The production of hydro power is a natural and sustainable process and therefore satisfies high environmental demands.

The looseness with which these terms are used is a strong indication that SUSTAIN\* may be employed in a similar way: as a vague, reassuringly positive but almost metaphoric warrant of the environmental credentials of the company.

Examination of the remaining adjectival collocates makes evident that sustainable development serves here predominantly as an orientation rather than a factual label. The concordance for terms denoting importance shows that their co-occurrence with SUSTAIN\* emphasises the commitment of the corporation to environmental and social goals, as well as the magnitude of its role in social advancement, but also simultaneously points out to a primarily economic frame of reference that belies this altruistic portrait:

- (6) a. Active sustainability efforts are an important ingredient in the Volvo Group’s competitiveness and in our ability to create value for current customers and share holders
- b. Each investment in and action toward ensuring sustainable development should be measurable and pay off in economic terms. Set goals and strategies for sustainability work are a key part of Core SAS.
- c. Acting responsibly is an important prerequisite for a company to



- achieve sustainable good returns.
- d. Sustainability is becoming increasingly important to end-users and sustainability has become a factor in quotations.
- e. Among many of those investors, there is a belief that leading sustainable corporations will create significant long-term value through innovation, attracting and keeping the best people, and through being customers' first choice.

This should hardly come as a surprise, given the high frequency and statistical association of adjectives from the business domain that quantitative analysis showed. The more obvious cases construe sustainable development as a warrant for **financial** or **economic** returns in the line of the above excerpt, thus subordinating corporate commitment to the sustainability cause to the continued achievement of monetary profit.

Finally, the use of **strategic** ties in with these themes, since it is normally understood in business to refer to the design, implementation and evaluation of immediate means to long-term goals. Commitment to **sustainability** is explicitly claimed to be a strategy for economic profit in a few cases, and others can be shown to be so intended in this context. In the excerpt below, the status of sustainable development as one of Vattenfall's **strategic ambitions** is meticulously shown to be subordinate to increased returns— even though the company is fully owned by the government, and could be assumed to have a social mandate for responsibility rather than profit:

- (7) a. If Vattenfall is the Benchmark for the Industry, with focus on operational efficiency and value creation, the company can continue to expand with good profitability. This is a basic prerequisite for Vattenfall's ability to contribute to sustainable development in society

Similarly, other companies claim to leverage their sustainability strategies to provide a competitive edge, describe their sustainability work as part of their strategy for future growth, or justify the high priority of contributing to sustainable development as a key strategy in amassing customer confidence. Perhaps more tellingly, none of the top 60 collocates of **sustainability strategy** is related to societal responsibility or the environment in any way.

## 6.4 Noun collocates

As mentioned in Section 5, most noun collocates of SUSTAIN\* appear in the form of noun-noun compounds, which are used in English to express a wide variety of semantic relations. No reliable automatic process to disambiguate is available, as interpretation often depends not only on co-textual factors but on prior world knowledge. The relations for the top 25 noun-noun compounds were therefore manually examined in the concordances, showing them to belong to two distinctive categories. Many of the collocations refer to *purpose*, a state intended to result from another state or event: **sustainability work**, **sustainability strategy**, **sustainability policy**, **sustainability efforts**. This trend is concurrent with the preference for verbs of orientation described *supra*, and is not further analysed here. The remaining terms express *topic*, the subject or theme dealt with by the head noun: **sustainability report**, **sustainability information**, **sustainability index**, etc.

The extremely high frequency of **sustainability report** —the fourth most frequent N-N compound in the corpus— can perhaps be explained as a genre artifact, since many of the texts were so entitled, and self-reference accounts for a significant amount of these occurrences. However, several more recurring compounds display a similar orientation, and point to the remarkable importance that meta-discussion of the reports carries for the authors. A detailed contextual examination shows that —unlike other genres, where a high incidence of metadiscourse has been attributed to the need to provide interpretive guidance throughout a complex text— these compounds serve as institutionalised labels of compliance. Thus, **sustainability reporting** tends to collocate with **guidelines** and **GRI** (short for *Global Reporting Initiative*), which both refer to industry-wide attempts at devising standardised measures for CSR reporting.

Similarly, important clusters are **validate sustainability information** and **assurance of sustainability reports**, both used as part of the legal boilerplate in the statement of external assurance that often accompanies these documents. Such statements, penned by accountants describing themselves as “specialists” in sustainability reporting and displaying typically legalistic syntax and lexis, have become commonplace in Swedish reports over the past few years. While their actual usefulness for verifying the accuracy and suitability of the reports is next to nil —as the review procedure does little more than cross-check company-issued documents, and does not express an opinion on the completeness of the information (James, 2003)—, their extended use evidences the rhetorical value that reporters attribute to standardised stamps of approval regardless of their ultimate validity, which is especially noteworthy given the pronounced reluctance of business actors and accounting bodies to accept mandatory standards for CSR reporting (Doane, 2002). Mentions of inclusion in a **sustainability index** are a further, self-congratulatory expression of this interloper effect.

## 7 Conclusion

In this paper, my main concern lay with examining the textual evidence for the hypothesis that corporate adoption of sustainability vocabulary conceals a largely unchanged endorsement of business-as-usual practices. While a comprehensive assessment of this claim —and the associated one that corporate redefinition of sustainable development would eventually lead to the imposition of business-centric presuppositions— would require extensive research across a variety of genres, the results presented here provide unambiguous if limited support.

The business-oriented quality of SUSTAIN\* as used in these reports can be traced back to its collocational and prosodic profile. Typical collocates are drawn from the domains of economics and management, and are semantically related to profit, corporate prestige and the market. Furthermore, the instrumental character of corporate commitment to sustainability is often explicitly underscored, with environmental and social activities functioning as a means for increased market penetration, reduced stakeholder struggle and continued expansion. The elevated moral tone used to explain the adoption of sustainability measures does not translate to a principled restriction of traditional business goals, such as unlimited growth, and tenets, such as stockholder orientation.

An important prosodic feature of these discussions is the clear preponderance of expressions of orientation, which dominates the report to the exclusion of material considerations of sustainability. The nature, requirements and features of sustainable development occupy a peripheral role in these reports, and even very broad and hardly objectionable definitions such as that offered by the Brundtland report seldom appear in the text. Discourse on the effects of adopting sustainability practices is generally limited to the furtherance of market objectives, and only very rarely does it extend to actual assertions about the long-term feasibility of practices. Only a single report in the entire corpus explicitly makes a claim of unsustainability, and even in that case it is not directly related to the company’s performance.

The joint effect of these patterns on the associative meaning of SUSTAIN\* takes it far from an empirically-testable development descriptor to an eminently moral label that highlights contemporary strategies for stakeholder and reputation management. Describing oneself as “sustainable”, in this context, has less to do with the long-term viability of the production process than with participation in industry-wide initiatives to mollify internal and external challenges to corporate prestige, and with the public display of ethical credentials. This explains why corporations that have been consistently listed among the main European pollutants can call themselves sustainable, and why the systematic reporting of performance plays a largely secondary role within the structure of these documents. While there is no universally agreed upon definition of sustainability that could serve as a litmus test, the use of the term in the reports in the corpus shows several deviant features from the original intent of the term, and provides support for the “greenwash hypothesis”.

Our analysis is, however, partial, and more research would be needed to approach complete confirmation of the hypothesis. The data under consideration are limited to reports issued under the Swedish regulatory framework in 2009, and provide no hints as to diachronic trends, the effect of different regulations and national cultures, or the rhetorical design of other business genres. Comparative research —examining differences in lexis and prosody between texts of different sources— would be needed as well to definitively assert the idiosyncrasy of business discourse, and its influence on other genres and agents cannot be clearly grasped without ethnographic inquiry on the context of production and use of environmental texts. However, the evidence presented here provides a useful example of the support that corpus methods can bring to discourse analysis, and thus suggests a potential way out of the decades-long debate over the meaning of sustainable development.

## Notes

<sup>1</sup>In fact, Stubb’s observation quoted above was originally made regarding Critical Discourse Analysis, a branch of research pursued mostly by linguists.

<sup>2</sup>The raw data and tables are available upon request from the author.

<sup>3</sup>More properly termed Pointwise Mutual Information, MI is normally understood in corpus research as the amount of information that the occurrence of a term contributes towards determining the occurrence of another. Manning and Schütze (1999, 178–183) point out that, since MI is sensitive to the overall frequencies of terms, it provides inaccurate estimates for sparse data. To avoid this, the usual practice of ignoring items with  $f < 5$  has been followed, even if it is less precise than using a modified formula, as no currently available software supports these corrections.

<sup>4</sup>In this paper, small capitals are used to present query expressions used in the concordancing software, while specific word forms are rendered in fixed pitch. A string like SUSTAIN\*, thus, covers the various word forms `sustain`, `sustains`, `sustained`, `sustainability`, `sustainable`, etc. Angle brackets (<>) indicate placeholders for expressions, such as grammatical categories, that were manually evaluated by the analyst.

<sup>5</sup>Less biased construals of sustainable development could still be apparent in other constructions, such as passive clauses with a *by*-introduced agent, which are not captured by the pattern described above. However, these did not occur at any point in our corpus.

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# A Concordances

1 27 About this report This report describes the sustainability work carried out on a global level by the IKEA Group du  
2 4 61 Website: www.electrolux.com For Electrolux, sustainability provides business opportunities. Innovative, ener  
3 6 7 The Volvo Group takes a holistic approach to sustainable development by delivering long-term profitability  
4 ANAGEMENT The ultimate responsibility for LKAB's sustainability activities lies with the Board, while the operative responsib  
5 AS's information was done in October 2008. SAS's sustainability reporting follows the guidelines of the Global Reporting Ini  
6 GRI report on pages 99-103. "Working to ensure a sustainable supply chain feels like an incredibly important t  
7 Human Resources and Sustainability, SKF Corporate Sustainability is responsible for outlining and shaping policies  
8 In the airline business, profitability and sustainability work are affected by government policies, the cost of i  
9 OY Entrance Systems product to have environmental sustainability considerations drive every aspect of its design. The energy-efic  
10 Some important examples that relate to Apoteket's sustainability work include: Climate change, with its hard-to-predict  
11 The company's strategy and vision with respect to sustainability are given in the President's comments in the Annu  
12 The goal is to contribute positively to society's sustainable development while remaining profitable. The basis  
13 URING OUR PROGRESS Boliden's overall goal is the sustainable growth based on the Group's mining and smelting a  
14 a commitment to human rights, anti-corruption and sustainable development, and is required to communicate its p  
15 a good corporate citizen and aim to contribute to sustainable development by taking social, ethical, economic a  
16 ainability. A new function responsible for HR and sustainability affairs was set up within the Group's management group. Th  
17 ainable development work The Atlas Copco Group's sustainable development work is based on the policies that ar  
18 al development of the Volvo Group is connected to sustainable development. We need profitable growth to be able  
19 an understanding that only those originating from sustainable sources should be used. Verification of origin an  
20 anagement system for quality, the environment and sustainable development, to ensure that it functions in a sat  
21 ancial, environmental and social perspective. The sustainability report has been independently reviewed in accordance with  
22 and processing to the final product. For Södra, sustainable development means showing respect for nature and  
23 ant R&D projects. Goal attainment In 2008 SAS's sustainability work intensified in that all Group units were called up  
24 arious business processes. The implementation of sustainability programmes is driven by the respective SKF divisions and coun  
25 arket days. Individual meetings with investors on sustainability are also undertaken. Sustainability activities ar  
26 as society. Vattenfall's strategies and work for sustainability To ensure long-term value creation and realise the vi  
27 at methods used to produce these fuels have to be sustainable and not compete with food production. In the shor  
28 ated sustainability efforts. The objective of the sustainability report is to provide all information necessary for the re  
29 atened. At the same time, fish and shellfish from sustainable populations shall be promoted, and customers are  
30 ation and management The SAS Group's operational sustainability work is based on its sustainability policy, as well as  
31 ations for global HIV prevention projects. · New sustainable materials tested in addition to our organic cotto  
32 ations. During 2008, the news flow in the area of sustainability was primarily characterised by global issues. So  
33 aws in the environmental area and contribute to a sustainable society. We are also working with a number of hig  
34 ays. One of the aims of systematic and proactive sustainability work is to prevent or at least reduce the risk of being  
35 ble development Folksam's management systems for sustainable development are founded on the Folksam Vision, wh  
36 bout sustainability and how to audit this area. A sustainability audit is a useful tool to find room for improvement in o  
37 c safety research is to contribute to a long-term sustainable society by reducing injuries on our roads. Safet  
38 cal priorities, and this year we noted a regional sustainability strategy was established for Latin America. We encourage th  
39 cant stakeholder relationships with regard to its sustainability work are reported on the following page. SAS conducts r  
40 clear evidence that companies that are leaders in sustainability are also in a better position to be leaders finan  
41 climate action and organics Organic products and sustainable fishing were a focus of ICA's environmental work  
42 collaborative research and development into novel sustainable solutions that are attractive to expanding end-us  
43 come increasingly clear that thinking in terms of sustainability makes good business sense. It goes hand in hand w  
44 creasing demands by customers regarding Sandvik's sustainability programs are becoming ever more evident. Many of these dema  
45 d Value. Part of our long-standing commitment to sustainability is to respond to challenges as they evolve over time.  
46 d competitiveness and a reduced risk level. SCA's sustainability strategy is based on a number of building blocks: a systema  
47 description of operations. For example, strategic sustainability issues are mentioned in the President's statement on page  
48 duct. Suppliers with documented environmental and sustainability work are given priority. The SAS Group's work on envir  
49 dvik remaining a successful company and attaining sustainable development is that the company takes its environ  
50 e SKF's Sustainability Report. To emphasize that sustainability issues are embedded in all of SKF's operations, financial

Concordance 1: Random sample of the concordance for SUSTAIN\* + <VERB>, with up to two intervening lexical items ( $n = 377$ )

1 sustainability expresses our firm belief that sustainability is a success factor for our business. In accordance  
2 2008 Investing in sustainability To us at SCA, sustainability is more than a legal requirement. It is a competitiv  
3 business case for sustainability In ASSA ABLOY, sustainability is integrated in our everyday operations. From a bus  
4 munity Care Business Care For SKF addressing sustainability is not a burden, not a requirement thrown upon us, b  
5 Sustainability Report 2008 " Sustainable development is development that meets the needs of current  
6 olmen's mill in Madrid. Sustainable development Sustainable development is an overriding goal at Holmen. According to the Gr  
7 inced that the ability to take responsibility for sustainable development is crucial in creating confidence among the company  
8 e. Economic Responsibility For the Volvo Group, sustainable development means that business shall comprise economic, environmen

Concordance 2: Sample concordance of relational clauses with SUSTAIN\* as a carrier ( $n = 49$ )

1 take a more holistic approach, and make sure that sustainability becomes a natural part of the DNA in the entire organisat  
2 efits by building lasting value. For Electrolux, sustainability provides business opportunities. Innovative, energy-effici  
3 . Sustainability matters Strategy and analysis Sustainability creates business benefits by building lasting value. For  
4 r side of the story. We believe our commitment to sustainability creates enduring value. Assessment This report, with th  
5 strives to be responsible and at the forefront of sustainability enables us to attract and retain engaged employees who ar  
6 orkforce that fosters innovation. A commitment to sustainability helps build trust with our customers, investors and oth  
7 come increasingly clear that thinking in terms of sustainability makes good business sense. It goes hand in hand with th  
8 od and new analysis institute from 2006. Work on sustainable development has a positive impact on the SAS Group's image since  
9 SAB shall also be a non-discriminatory workplace. Sustainable development requires that SSAB's culture continues to attract the best

Concordance 3: Sample concordance of non-relational clauses with SUSTAIN\* as an active participant ( $n = 11$ )

1 a good corporate citizen and aim to contribute to sustainable development by taking social, ethical, economic a  
 2 annual Communication on Progress (COP), using the Sustainability Report as a vehicle for this communication. The S  
 3 ave an environmental policy and did not report on sustainability issues. In fact H&M was "famous" for its nontrans  
 4 cess will be determined by our ability to support sustainable development in society, and we are relentlessly s  
 5 curity and the environment so as to contribute to sustainable development." In order to grant this right, the  
 6 ds and providing tailored solutions resulting in sustainable learning and behavioural changes. Courses are pro  
 7 eden. For fiscal 2008, Posten is publishing this sustainability report and an annual report. The reports are avai  
 8 eliver are long lasting. · New values supporting sustainability established · We work together · We care for our  
 9 erates and invests in energy sources that support sustainable development economically, environmentally and s  
 10 es. As a result ASSA ABLOY has decided to conduct sustainability audits with all suppliers in risk countries. Prio  
 11 hasing contracts. To date, 26 countries apply the sustainability section of SQP for their key suppliers and a tota  
 12 how we conduct our environmental work and address sustainability issues." Our vision is to work for a "stronger,  
 13 inable development in the company is to integrate sustainability with the main business processes, that is sales,  
 14 ing to improve. Supplier evaluations safeguard a sustainable supply chain As suppliers of components to the G  
 15 large and middle-sized enterprises are taking up sustainability and environmental issues in a manner that Folksam  
 16 lenges and opportunities with respect to managing sustainability . At present, LKAB focuses its sustainability acti  
 17 ls. Each investment in and action toward ensuring sustainable development should be measurable and pay off in e  
 18 luding personnel costs and the cost of developing sustainability tools, education and training. This does not inc  
 19 ly. As of 2008, we are also expected to publish a sustainability report in accordance with GRI guidelines. This Re  
 20 m with Volvo Group's CSR work is to contribute to sustainable development. Economic Responsibility The Volvo  
 21 mpact. The sustainability reporting includes all sustainability information in the SAS Group Annual Report & Sust  
 22 munity Care Business Care For SKF addressing sustainability is not a burden, not a requirement thrown upon us  
 23 ndards are constantly being raised to ensure that sustainable business practices are promoted. One example is t  
 24 nsibly is a prerequisite for a company to achieve sustainable good returns. NIF defines responsibility as obser  
 25 nt. It is a competitive tool. That is why we view sustainability as an investment rather than an expense. It is a  
 26 nents Highlights of 2008 Folksam -- focusing on sustainability Our money or our life? Folksam turns 100! Folksam  
 27 nts and with an expressed desire to contribute to sustainable development. We develop, produce and market pers  
 28 nts on 2008 Society To continuously develop our sustainability reporting in accordance with the guidelines from  
 29 o increase this amount. Our tree plantations are sustainable All our tree plantations are sustainably managed  
 30 od raw materials are required. Södra strives for sustainability in all its activities. On a global basis, larger  
 31 olksam Customer ombudsman Folksam -- focusing on sustainability Everything we do in life has its importance. It  
 32 on its Nordic operations and has begun to address sustainability issues from a group-wide perspective. Operations  
 33 on the environment. The system strives to promote sustainable forestry, reduce the use of health or environment  
 34 panies acquired in 2008 will therefore not report sustainability indicators until 2009. Other examples of entities  
 35 pdated regularly. We also frequently present our sustainability approach to external audiences. Internal reporti  
 36 porate responsibility - economic aspect Enabling sustainable operations Financial targets · Tieto's long-ter  
 37 rdship Council (FSC). These organisations promote sustainably managed forests through independent thirdparty ce  
 38 resses how the Volvo Group works to contribute to sustainable development. The objective is to present our work  
 39 rmance in 2008 Stora Enso continues to report on sustainability performance against Group-level sustainability ta  
 40 s well as between various sectors have documented sustainability appraisals as a basis for all decisions engaging  
 41 social responsibility. Each business unit pursues sustainability matters based on centrally adopted guidelines tha  
 42 son A life-cycle approach to products drives new sustainability initiatives. Sony Ericsson, a 50/50 joint ventur  
 43 The basis for this publishing is SAS's work on sustainability issues, its annual report and the company's commi  
 44 tion. 4.9 Board-level procedures for overseeing sustainability The sustainability performance of the Group, nam  
 45 ups in protecting the environment whilst ensuring sustainable living conditions. Our actions demonstrate we are  
 46 value for stakeholders and simultaneously achieve sustainable , profitable growth. Most of the economic value t  
 47 vision SAS intends to be a leader in work toward sustainable development in air transport, thus contributing t  
 48 WF and IKEA co-operate on projects which focus on sustainable forestry, sustainable cotton production and clima  
 49 wood. WOOD FROM COMPANY FORESTS. Holmen employs sustainable forestry. The amount of wood harvested each year  
 50 worked with WWF Sweden and WWF Norway to promote sustainable fishing and free range meats. World Childhoo

Concordance 4: Random sample of the concordance for <VERB> + SUSTAIN\*,  
 with up to two intervening lexical items ( $n = 366$ )

1 's lives. It is therefore essential to build sound, sustainable external relationships in order to realize our go  
 2 2 is to incorporate the whole group in the annual Sustainability Report. In this report, we have chosen to focus  
 3 a fund of European companies that meet stringent sustainability criteria. In 2008, SCA was included in the OMX GE  
 4 aily operations. To reflect this more fully, key sustainability issues are addressed in ABB's Group Annual Report  
 5 cautionary approach ABB has Group-wide mandatory sustainability checks in place which are applied in the developm  
 6 closely with our suppliers to develop a long-term , sustainable, social and environmental standard in the factori  
 7 communities around us and contribute to positive and sustainable change, which is why we call this area community  
 8 disaster response. Corporate Responsibility and Sustainability Report 2008 People CASE STUDY: Diversity 'Vive  
 9 duct. Suppliers with documented environmental and sustainability work are given priority. The SAS Group's work on  
 10 e have been striving to improve the environmental sustainability of our transportation networks. In 2008, 17.6 per  
 11 economic development For ICA, financial strength and sustainable development are closely linked. ICA tries to achi  
 12 ed Nations to realize the vision of having a more sustainable and inclusive global economy. Both the private and pu  
 13 er stakeholders, SAS is convinced that structured sustainability work and transparent reporting of both progress a  
 14 everywhere we operate, aiming for a healthy, safe and sustainable environment. We consider the needs of the present  
 15 great. That is why I am so excited about our new sustainability strategy that will be rolled out during 2009. Eac  
 16 he Board of Directors also participates in annual sustainability and corporate responsibility training. Managing  
 17 he group's responsibilities. Holmen's Director of Sustainable and Environmental Affairs chairs this group. Interna  
 18 he point of departure for SAS's environmental and sustainability work is its environmental platform, intended to g  
 19 Human Resources and Sustainability, SKF Corporate Sustainability is responsible for outlining and shaping policies  
 20 in the process of developing a new environmental sustainability strategy, together with associated objectives and  
 21 in their factories and this can lead to long-term and sustainable improvements in working conditions and environmen  
 22 inability focus Atlas Copco has grouped its main sustainability activities in three dimensions. All are important  
 23 insist our suppliers and contractors meet certain sustainability requirements. As well as our commitment to the UN  
 24 is to offer its customers environmentally-friendly , sustainable communication and logistics solutions. · Posten  
 25 its formal start in 1997? Swedbank Robur's first sustainability analysis of H&M was conducted in 1997. That year  
 26 les in the UN's Global Compact initiative. Active sustainability efforts are an important ingredient in the Volvo  
 27 lity controllers are supported by about 350 local sustainability officers reporting confirmed data gathered through  
 28 local conditions to help us to create a longterm sustainability agenda and adopt best environmental practices. I  
 29 made. SAS aims to show clearly how its strategic sustainability work helps to create long-term value. In the curr  
 30 ment, with a special focus on sustainable forestry, sustainable cotton production and climate change. IKEA and  
 31 n for the environment Lars Strömberg, Director of Sustainable and Environmental Affairs +46 (0) 8 666 21 54 · lars.  
 32 n in the country and is fed back to the corporate sustainability affairs team to assess its relevance to the Group  
 33 n urban development projects. The goal is to find sustainable and profitable synergies in urban environments. Stena  
 34 nical and management standards that can provide a sustainable and competitive supply to Stora Enso's operations. Th  
 35 of continued satisfied customers with responsible , sustainable work methods even in the future. Stefan Carlsson  
 36 ok another step within the organisation, as a new sustainability strategy was developed during 2008. Here, H&M's  
 37 oped in 2008 from collaboration between Corporate Sustainability, Group Legal, Group Demand Chain and an independe  
 38 operations based on the Company's most important sustainability issues. Page reference Degree of reporting GRI  
 39 our operations is to proactively find innovative and sustainable solutions that benefit us and our customers. Ste  
 40 ownership themselves, so that developments become sustainable and independent of IKEA presence. Every three years  
 41 policies. · We work with others for a prosperous and sustainable development in the communities where our customer  
 42 rnational corporate indices. Holmen views active sustainability measures and clear communication on this subject  
 43 s and processes, R&D \* stainless steel is a safe and sustainable material FUTURE EMPLOYEES They expect competi  
 44 social aspects. Company Indices OMX GES Nordic Sustainability Index. This index was set up in 2008 and ranks th  
 45 teket stands for. In order to become a successful and sustainable company in the long term, even in a competitive m  
 46 tereests into consideration and enable more viable and sustainable alternatives for the child's development. 3. You  
 47 the seven major issues where ABB has significant sustainability impact, namely energy efficiency and climate chan  
 48 transparency tremendously, implementing an annual sustainability report, conducting annual roundtables with shareh  
 49 UN Global Compact. The Board reviews ethical and sustainability -related policies on an annual basis. All of the a  
 50 value for stakeholders and simultaneously achieve sustainable , profitable growth. Most of the economic value tha

Concordance 5: Random sample of the concordance for <ADJECTIVE> + SUS-  
 TAIN\*, with up to two intervening lexical items ( $n = 285$ )