

Automated reporting of corporate sustainability data:

An analog of automated internet-based sustainability reporting

J. Emil Morhardt

Roberts Professor of Environmental Biology

Director, Roberts Environmental Center

Claremont McKenna College

A member of The Claremont Colleges

Claremont, CA, USA



J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu



This paper is about three things:

- The business of the Roberts Environmental Center in analyzing corporate sustainability reports
- The utility we derive from serving the data directly from our database
- How much easier our job would be if corporations would use XBRL (or some other means) to tag the sustainability information they report on the web



J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu



The Roberts Environmental Center:

- Analyzes individual corporate sustainability information on the web, scores it using the **Pacific Sustainability Index (PSI)**, and assigns each company a letter grade
- Stores all its data in a single database which also does all the data processing
- Serves *all* its information directly to the web

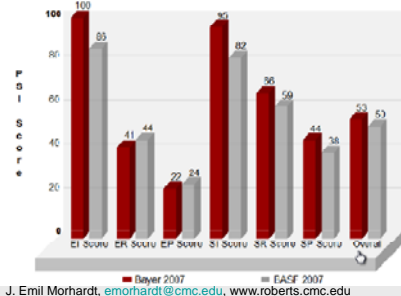


J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu



These data are available on-line as soon as one of our analysts enters them into our database

- All reports we have ever analyzed (over 2000) are available in this format
- All reports can be compared side by side with any other one



J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu



Roberts Environmental Center, Claremont McKenna College - Microsoft Internet Explorer provided by The Joint Science Department

http://www.roberts.cmc.edu/cemstactordata.asp

CLAREMONT MCKENNA COLLEGE
CLAREMONT, CALIFORNIA

Roberts Environmental Center

Corporate Environmental and Sustainability Reporting

Pacific Sustainability Index (PSI) Scores by Sector and Score Type

These graphs display the different categories of PSI scores by industrial sector, showing only the data from the latest scored report of each company. Data from earlier scored reports (if any) are found using the list of corporate report scores - New scores are added frequently.

Sector: Chemicals Overall PSI Score: 53.44%

Click a column to compare all scores from a company to the sector averages.

PSI Score

100
80
60
40
20
0

100
80
60
40
20
0

Search the REC website using:

enviro info

J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu

You can click on Bayer's bar, for example, and get much more detail.

PSI Score

100
80
60
40
20
0

enviro info

Here's a more detailed look at that graph.

J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu

Roberts Environmental Center, Claremont McKenna College - Microsoft Internet Explorer provided by The Joint Science Department

http://www.roberts.cmc.edu/PSI/PSIsectordata.asp?reportformid=289

Overall Scores

The letter grades reported below are based on all reports irrespective of year of the same sector in the database and may be slightly different from the grades in the individual sector reports, which are based on scores of companies in just that report.

Category	Percent Coverage	Grade
Environmental Intent	100.00%	A+
Reporting	41.23%	B-
Performance*	22.22%	A-
Overall	44.09%	B
Social Intent	95.45%	A+
Reporting	65.64%	B+
Performance*	44.23%	A
Overall	63.40%	A-
Overall PSI Score	53.44%	A-

*Performance scores are calculated in both environmental and social reporting category when data are better than peer average, taking a leadership position for the sector, and at its maximum performance.

Bayer website downloaded: 7/15/2007

PSI Score

100
80
60
40
20
0

100
80
60
40
20
0

enviro info

J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu

Roberts Environmental Center, Claremont McKenna College - Microsoft Internet Explorer provided by The Joint Science Department

http://www.roberts.cmc.edu/PSI/PSIsectordata.asp?reportformid=289

Environmental Intent

Also Social Intent

Subcategory	Percent Coverage	Grade
A. Accountability	100%	A+
B. Vision	100%	A+
C. Policy	100%	A+
D. Management	100%	A+
A. Accountability	100%	A+
D. Management	100%	A+

enviro info

J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu

Roberts Environmental Center, Cleveland State University, Microsoft Internet Explorer provided by The Asset Science Department

http://www.roberts.cmc.edu/PDF/Forms/Details.asp?ReportFormID=1289

Environmental Reporting

Subcategory	Percent Coverage	Grade
A. Energy	50%	B-
B. Water	60%	B+
C. Recycling	40%	C-
D. Waste	87%	A+
F. Management and Misc.	20%	D

Rever 2007 © Chemicals Sector Avg.

Also Social Reporting

enviro info 2008

J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu

Roberts Environmental Center, Cleveland State University, Microsoft Internet Explorer provided by The Asset Science Department

http://www.roberts.cmc.edu/PDF/Forms/Details.asp?ReportFormID=1289

2007 Report Score 2006 Sustainable Development Report

Question Number	Name	Topic	Description
1	Report content format		Discussion: identification of web content information for specifically designed to answer questions about the report or sustainability issues. Inverse relates content information data set usage. Subtitle or action to facilitate each content, or providing need address or link for feedback and questions.
18	Environmental structure or management		Discussion: of the organizational structure or staffing. Subtitle or action to provide systematic structure of environmental strength.
B. Vision			
Question Number	Name	Topic	Description
3	Environmental visionary statement		Discussion: (user review) statement expressing a company commitment to good environmental performance. Subtitle or action to build that commitment.
6	Environmental opportunities and challenges		Discussion: of opportunities and challenges faced by the company in attempting to realize its environmental "vision and commitments. Subtitle or action to increase focus.
C. Policy			
Question Number	Name	Topic	Description
9	Environmental policy statement		Discussion: a formal statement of the company's environmental policy or plan. Subtitle: Check the attractiveness of the policy to score this category.
10	Clean change global training		Discussion: of the company's position on clean change and/or global training. Subtitle or action by the company to work in these areas.
11	Natural ecosystem conservation		Discussion: of the company's position on conserving natural ecosystems and habitat. Subtitle or action by the company to help conservation of natural ecosystems.
12	Biodiversity		Discussion: of the company's position on biodiversity. Subtitle or action by the company to focus biodiversity.

enviro info 2008

Plus a complete filled-out analysis form

J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu

The REC also produces written reports in PDF format

- They are *automatically* created from our database using the same data that drives our web pages.
- We just use a database form to list which companies to include, and the report writes itself.
- All reports are free on our website (www.roberts.cmc.edu)...

enviro info 2008

J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu

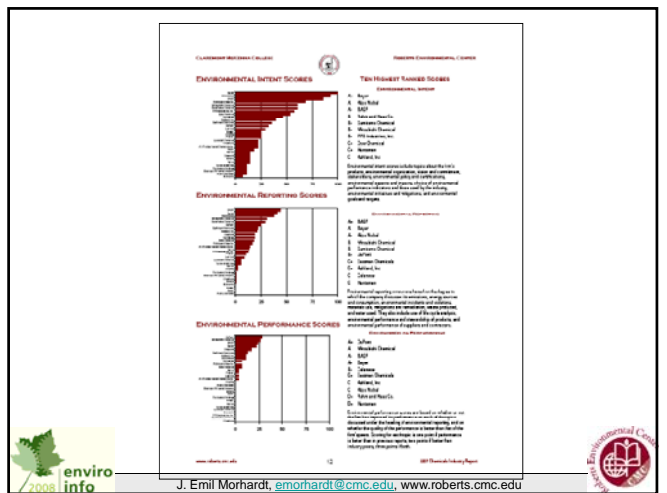
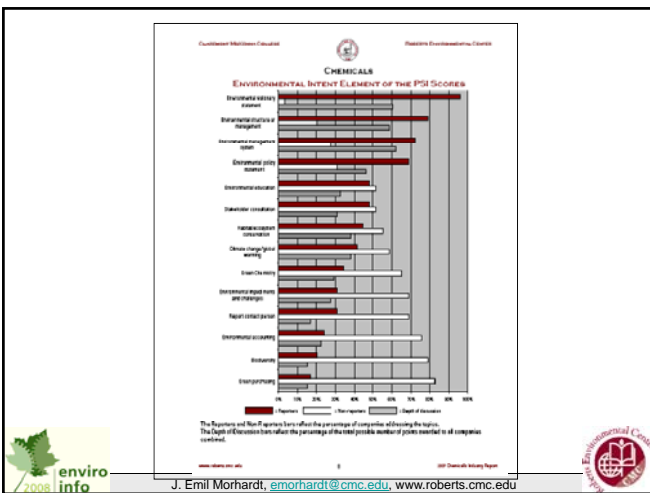
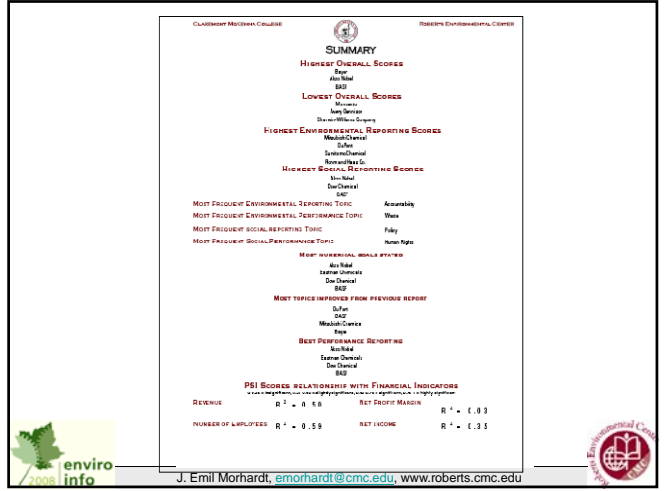
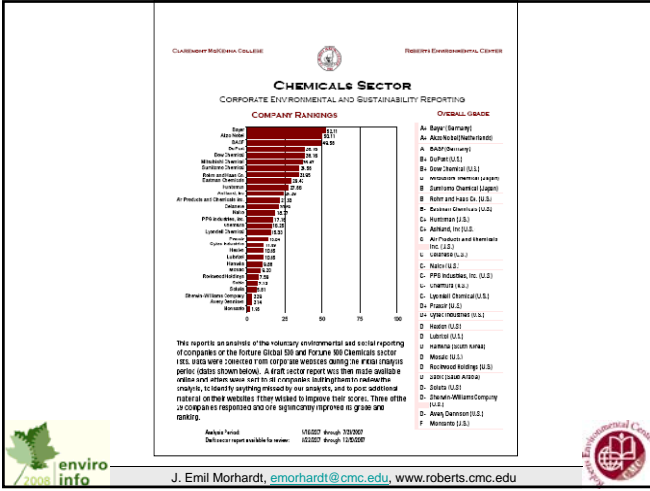
2007 CHEMICALS SECTOR ANALYSIS
PACIFIC SUSTAINABILITY INDEX SCORES

J. Emil MORHARDT
WILLIAM H. ALBERTSON
SOPHIE M. HANSEN
ATA UL HAQUE KHAN
ELEAZAR A. TORRES

Help Commerce Help Nature

enviro info 2008

J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu



VISUAL CLUSTER ANALYSIS

Visual cluster analysis multivariate data of the sort produced by the PSI are difficult to summarize. Here we have created radar diagrams of the performance of each company analysed in the sector by its environmental and social intent, reporting, and performance sorted by company ranking. Maximum scores will match the outer side of the hexagon which total up to 100 percent.

EI = Environmental Intent, ER = Environmental Reporting, EP = Environmental Performance
 SI = Social Intent, SR = Social Reporting, SP = Social Performance

We compare all the companies using Radar diagrams

J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu

RELATIONSHIPS BETWEEN OVERALL PSI SCORE AND COMPANIES' ECONOMIC INDICATORS

We compare performance with revenue

J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu

BAYER

A+

Comparison with sector averages

Source of points

BAYER 2006 SUSTAINABLE DEVELOPMENT REPORT
 Bayer's 2006 Corporate Sustainability Report and website stand among the most inspiring examples of sustainability reporting seen among any industry. Unlike many reports, it is not filled simply with anecdotes, but is based with well-organized, goal-oriented statements and clear, historical, numerical data. The corporation's commitment to multiple environmental and social organizations and programs resonates in the structure of its report, which is formed according to these organizations' goals. Specifically, the chart "Path to Becoming a Sustainable Company" shows Bayer's growth in environmental and social aspects. The company has clearly considered the ethical and social issues involved in the dealings of its sector and expressed these through its affiliation with groups such as the Global Business Coalition. To increase its score, Bayer can provide historical information and specific goals for alternative energy consumption, social community investment, human rights stance, and workforce demographics.

~ Alston

Question Category	Score	General Comment
Accountability	100	Excellent
Management	100	Excellent
Policy	100	Excellent

And we provide letter grades and an Explanation of performance.

J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu

MONSANTO

F

Comparison with sector averages

Source of points

MONSANTO COMPANY 2006 WEB PAGES
 Monsanto's webpages have some random stories about community development projects and one article about environmental preservation. Overall, the web site does not report anything about environmental commitment in terms of its daily operation or product impact to the environment. Right now, there is little indication that the company has a concrete program or plan to be a more sustainable agricultural chemical company.

~ Thomas

Question Category	Score	General Comment
Accountability	0	Needs substantial improvement
Management	0	Needs substantial improvement
Policy	17	Needs substantial improvement
Vision	0	Needs substantial improvement

Some companies don't do so well

J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu

Our scoring system, the PSI, can be roughly mapped onto the GRI G3 Sustainability Reporting Guidelines

- Many companies provide a “GRI Index” to their reports.
- But few if any indicate adjacent to data or blocks of text which GRI guideline is being addressed...if they did we could search their documents using a PDF search utility.
- It would be better to also produce the reports as web pages with all relevant data and text marked with XBRL tags from the GRI G3 XBRL taxonomy.
- If either of these things were done, our scoring would be much quicker and more accurate.



J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu



Thus, we think that:



J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu



Corporate sustainability information, like our data, should be served to the web because:

- It is inexpensive: Any company, no matter how small, can afford this means of data dissemination
- It is readily available: Almost anyone, anywhere, who might be interested can access it at will
- It is readily updated: As soon as new information is available it can be posted...



J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu



Corporate sustainability information, like our data, should be stored in a database because:

- The database fields define the information to be stored and make it easy to tell what is missing and what needs updating
- The information can be served directly to the web immediately—everyone has access to the same current data
- The information can be used to automate report writing
- If the information is tagged using XBRL, it can be machine-interpreted...



J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu



In conclusion:

- Companies must want people to read their sustainability reports, or they wouldn't produce them
 - If companies wanted their reports as complete and current as possible, serving the data to the web from a database would do it
 - If companies also wanted their "sustainability" to be compared to that of other companies, they could make it much easier to do by providing metadata associated with each piece of data
- "GRI Indexes" are such an attempt, but...



J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu



- If GRI section numbers were attached to each paragraph or number on a PDF, or
- if all the data in web pages were marked with GRI G3 XBRL tags from the G3 taxonomy,
- the data would be much easier to analyze and compare

Participants at the EnviroInfo symposium have been suggesting this for years, but it has yet to happen



J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu



Thank you.



J. Emil Morhardt, emorhardt@cmc.edu, www.roberts.cmc.edu

