

Environmental Rating & Disclosure: Key Insights for Regulators

By

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Odisha State Pollution Control Board (OSPCB)

Bhubaneswar

20-February-2013



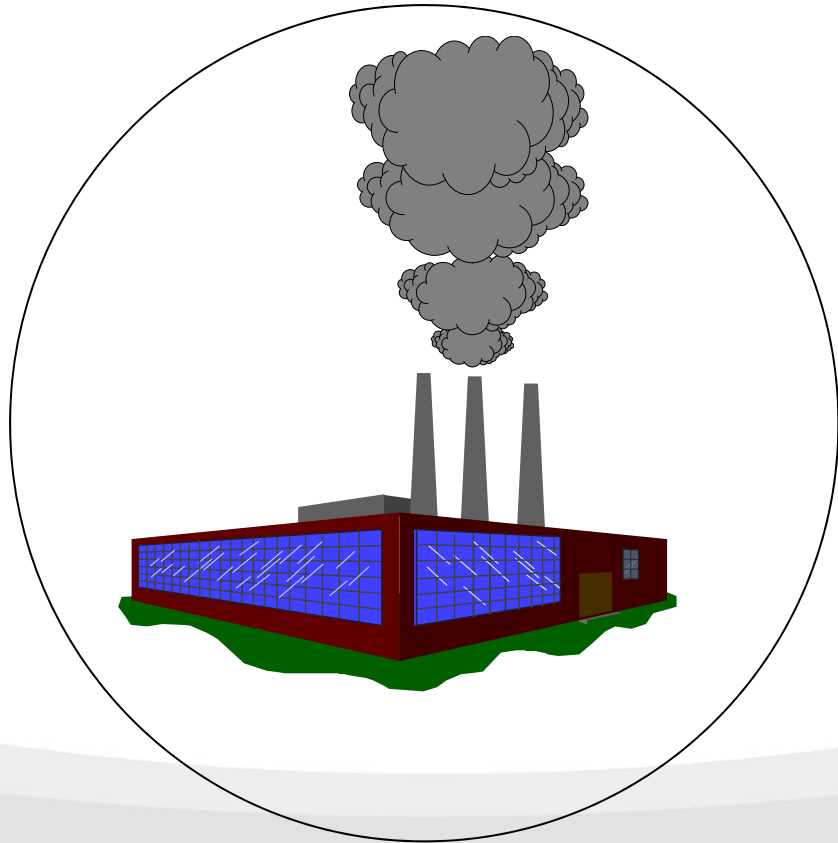
Presentation Outline

PART-1: Key Guiding Principles

PART-2: Design & Implementation

PART-3: Institutional Commitment

Pollution Control Boards have many challenges



Increasing pollution



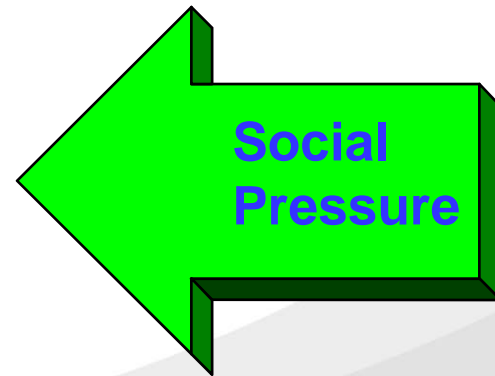
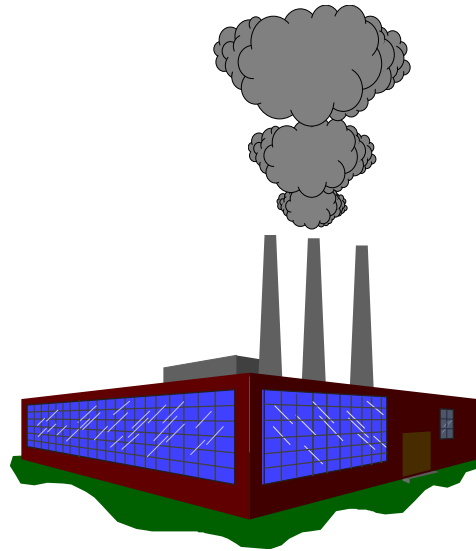
Limited capacity



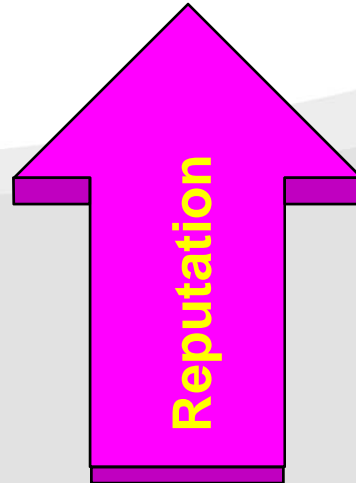
Unpredictable enforcement

Potential Approach—Going Beyond the Courts

Regulators



Community



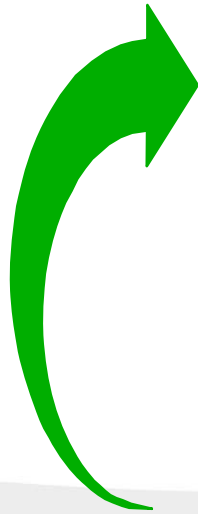
Markets

Public Disclosure Process

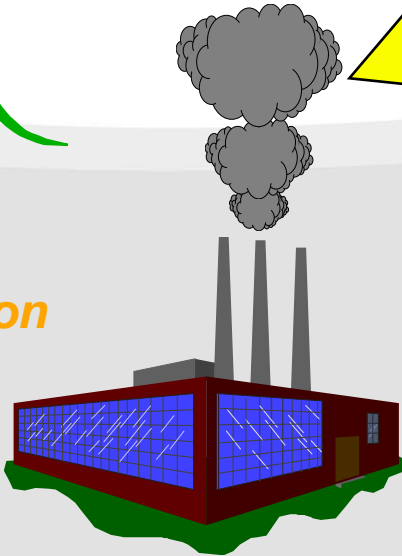
Regulator



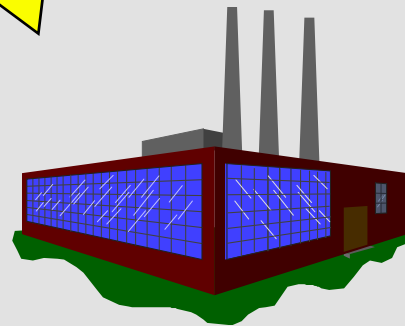
Public



Pollution



Clean Industry



Rating & Disclosure Works

Pollution declined by more than 30% in Indonesia

Environment and Development Economics 12: 739–756 © 2007 Cambridge University Press
doi:10.1017/S1355770X07003920 Printed in the United Kingdom

Public disclosure of industrial pollution: the PROPER approach for Indonesia?

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Department of Economics, University of Gothenburg, Gothenburg, Sweden

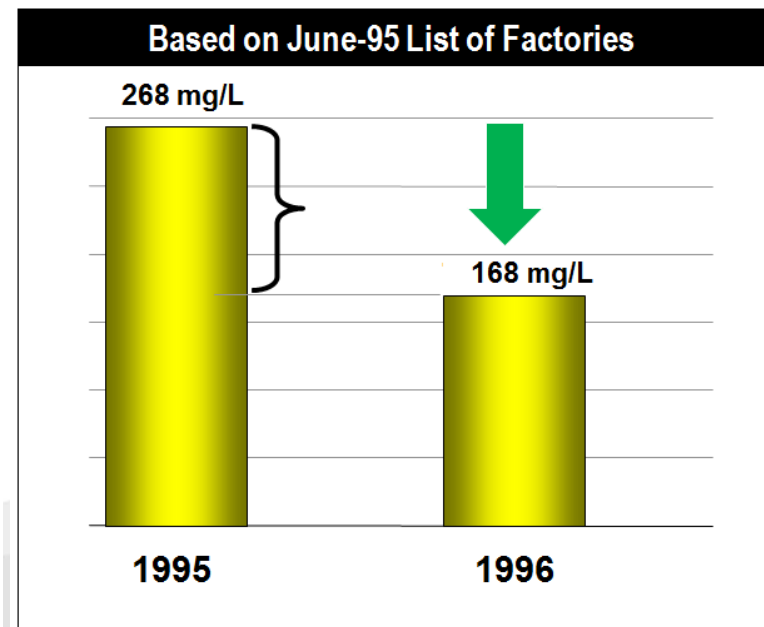
THOMAS STERNER*

*Department of Economics, University of Gothenburg, Gothenburg, Sweden
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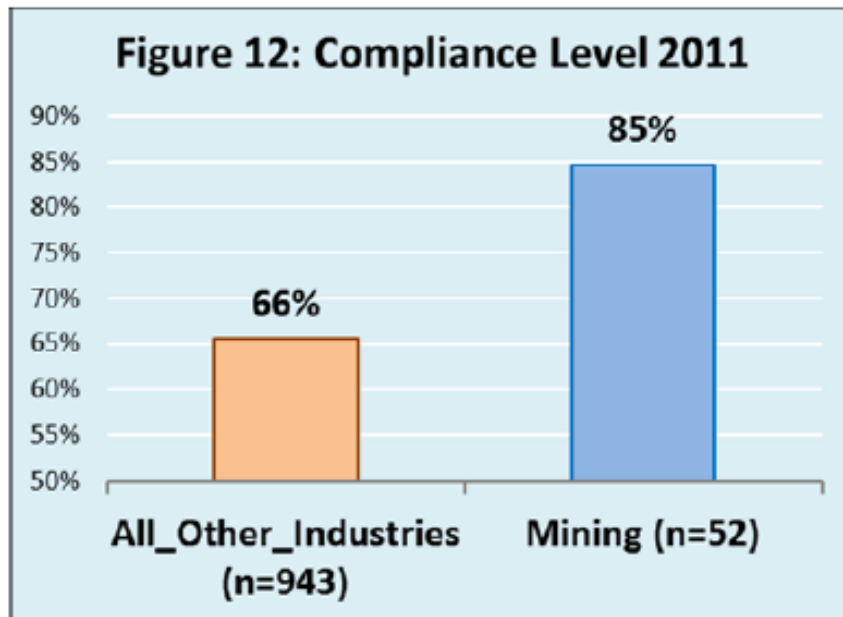
SHAKEB AFSAH

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ABSTRACT. This paper evaluates the effectiveness of the Program for Pollution Control Evaluation and Rating (PROPER) in Indonesia. PROPER, the first major public disclosure program in the developing world, was launched in June 1995; though it collapsed in 1998 with the Asian financial crisis, it is currently being revived. There have been claims of success for this pioneering scheme, yet little formal and conclusive analysis has been undertaken. We analyze changes in emissions concentrations (mg/L) using panel data techniques with plant-level data for participating firms and a control group. The results show that there was indeed a positive response to PROPER, especially among firms with poor environmental compliance records. The response was immediate, and firms pursued further emissions reductions in the following months. **The total estimated reductions in biochemical oxygen demand (BOD) and chemical oxygen demand (COD) were approximately 32 per cent.**



Recent results confirm effectiveness of disclosure



Industry Groups	GOLD	GREEN	BLUE	RED	BLACK
All Industries (n=943)	5 (0.5%)	95 (10%)	519 (55%)	275 (29.2%)	49 (5.2%)
All Mining (n=52)	0 (0%)	11 (21%)	33 (64%)	8 (15%)	0 (0%)

International Recognition!

Economist.com

SCIENCE & TECHNOLOGY

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The environment

Economic man, cleaner planet

Sep 27th 2001

From The Economist print edition

The biggest bang may have come with Indonesia's "Proper" programme, which...

The biggest bang may have come with Indonesia's "Proper" programme.

...The "Proper" scheme is now being adopted by the Philippines and the world's other...

The Most Critical Institutional Result

Disclosure of ratings not only disciplined companies but also improved governance in environmental regulatory agency

PROPER is a Policy Success

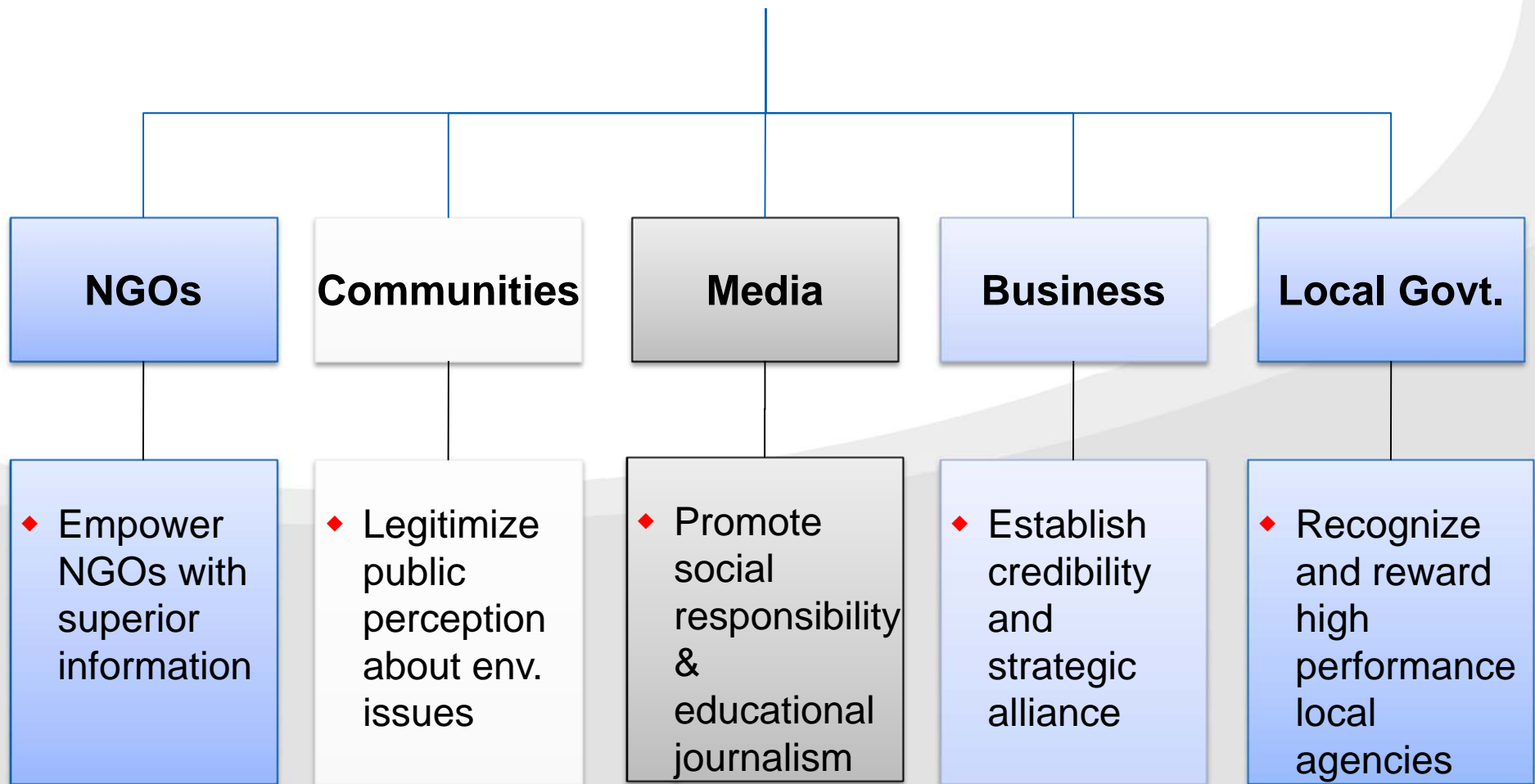
1. It has durability
2. Achieved policy goals
3. No evidence of wide spread corruption
4. Disclosure created significant benefits for its constituencies

Key Determinants of PROPER's Success

1. It was designed to be a political strategy
2. Ratings were kept simple and easy to understand
3. Considerable emphasis on credibility of ratings
4. Strong focus on middle-level operational staff
5. A fine sales job within the government—focus was on carrots, not sticks
6. Excellent media management

Constituencies Management-A Key Strategy

Empower through Disclosure



PROPER Required Politics and Technology

Political Management

Technical Quality

	<i>Good</i>	<i>Poor</i>
<i>Good</i>	◆ Successful and sustainable	◆ May fail to be initiated
<i>Poor</i>	◆ Successfully initiated but not sustainable	◆ Will never be initiated

Determinants of PROPER's Success

Credibility:

Public must trust the information

Technical Credibility

- Sound methodology
- Accurate data and analysis
- Timely and periodic results

Institutional Credibility

- Credible leadership
- Appropriate implementing agency
- Transparency

PART-2: Design an Implementation

This Approach has Appeal

Countries that adopted rating & disclosure (with varying degrees of success):

1. China (1999/2000)
2. The Philippines* (1997)
3. Ghana (Nov 2010)
4. Ukraine (2007)
5. Egypt* (in progress)
6. Vietnam (2002-only one disclosure)
7. India (2002)

* Presenter provided or is providing TA

1. What have we learnt?

- **Environmental rating is moderately easy to start**
 - ▶ Success stories include Indonesia, India, China, Ghana, Philippines and Vietnam.
 - ▶ Failed to start in Colombia, Mexico and Brazil
 - ▶ Attempting to start in Egypt
- **....But extremely difficult to sustain**
 - ▶ (e.g. Philippines, Vietnam, Thailand and India)
 - ▶ Too early to conclude about China

2. What do we mean by institutionalization?

- 1. Rating & Disclosure as a core strategy for compliance**
- 2. Publicly transparent rating methodology**
- 3. Ratings based on current information**
- 4. Well trained staff**
- 5. Fully operational data collection and verification system**
- 6. Tested and reliable computer tools**
- 7. Strong dissemination strategy**
- 8. Predictable time frame for sharing rating results**
- 9. Clear legislative basis for rating**
- 10. Sufficient Budget**

Disclosure as a Core Strategy



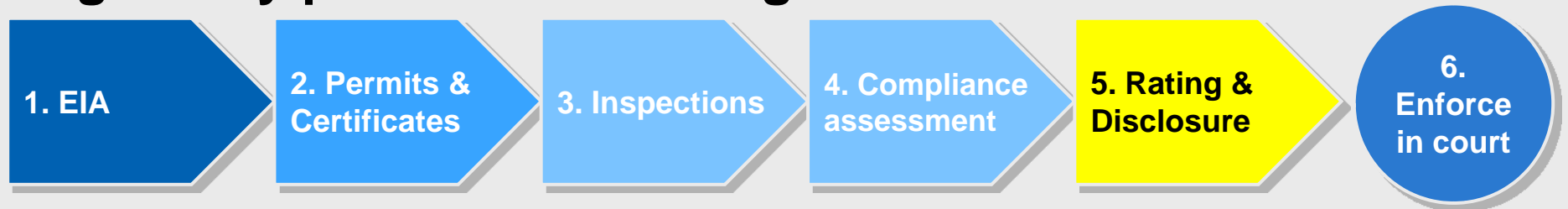
- Disclosure acts as the third pillar of environmental regulatory system
- Disclosure helps to increase compliance with the environmental regulations
- Disclosure uses public pressure to motivate companies to follow environmental regulations.
- But, legal enforcement will remain the final tool to ensure compliance.

EIA and Compliance Management Process Flow

Current regulatory process



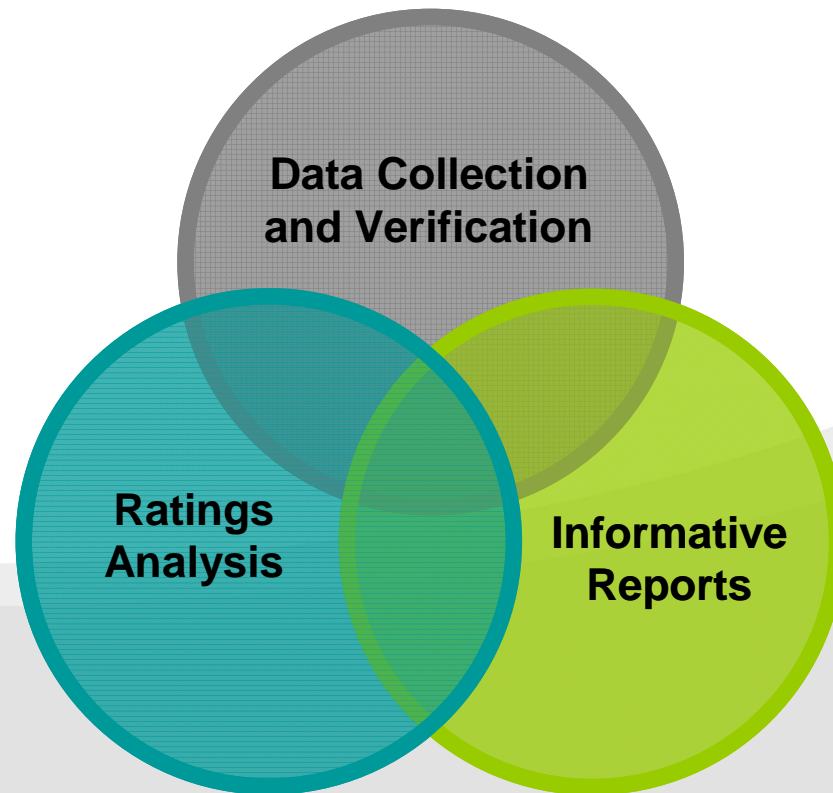
Regulatory process with rating and disclosure



Necessary Condition for Institutionalization

**How do we generate ratings
that are accurate, current,
informative and reliable?**

Three Pillars of Environmental Rating System



Rating Analysis—A Critical First Step

Compliance Analysis

A Rating Methodology Concept



AKOBEN

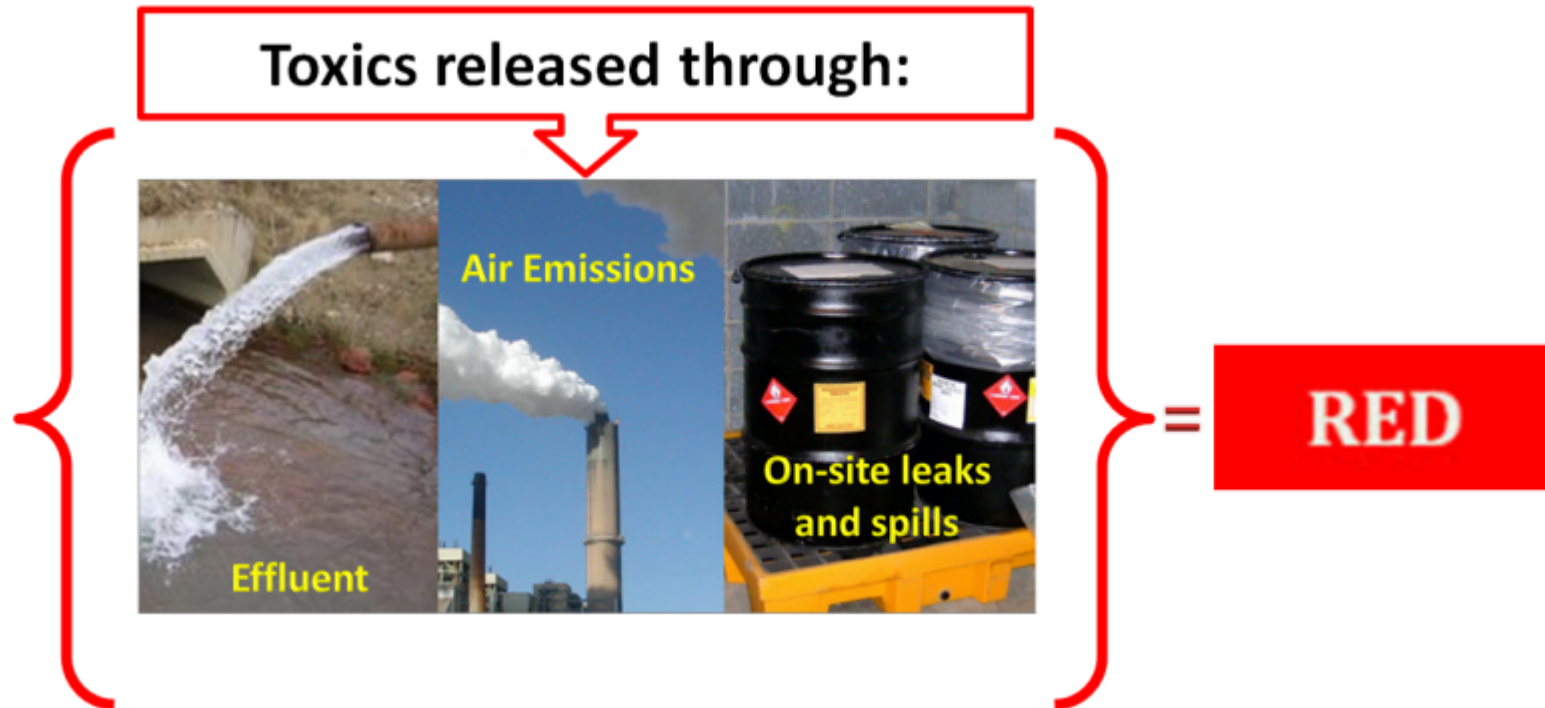
Rating	Performance Level
GOLD	EXCELLENT
GREEN	VERY GOOD
BLUE	GOOD
ORANGE	UNSATISFACTORY
RED	POOR

**(Environmental
+CSR) data
&information**

Definition of Ratings

Rating Level	Performance	General Description
RED	POOR	Has not fulfilled the requirements of LI 1652, and creates risks from toxics and hazardous wastes mismanagement and discharges.
ORANGE	UNSATISFACTORY	Exceedance of regulatory standards for conventional pollutants, non-toxics and noise pollution
BLUE	GOOD	Adequate compliance with environmental standards
GREEN	VERY GOOD	BLUE + company is responsive to public complaints
GOLD	EXCELLENT	GREEN + company follows its corporate social responsibility policies

Methodology: Strict on Risks



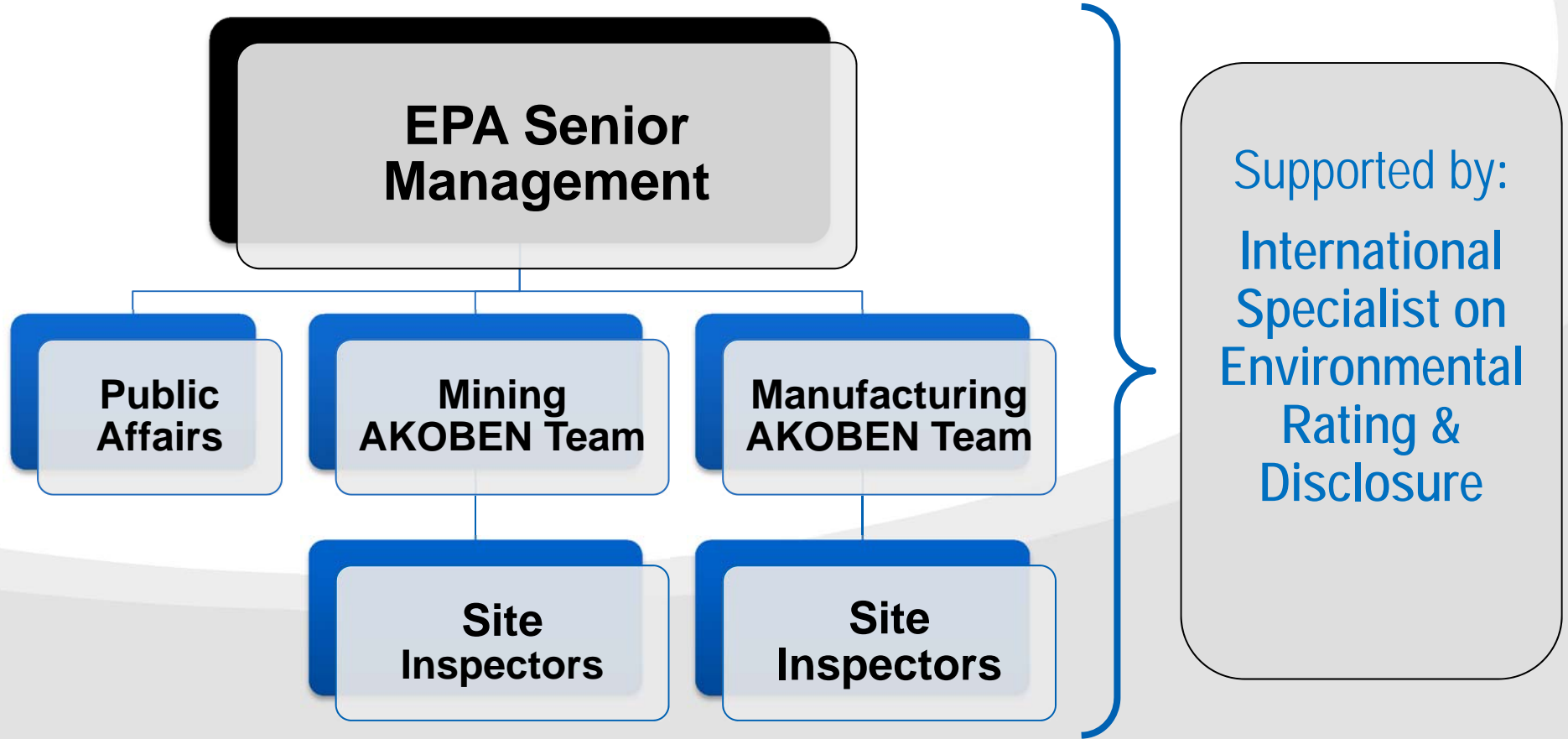
AKOBEN applies strict standards for management of toxics and hazardous from all media including air and water releases, and on-site releases

Implementation System



- Three inter-connected pieces form the foundation of the implementation system
- Methodology took several months to finalize, included feedback from stakeholders and review of national and international guidelines
- New data collection system and database tools mobilized at EPA
- Computerized rating system ensures data quality control, accuracy and speedy evaluation of ratings

EPA's AKOBEN Team



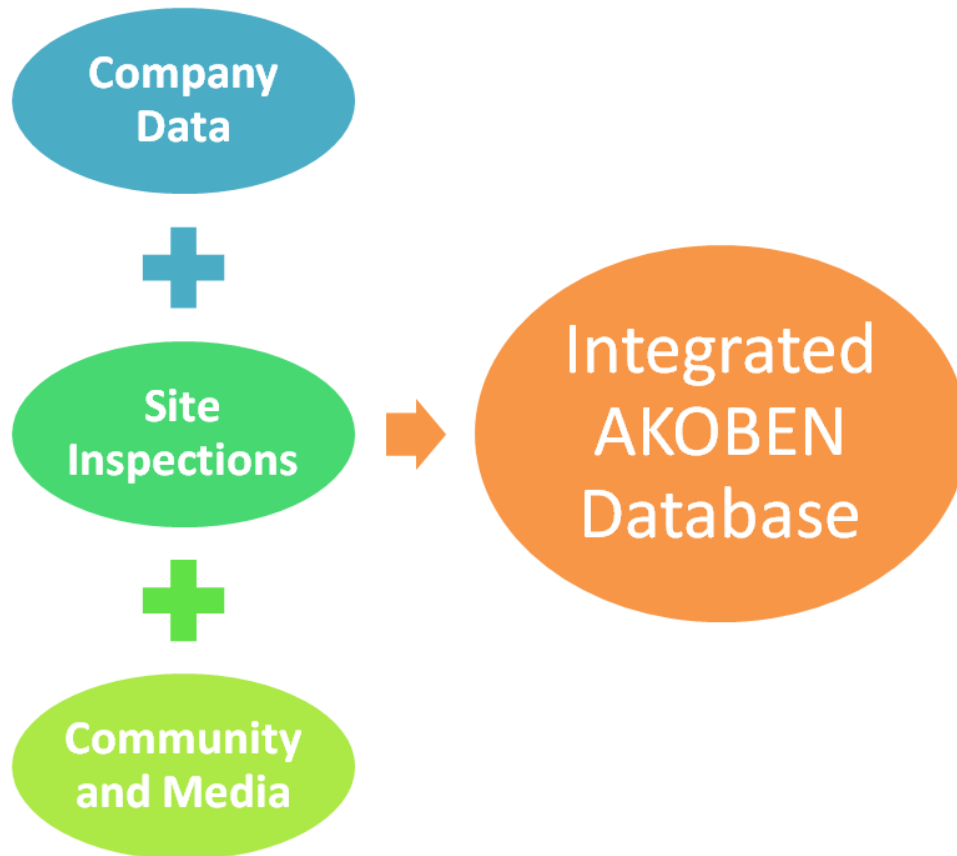
Technical Overview

Rating Rules & Criteria: Covers Seven Topics

- | | |
|---|--|
| 1 | Legal Requirements |
| 2 | Hazardous and Toxic Waste-
Onsite Management, Spills and
Accidents |
| 3 | Compliance with Environmental
Quality Standards |
| 4 | Environmental Monitoring and
Reporting |
| 5 | Best Practices-Environmental
Management |
| 6 | Complaints Management and
Community Relations |
| 7 | Corporate Social Responsibility
(CSR) |

■ Companies receive a rating on each category

Data Collection System: Approach

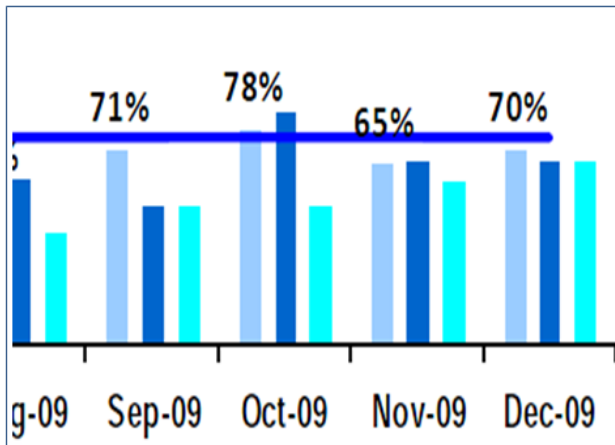


- Companies supply their monthly, quarterly, semi-annual and annual data using a standardized format
- EPA compiles information from community feedback and media reports
- Site-audits provide additional information and verification of data
- Data from all sources applied for rating

Quantitative & Qualitative Information Needed



Feb-09	Mar-09	Apr-09	May-09	Jun-09
7.4	8.2	8.8	7.9	7.3
no data	no data	no data	no data	no data
530	429.3	447	378	345
27	no data	11	9	17
0.633**	0.07**	0.35**	0.48**	0.466**
0.208**	0.109**	0.309**	0.2**	0.06**
no data	no data	0.008	0.03	0.02



- For comprehensive assessment of environmental and social performance of companies, AKOBEN applies hard numbers, qualitative scoring system, and multi-media based documentation
- Such information are compiled in a desktop database as well as on a web application for data analysis and visualization

Visual documentation



Before AKOBEN-chemicals stored in open area



After AKOBEN Audit-chemicals stored in designated area

**Before & after pictures
provide evidence of
improvements at a site**

Ratings Evaluation: Computerized Model

Select Rating Period: AKOBEN 2009 | 01-Jan-09 - 31-Dec-09
Select Audit Year: 2009

1. Rating Summary and AKOBEN Reportcard

Click the "Do Rating" button to evaluate AKOBEN rating

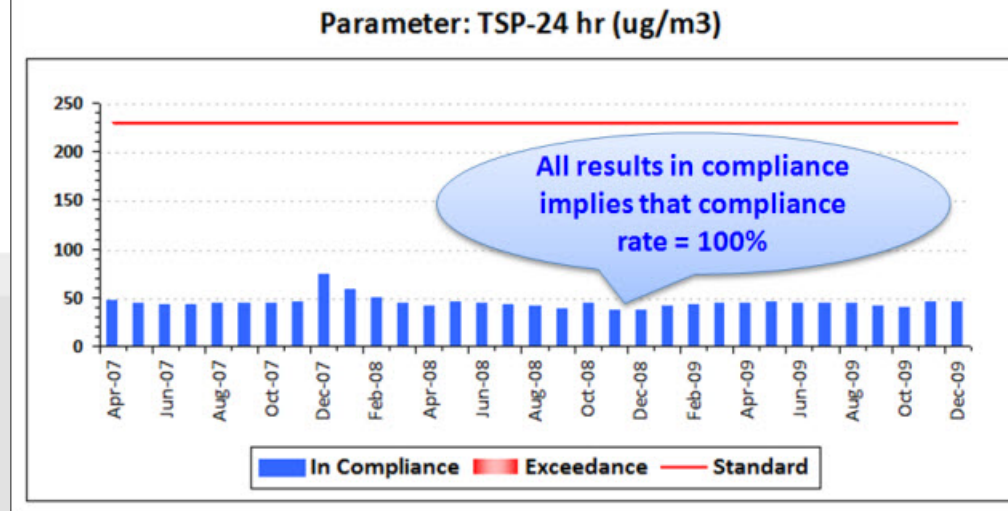
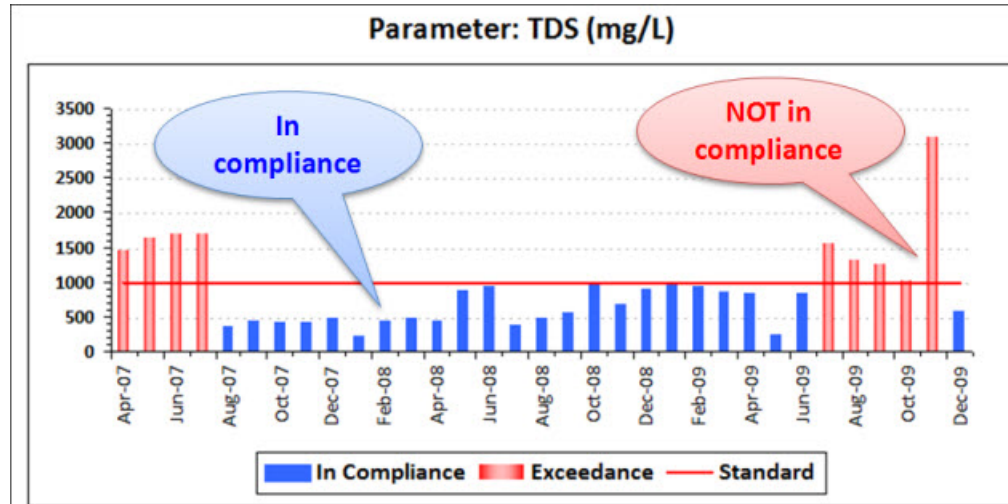
30 secs later

Rating Topics	Rating	Score**	Remarks
Final Rating and Score: RED 0%			
Score by Category:			
1 Legal Requirements	BLUE	100%	Company complies with all mandatory legal requirements.
2 Hazardous and Toxic Waste Management	BLUE	100%	Regarding the toxic and hazardous waste, the company applies good management practices to minimize risk to people and environment.
3a Compliance with Environmental Quality Standards for Non-toxic Parameters and Noise Pollution	ORANGE	0%	Monthly monitoring data show considerable violations of environmental quality standards; company must undertake significant improvements.
3b Compliance with Environmental Quality Standards for Toxic Environmental Parameters	RED	0%	One or more toxic environmental parameter exceed the environmental quality standard and AKOBEN has zero tolerance for toxics.
4 Environmental Monitoring and Reporting	ORANGE	0%	The level of effort the company applies for monitoring and testing the samples is very limited, and it needs significant improvements.
5 Best Practices-Environmental Management	BLUE	100%	The company follows enough best practice to be in the BLUE range.
6 Complaints Management and Responsiveness	GREEN	100%	The like audit showed that the company has good complaints management system in place.
7 Corporate Social Responsibility (CSR)	G O L D	100%	The company has strong commitment regarding social responsibility.

EPA provides a 25-100 page
AKOBEN rating report card to
each company

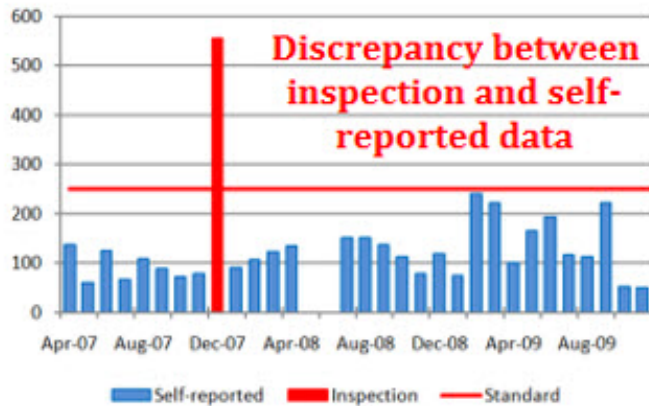
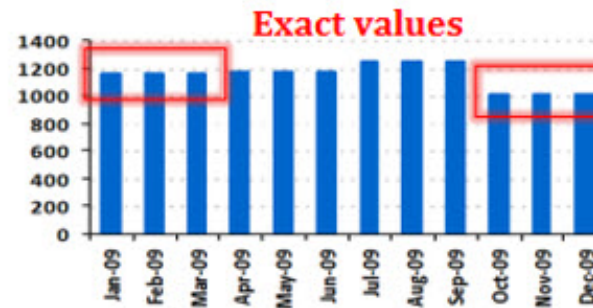
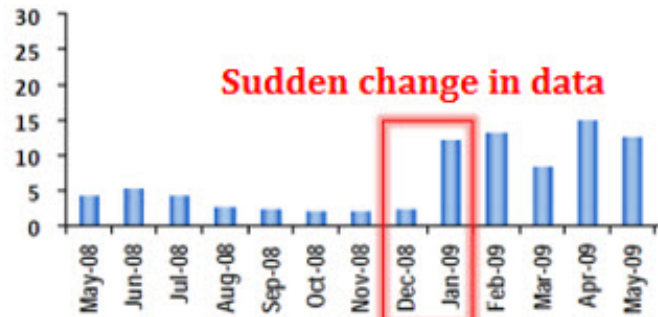
- Customized computer model for AKOBEN generates ratings exactly in accordance with the methodology
- For some companies more than 5,000 data points applied for ratings
- Computer model can evaluate more than 10,000 ratings in one day
- It ensures capacity to rapidly expand AKOBEN to many more companies

Computer checks data for compliance



Data Quality Control

Data Quality Control and Error Detection Approaches



Technical, statistical and validation tools combined with continual interactions with companies improve data quality

Computer tools do data pattern analysis to identify potential errors & incomplete and missing data

Key points

- **AKOBEN programme applies a rigorous methodology developed in consultation with industry**
- **It applies a step-wise approach**
- **It uses quantitative and qualitative information for ratings**
- **It applies strict quality control**

Some Results and Findings

- **What is disclosed to the public**
- **Distribution of Ratings**
- **Comparison of mining and manufacturing sectors**

Results Disclosed to the Public: AKOBEN 2010



EPA Ghana AKOBEN Programme

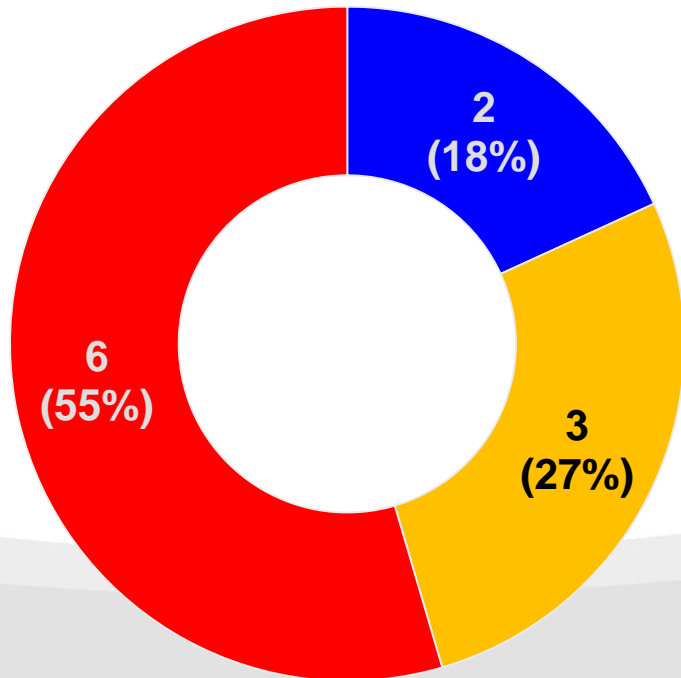
Ratings of Mining Companies

Companies	1. Legal Issues	2. Haz. Waste Mngt.	3A. Toxics Releases	3B. Non-Toxics Releases	4. Monitoring and Reporting	5. Env. Best Practices	6. Community Complaints	7. Corporate Social Respons.	Final Rating
1 Abosso Goldfields Limited--Damang	BLUE	BLUE	BLUE	BLUE	ORANGE	ORANGE	GREEN	GOLD	ORANGE
2 AngloGold Ashanti (Iduapriem) Limited--Iduapriem	RED	RED	RED	ORANGE	ORANGE	ORANGE	FAIL	GOLD	RED
3 AngloGold Ashanti Limited (Obuasi Mine)--Obuasi	BLUE	RED	RED	ORANGE	ORANGE	ORANGE	GREEN	GOLD	RED
4 Chirano Gold Mines Limited--Chirano	BLUE	BLUE	Not Applicable	BLUE	ORANGE	BLUE	GREEN	GOLD	ORANGE
5 Ghana Bauxite Company Limited--Awaso	RED	RED	Not Applicable	BLUE	ORANGE	ORANGE	Not Adequate	Not Adequate	RED
6 Ghana Manganese Company Limited--Nsuta	BLUE	BLUE	Not Applicable	BLUE	ORANGE	BLUE	Not Adequate	GOLD	ORANGE
7 Golden Star (Bogoso/Prestea) Limited--Bogoso	BLUE	BLUE	RED	BLUE	ORANGE	ORANGE	Not Adequate	Not Adequate	RED
8 Golden Star (Wassa) Limited--Akyempim	BLUE	BLUE	RED	BLUE	ORANGE	BLUE	Not Adequate	GOLD	RED
9 Goldfields Ghana Limited (Tarkwa Mine) --Tarkwa	RED	RED	RED	ORANGE	ORANGE	BLUE	Not Adequate	GOLD	RED
10 Newmont Ghana Gold Limited--Kenyasi	BLUE	RED	BLUE	ORANGE	ORANGE	BLUE	Not Adequate	GOLD	RED
11 Prestea Sankofa Gold Limited--Prestea	RED	RED	Not Applicable	ORANGE	ORANGE	No Data	No Data	No Data	RED

**** Final rating along with the performance in seven categories are reported to the public and posted on the website**

AKOBEN 2010-Mining




Distribution of Ratings



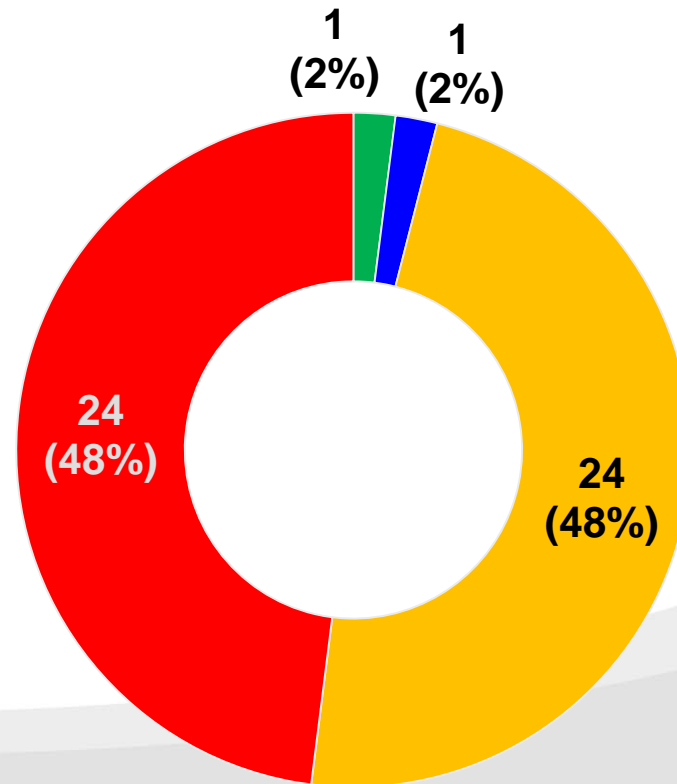
Ratings of Mining Companies

Abosso Goldfields Limited (Damang Mine)-Damang	BLUE
Anglogold Ashanti (Iduapriem) Limited-Iduapriem	RED
Anglogold Ashanti Limited (Obuasi Mine)-Obuasi	RED
Chirano Gold Mines Limited-Chirano	ORANGE
Ghana Bauxite Company Limited-Awaso	RED
Ghana Managanese Company Limited-Nsuta	ORANGE
Golden Star (Bogoso/Prestea) Limited-Bogoso	RED
Golden Star (Wassa) Limited-Akyempim	ORANGE
Goldfields Ghana Limited (Tarkwa Mine) -Tarkwa	RED
Newmont Ghana Gold Limited-Kenyasi	BLUE
Prestea Sankofa Gold Limited-Prestea	RED

AKOBEN 2010/2009 Comparison-Mining

Mining Companies	AKOBEN 2009	AKOBEN 2010
Abosso Goldfields Limited (Damang Mine)-Damang	ORANGE	BLUE 
Anglogold Ashanti (Iduapriem) Limited-Iduapriem	RED	RED
Anglogold Ashanti Limited (Obuasi Mine)-Obuasi	RED	RED
Chirano Gold Mines Limited-Chirano	ORANGE	ORANGE
Ghana Bauxite Company Limited-Awaso	RED	RED
Ghana Managanese Company Limited-Nsuta	ORANGE	ORANGE
Golden Star (Bogoso/Prestea) Limited-Bogoso	RED	RED
Golden Star (Wassa) Limited-Akyempim	RED	ORANGE 
Goldfields Ghana Limited (Tarkwa Mine) -Tarkwa	RED	RED
Newmont Ghana Gold Limited-Kenyasi	RED	BLUE 
Prestea Sankofa Gold Limited-Prestea	RED	RED

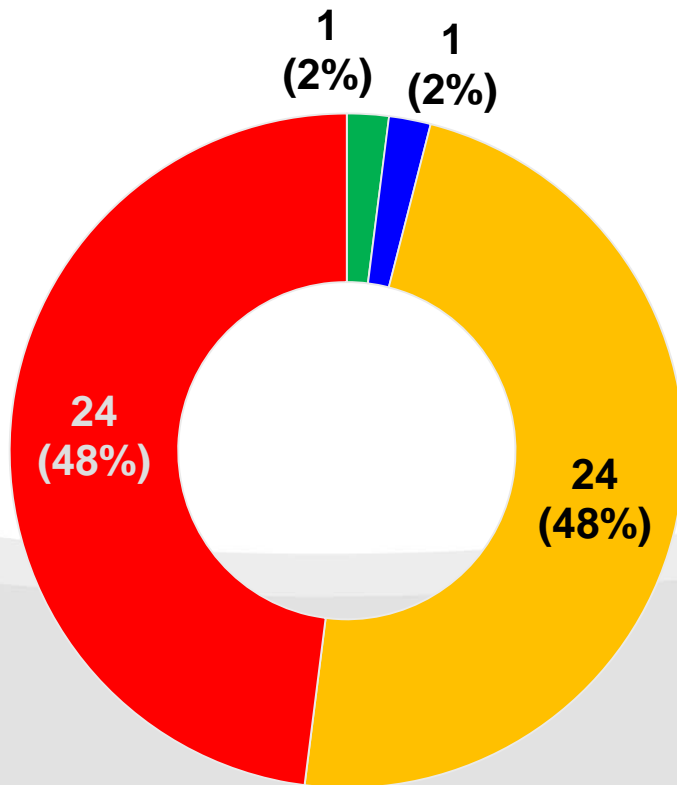
AKOBEN 2010-Manufacturing



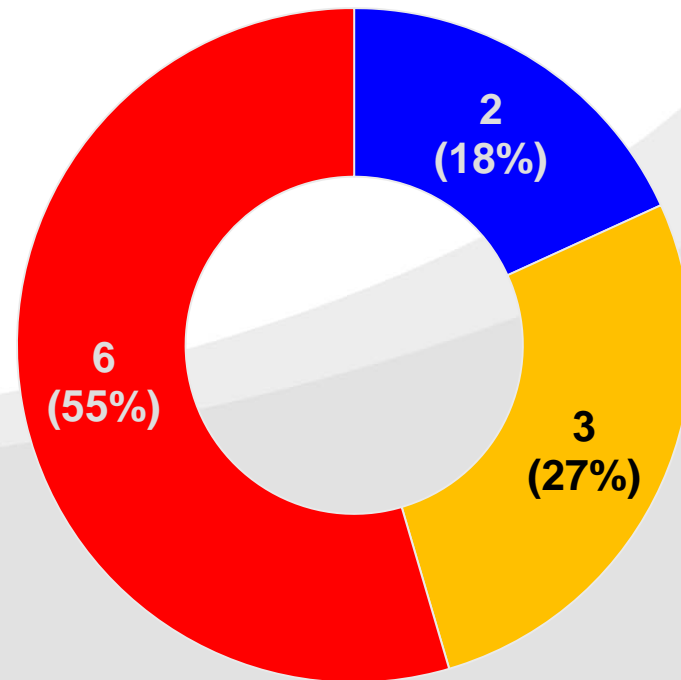
***Based on ratings of 50 manufacturing companies**

AKOBEN 2010-Mining/Manufacturing

Manufacturing (n=50)

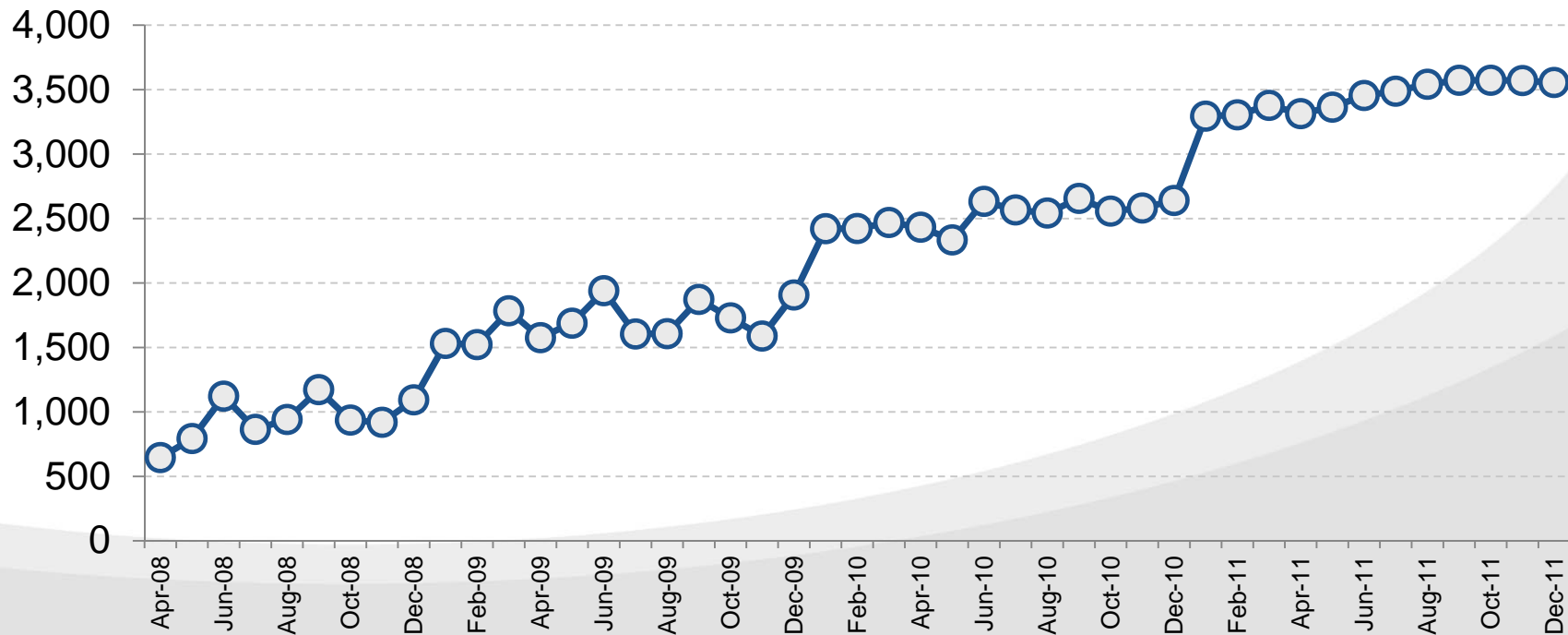


Mining (n=11)



AKOBEN Has Improved Monitoring

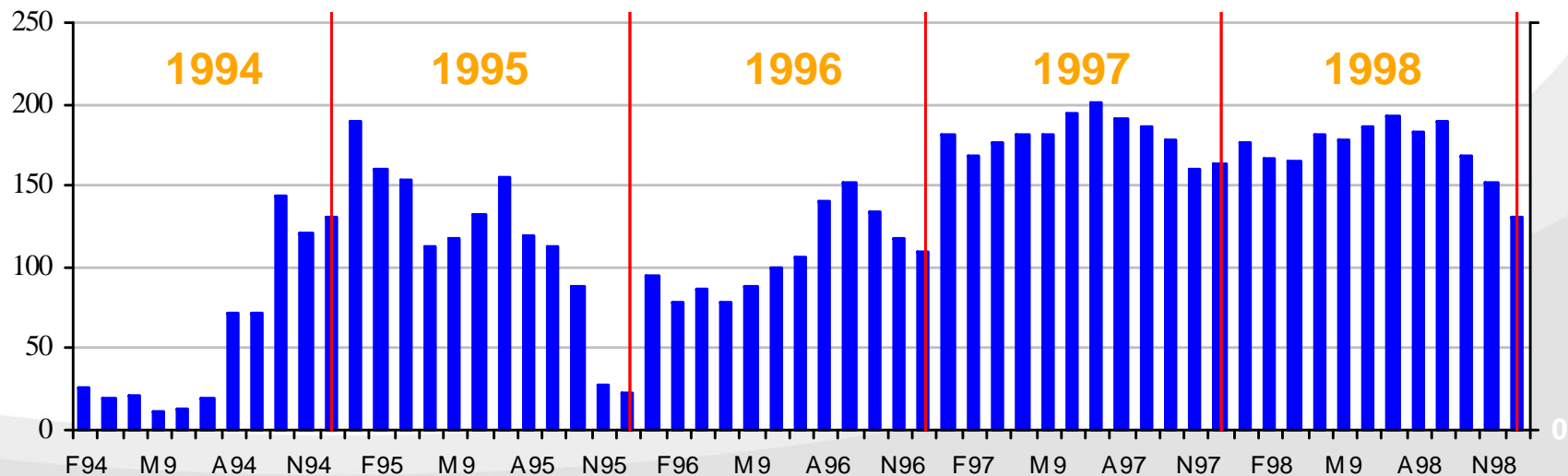
Number of Environmental Parameters Monitored and Reported to EPA (Mining)



- EPA had virtually no data before AKOBEN;
- Now each month EPA receives more than 3,500 data results from mining companies;
- These samples are recorded in the integrated database

Monitoring and reporting improved in Indonesia too

Number of monthly reports submitted



AKOBEN Information System

- **Consists of both desktop and web applications**
- **Evaluation of ratings is fully computerized and automated—no room for manual intervention or manipulations**
- **See sample screenshots from AKOBEN's information system**

AKOBEN Web Application

Log On

EPA Ghana AKOBEN Programme

Log On

Account Information

User name
[Redacted]

Password
[Redacted]

Remember me?

Copyright ©2011. All rights reserved. [Site Credits](#)

Innovative Web Chart and Graphing Tools

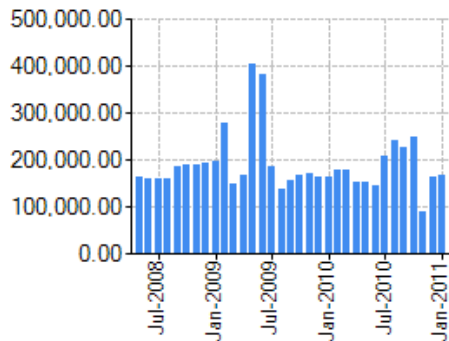


Micro charts provide one-page view of root cause of AKOBEN rating; orange bars show exceedances and horizontal red lines show the standard. The web tool provides regulator and companies with a monthly alert on exceedances, reporting gaps and compliance risk probability and trends.

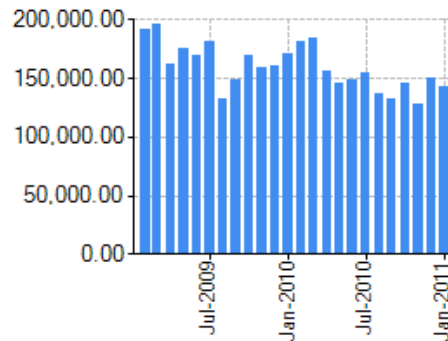
Integrated Database: Output, Energy & Water Use

Production Data

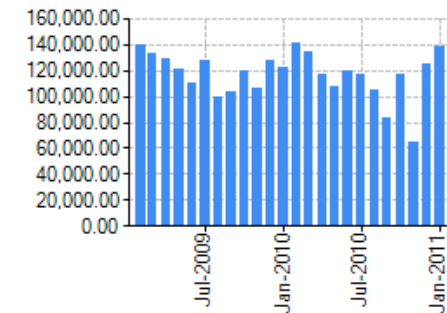
Milling Rate (tons/day on monthly basis)



Mining Rate (tons/day on monthly basis)

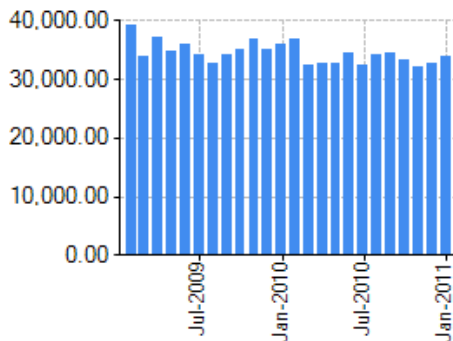


Quantity of slurry to TSF (tons/day on monthly basis)

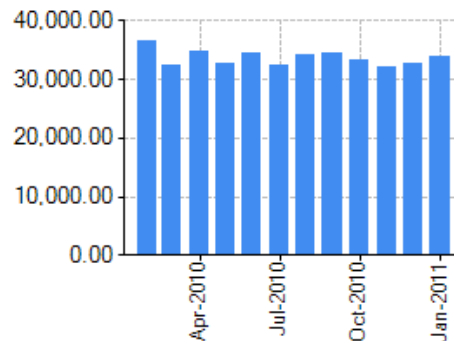


Energy Consumption

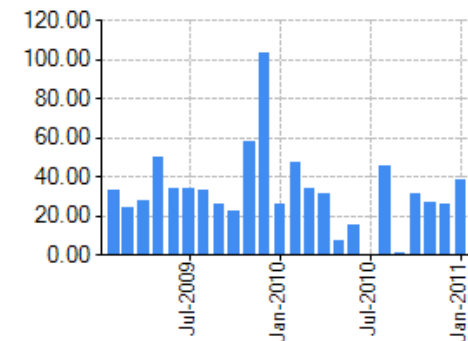
Total Electricity consumption (MWh)



Electricity consumption from Grid (MWh)

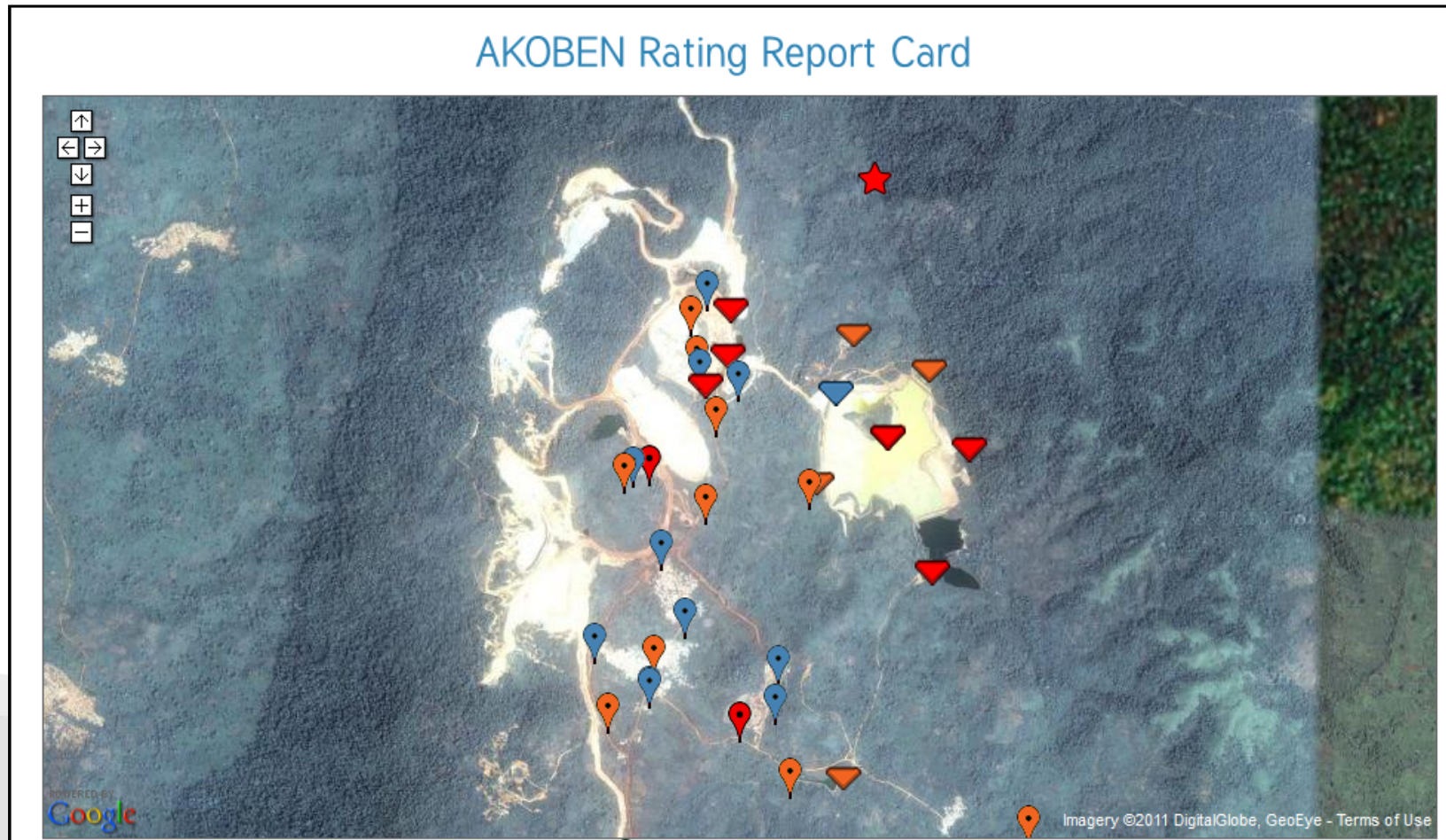


Electricity Generated On-Site (MWh)



Companies can review their production trends and other indicators of energy use.

Spatially View Monitoring Points by Rating Level



Each monitoring is also visually displayed on an interactive Google map using the AKOBEN rating color codes and by compliance, surveillance and control points. This tool enables regulators and companies to view spatial distribution of environmental compliance. The tool also shows locations of communities and public complaints.

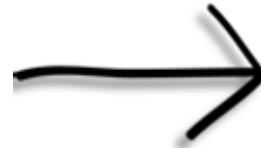
Data Download and Query Interface

Monitoring Frequency: Once per month													
	Std	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
pH	6-9	7.2	7.5	7.7	7.7	7.3	7.8	7.2	7.1	7.4	7.7	7.8	7.9
Colour (TCU)	15	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
TDS (mg/l)	1000	284	358	359	300	233	223	241	260	225	135	210	210
TSS (mg/l)	X 50	30	16	25	21	10	32	14	22	15	176**	23	14
Arsenic Dissolved (ppb-ug/l)	X 10	511**	375**	308**	200**	473**	304**	484**	385**	609**	657**	500**	467**
Cadmium Dissolved (mg/l)	0.003	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Cyanide Free (ppb-ug/l)	X 10	5	4	5	4	4	12**	4	4	4	4	4	4
Copper Dissolved (mg/l)	1	0.021	0.012	0.013	0.036	0.031	0.047	no data	0.027	0.022	0.045	0.038	0.015
Mercury Dissolved (mg/l)	0.001	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data

Primary data on environmental emissions and discharges and other production indicators are available for tabular view and download into MSEXcel and MSWord.

Computerized Rating System

Do Rating

1. Rating Summary and AKOBEN Reportcard			
Rating Topics	Rating*	Score**	Remarks
Final Rating and Score:	ORANGE		
<i>Score by Category:</i>			
1 Legal Requirements	BLUE	100%	Company complies with all mandatory legal requirements.
2A Hazardous and Toxic Waste- Onsite Management, Spills and Accidents	BLUE	100%	Regarding the toxic and hazardous waste, the company applies good management practices to minimize risk to people and environment.
2B Hazardous and Toxic Waste- Emissions and Discharges	BLUE	99%	The company has complied with the environmental quality standards for toxics.
3 Compliance with Environmental Quality Standards-Non toxics and noise pollution	ORANGE	67%	For compliance with environmental quality standards, the company has failed to meet the criteria for a BLUE rating--further improvements are needed.
4 Environmental Monitoring and Reporting	BLUE	92%	The level of effort the company applies for monitoring and testing the samples are adequate for a BLUE rating.
5 Best Practices-Environmental Management	BLUE	100%	The company follows enough best practices to be in the BLUE range.
6 Complaints Management and Community Relations	Not Adequate	83%	The site audit showed that the company has moderately acceptable complaints management system but there is room for improvement.
7 Corporate Social Responsibility (CSR)	G O L D	100%	The company has strong commitment regarding social responsibility.



**Stakeholder Responses
(Industry, community, media,
banks, others)**



AngloGold Ashanti, others rated poor in new 'Akoben' report

Anglogold Ashanti and Ghana Bauxite Company have for the second time been rated "Poor" in the latest "Akoben" report released by the Environmental Protection Agency (EPA) today.

The Colour-Rating program measures the environmental performance of 61 manufacturing and mining companies on the legal requirements in hazardous waste management, toxic releases and non-toxic releases and monitoring and reporting.

The rest are environmental best practice, community complaints and corporate social responsibility.

Ghana Bauxite In Trouble

October 12, 2011 | 0



Management of Ghana Bauxite Company Limited has incurred the wrath of the Environmental Protection Agency (EPA) after failing to submit its monthly environmental monitoring report for assessment for a year.

The company, which is a major producer of bauxite in Ghana, operates in Bibiani, Anhwiaso and Bekwai districts and provides aluminum mining services.

Oct 07, 2011 at 3:49pm

Ghana Chamber of Mines lauds 2010 'AKOBEN' ratings

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The Ghana Chamber of Mines has congratulated the Environmental Protection Agency (EPA) for the release of the 2010 ratings on the performance of manufacturing and industrial companies in the country.



The chamber also congratulated mining companies who achieved appreciable improvement in this year's AKOBEN audit results.

Diamond Cement tops AKOBEN environmental performance ratings

Diamond Cement Limited at Aflao has been rated green in the 2010 Public Disclosure for the Environmental Performance ratings, "Akoben" program.

Only one company, Diamond Cement Limited at Aflao had a green rating while three others, Abooso Goldfields Limited, Damang Mine, Newmont Ghana Gold Limited –Kenyasi and ferro fabric Limited in Tema were rated orange.

The disclosure indicted Ghana Bauxite Company Limited at Awaso for its poor performance in the entire Akoban performance in the entire Akoban programme for its failure in submitting monthly monitoring data to EPA.

"This kind of non-compliance by Ghana Bauxite Company or any other company will not be permitted as it is a serious violation of the national environmental laws." Dr. Amlalo warned.

Mrs. Ayitey said the 20010 rating was a much improvement over the 22009 rating adding that the "Akoben" programme would be extended to other sectors like the hospitality industries, health institutions and district assemblies to check their management of landfill site.

source: The Ghanaian Times

Chamber of Mines Welcomes EPA Ratings

October 11, 2011 | 0

Newmont's rating is a huge improvement over last year's, when it found itself in the RED zone. This was as a result of the over-flow of process-water at the company's Ahafo Mine. Other companies with improved performance included Ghana Manganese Company, Golden Star Resources-Wassa, and Chirano Gold Mines Limited.

In an interview with Newmont's Regional Vice President-Environment and Social Responsibility, Randy Barnes, he was elated by Newmont's performance in the ratings. "We've worked very hard to correct our systems so that nothing like that happens again. And we've continuously improved our processes and management of the environment and the result is showing".

Industry response

- They resist it in the beginning...
- but soon they see the benefits and support rating and disclosure

NGO response

- Mixed...varies by country

Media response

- They fully support rating and disclosure as long as they think the ratings are credible...

INDONESIA

DAY OF SHAME FOR POLLUTERS

BAD NEWS arrived in the post recently for 121 Indonesian companies. Inside each thick envelope was a stern warning from the Indonesian government's environmental impact management agency, known by its acronym BAPEDAL.

The companies were told that unless they acted immediately to clean up their waste, BAPEDAL would expose them in the media as the country's most appalling polluters.

That day of reckoning is now imminent: In December, the government will unveil its long-awaited initiative to rate companies according to their environmental per-

'Before, companies didn't care,' says Inif, 'but now they're beginning to wake up. From a psychological point of view, PROPER helps a great deal.'

The new ratings also put more pressure on provincial officials, who have been generally hesitant to move against corporate polluters for fear of discouraging investment. The officials now worry that they will take the rap if too many companies in their areas get red or black marks.

'It's a political football,' says one environmental consultant. 'There's a lot of pressure from other ministries not to release the news.'

But the media can put pressure on regulators too...

Press coverage remains intense in 2009

The Jakarta Post

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Law must be upheld on environmental violators: Activists

Adianto P. Simamora , The Jakarta Post , Jakarta | Fri, 10/16/2009 2:27 PM | National

Govt doubtful to punish `dirty' firms

Adianto P. Simamora , The Jakarta Post , Jakarta | Fri, 10/16/2009 2:36 PM | National

Activists push govt to punish polluting firms

Adianto P. Simamora , The Jakarta Post , Jakarta | Sat, 10/17/2009 1:10 PM | National

Private sector defeats efforts to protect environment

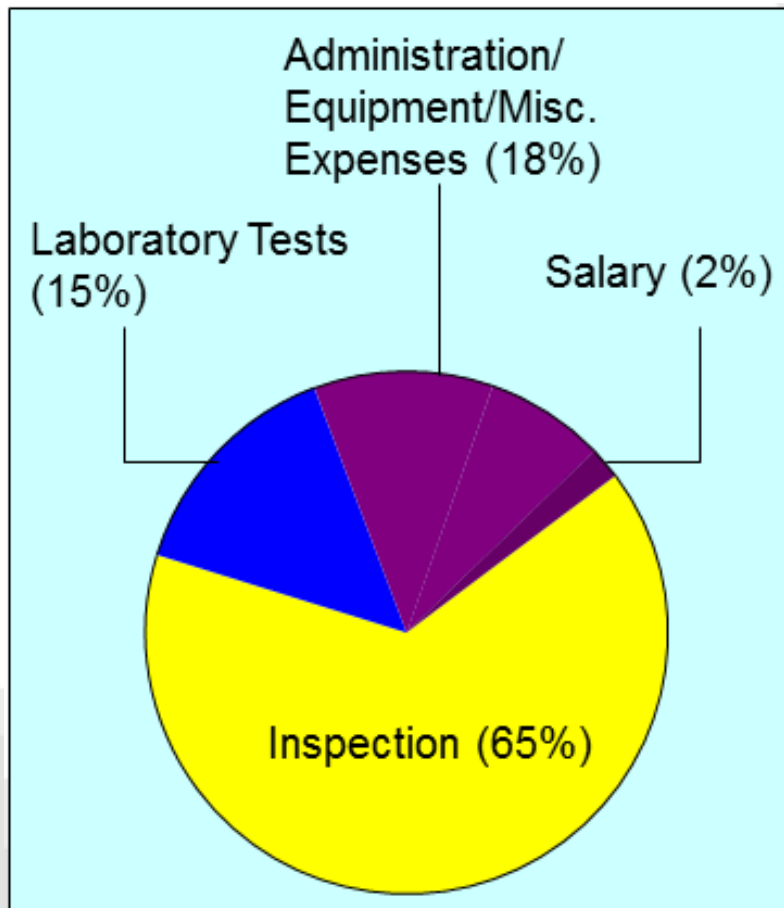
The Jakarta Post , Jakarta | Sat, 11/21/2009 12:12 PM | National

PART-3: Institutional Commitment

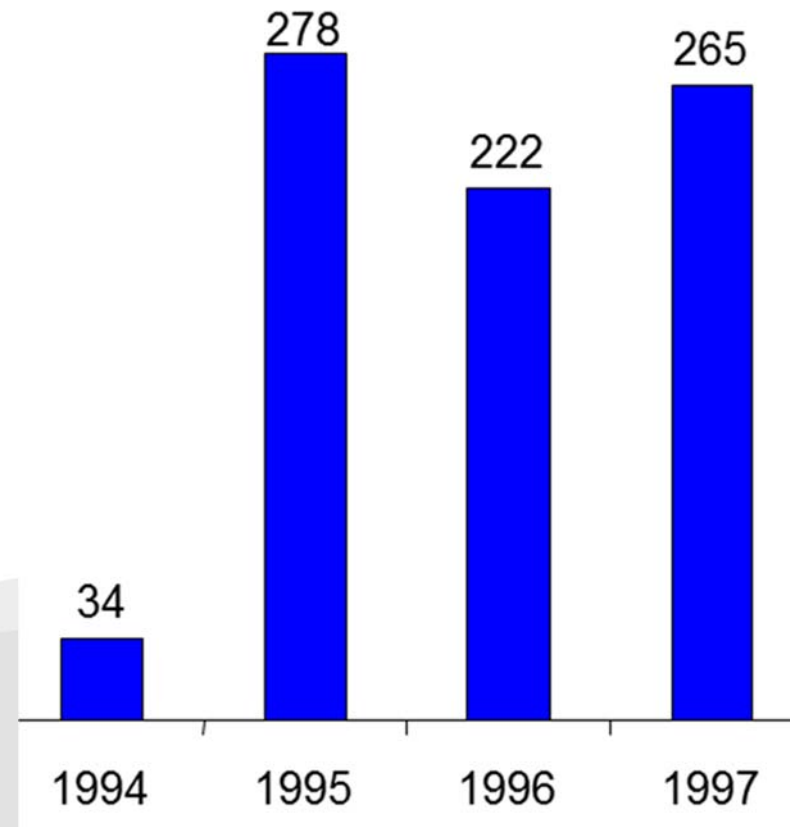
Key Commitment Areas

1. Top Leadership
2. Operational Management
3. Team and organizational structure
4. Budget

Typical Disclosure Budget Allocation



Number of Inspections Increase



Thank you!!!