

[illegible]

# Table of Contents

---

I. Introduction	3
II. Key Insights	5
III. Acknowledgments	12
IV. NAEM's Research Resources	13



## About NAEM

The National Association for Environmental Management (NAEM) empowers corporate leaders to advance environmental stewardship, create safe and healthy workplaces and promote global sustainability. As the leading business community for EHS and sustainability decision-makers, we provide engaging forums, a curated network, peer benchmarking, research insights and tools for solving today's corporate EHS and sustainability management challenges. Visit NAEM online at [naem.org](http://naem.org).

# Introduction

---

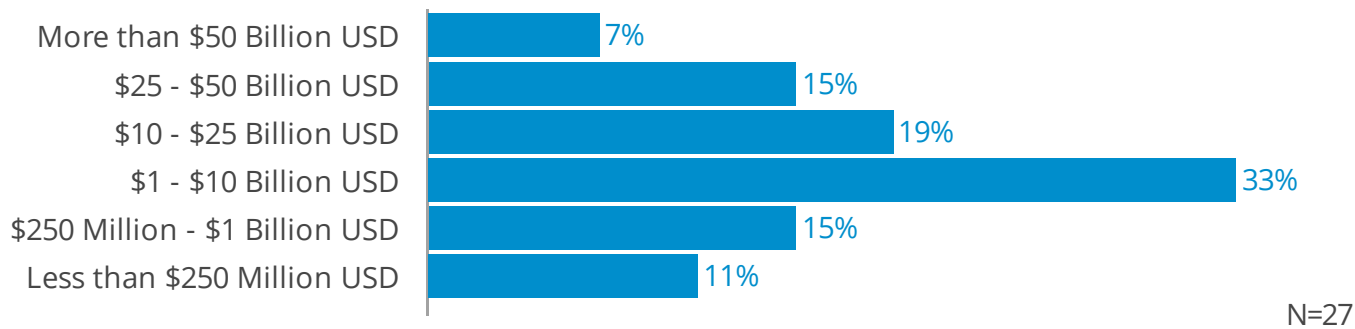
Companies today are seeking new, proactive approaches to managing environmental risk, mimicking how they approach other aspects of enterprise risk. These approaches may involve analyzing existing risks using heat maps or scenario-based auditing to understand the company’s preparedness for extreme, if unusual events.

The following report reveals the strategies companies are using to proactively audit these environmental risks. This brief analysis will provide a benchmark of how leading companies are auditing environmental risk as well as ideas you can use to evolve your own programs.

The results draw from benchmarking survey, developed in collaboration with representatives from 3M Co. and General Electric Co., and fielded in April-May 2016, as part of NAEM’s Compliance Excellence Conference. The questionnaire received 27 responses from EHS&S leaders across industries, most primarily: manufacturing, transportation and warehousing, services, retail trade, utilities, mining and energy. About two-thirds (67%) reported that their operations have a ‘medium’ degree of EHS risk relative to other industries.

## Annual Revenue

Figure 1



# Introduction ---

For the purposes of this report, the environmental risk process is defined as potentially containing the following elements:

## What is environmental risk auditing?

Figure 2



## Editorial Practices

The results presented in this report were independently researched and objectively analyzed and summarized by NAEM. The report sponsor was not consulted and did not influence the content of this publication.



## Key Insights

# Key Insights

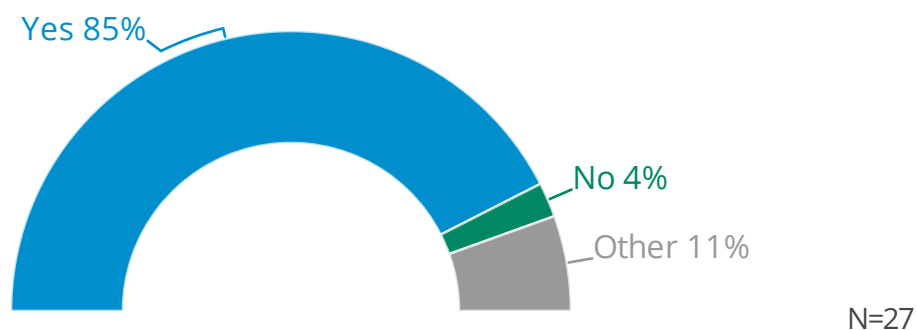
## Most respondents have a process for identifying environmental risk scenarios

Despite the small sample size, it's noteworthy that 23 of the 27 respondents (85%) reported they have a process in place for identifying and auditing environmental risk scenarios.

Another three respondents said their companies were either doing so informally, "partially (for higher-level risks" or in a variety of ways. "We've developed heat maps (albeit informal or for internal use) for our compliance and sustainability programs but not for safety. We do have a recommendation process as part of the audit program, as well as a validation process."

### Have a Process for Identifying Environmental Risks

Figure 3



The write-in responses added still more dimension to the portrait of a 'risk auditing program'. The following are three verbatim descriptions of how respondents structure their programs.

## Example A

### *Overview of one participating company's risk auditing program*

“

Every year we go through a review where we evaluate all of our environmental risks as well as everything that has been done to mitigate them. The highest risk areas have action plans developed and those are reviewed every year as well. If the action plan has worked, then the risk areas is taken off the list.

”

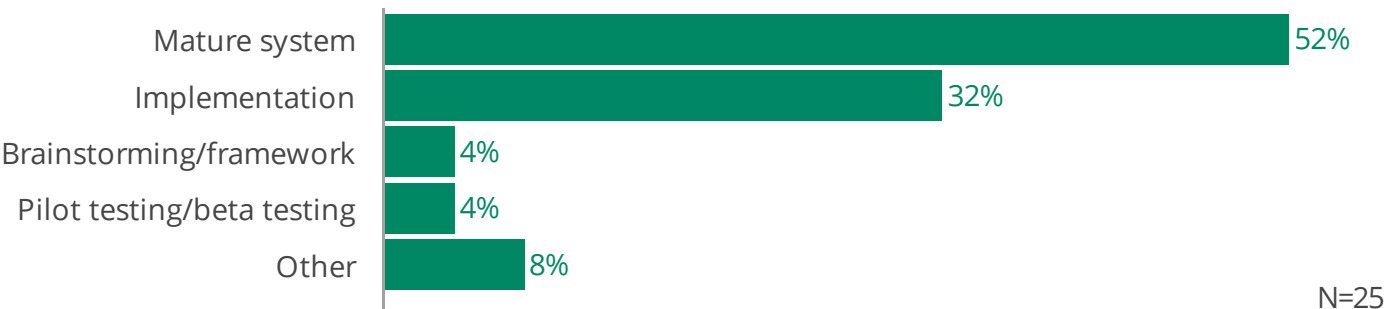
# Key Insights

## More than half of respondents describe their risk auditing programs as ‘mature’

Among responding companies, about half (52%) have what they described as ‘mature’ environmental risk auditing programs; an additional 32 percent are in the process of implementing such a program.

Maturity of Program

Figure 5



## Example B

*Overview of one participating company's risk auditing program*

The following is a description of how one participating company structures its program.

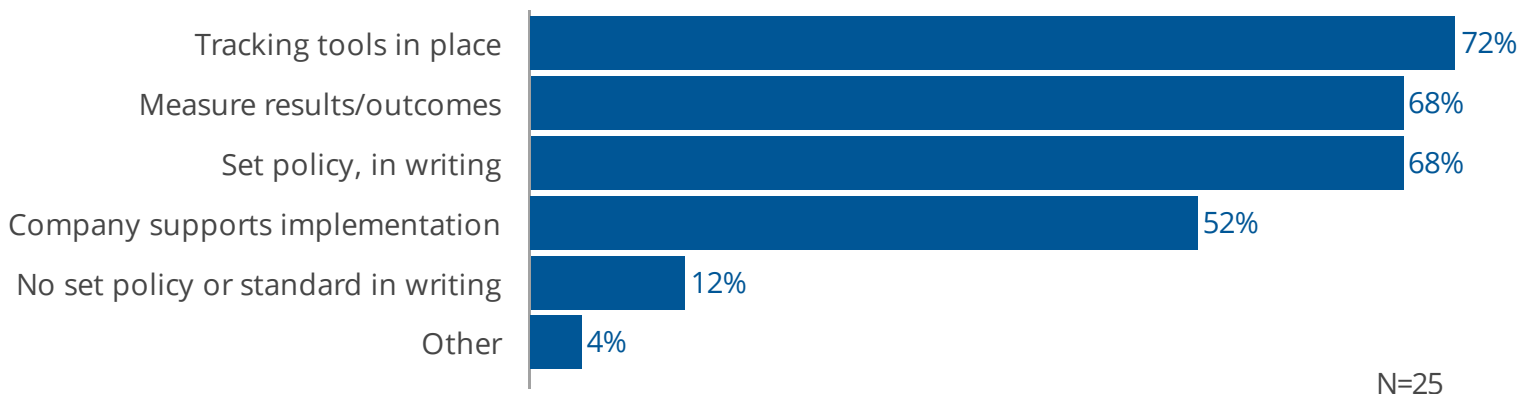
- **Business continuity process and Scorecard:** managed by Corporate Risk Management, facilitated by EHS-Security operations at the site level.
- **EHS Compliance Auditing and Standards Assessment Program:** 3-year cycle across manufacturing sites.
- **Security Vulnerability and Standards Assessment Program:** 3-year cycle across manufacturing sites.
- **Loss prevention surveys:** Annually at each manufacturing site (corporate risk management with site's EHS&S and external insurance loss prevention engineer)
- **All of the above communicated/reviewed in EHS Council** at each manufacturing site quarterly as relevant (ISO management system management review) and at senior executive level.

# Key Insights

The following chart provides further insight into the components of a 'mature' program, specifically: "Tracking tools in place" (72%), "Set policy, in writing" (68%) and a process to "Measure results/outcomes" (68%).

## Formality of Environmental Risk Auditing Program

Figure 5



The write-in responses added still more dimension to the portrait of a 'risk auditing program'. The following are three verbatim descriptions of how respondents structure their programs.

## Example C

### *Overview of one participating company's risk auditing program*

#### **Addressed in a multitude of ways:**

- Crisis Management Planning & Drills
- Contingency Planning & Preparation
- Environmental Compliance Audits
- ISO 14001 (internal & external)
- Regular EHS Facility/Walk-throughs/Observations
- Training: Identify & score all risks (positive & negative, potential & actual) via ISO 14001
- Operational controls in place for highest risks
- Continual improvement
- Benchmarking and industry best practices
- Tracking and reporting of various environmental factors (various types of waste, VOCs, HAPs, recycling, energy and water consumption, etc.)



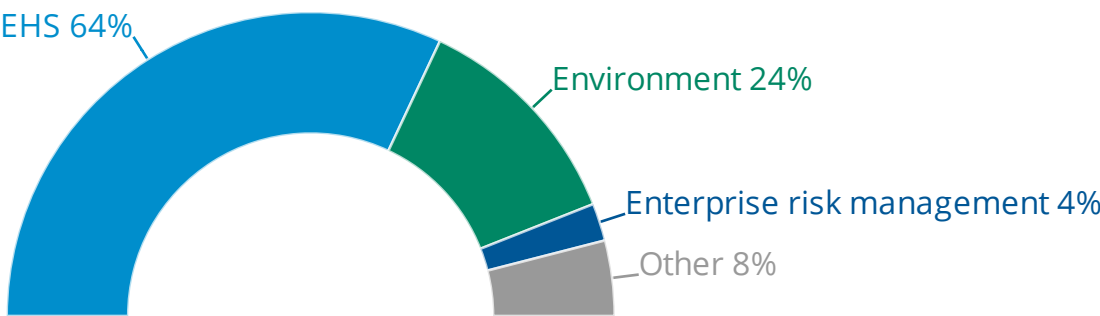
# Key Insights

## While the EHS function tends to lead the environmental risk auditing programs, other functions are also likely involved

The EHS function leads the environmental risk auditing activities (64%), but likely does so in collaboration with other functions, according to the survey results. According to the write-in responses, division-level leaders, corporate risk management and site-level operations leaders may also contribute to executing the programs.

### Function that Owns Environmental Risk Audit Program

Figure 7



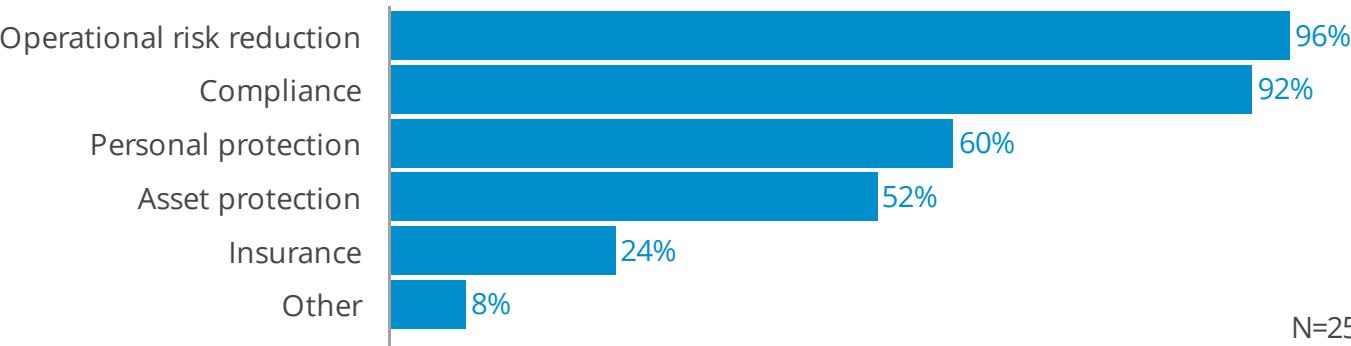
N=25

## Risk auditing programs aim to reduce operational risk and avoid compliance failures

The primary purpose for environmental risk audits, respondents said, is to reduce operational risks. Environmental compliance assurance is another key goal.

### Goals of Environmental Risk Auditing Program

Figure 8



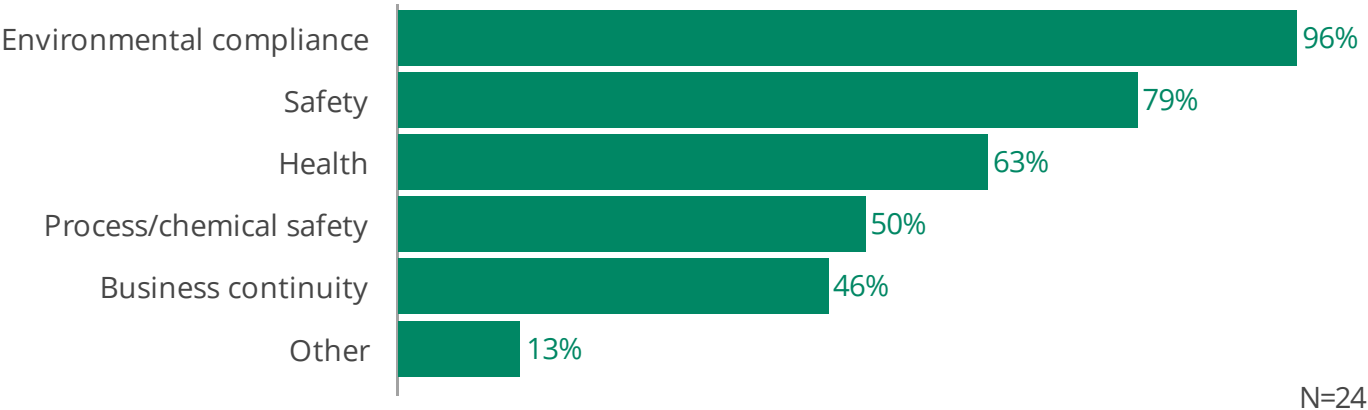
N=25

# Key Insights

This aligns with the finding that the audit program most commonly focuses on environmental compliance, along with safety and health risks.

## Scope of Environmental Risk Auditing Program

Figure 9

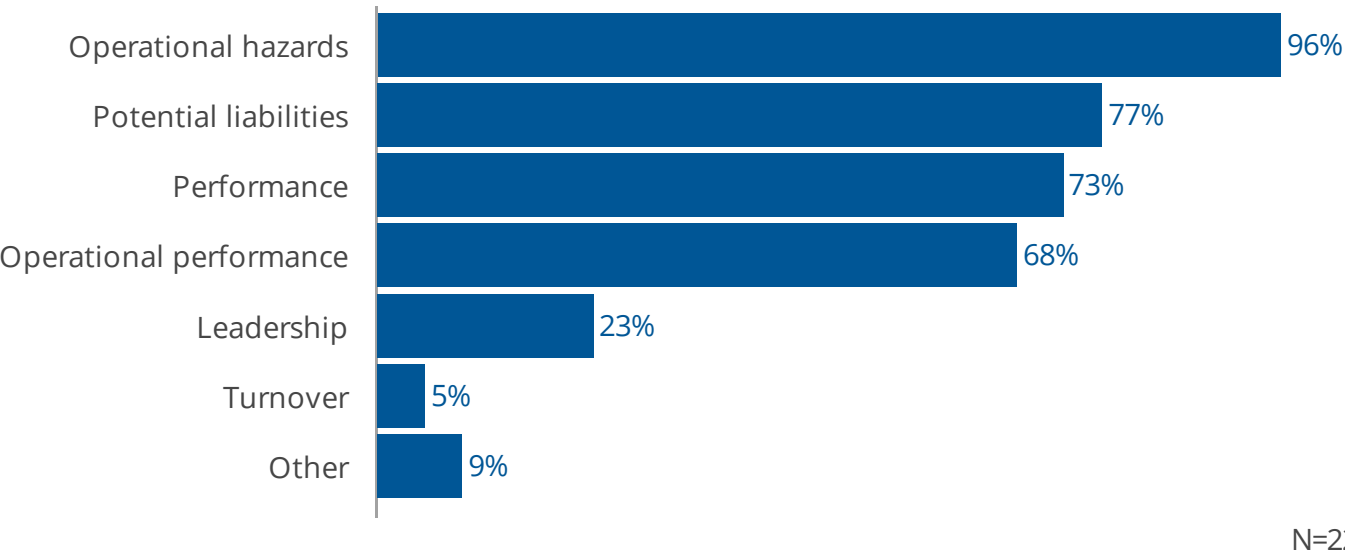


## Data on operational hazards are frequently used during audits

Consistent with the goals and scope of the audits, nearly all respondents said their companies use risk-related data on operational hazards during their audits (96%). The other top data used during the audits include: potential liabilities (77%), performance (73%) and operational performance (68%).

## Environmental Risk Data Used

Figure 10



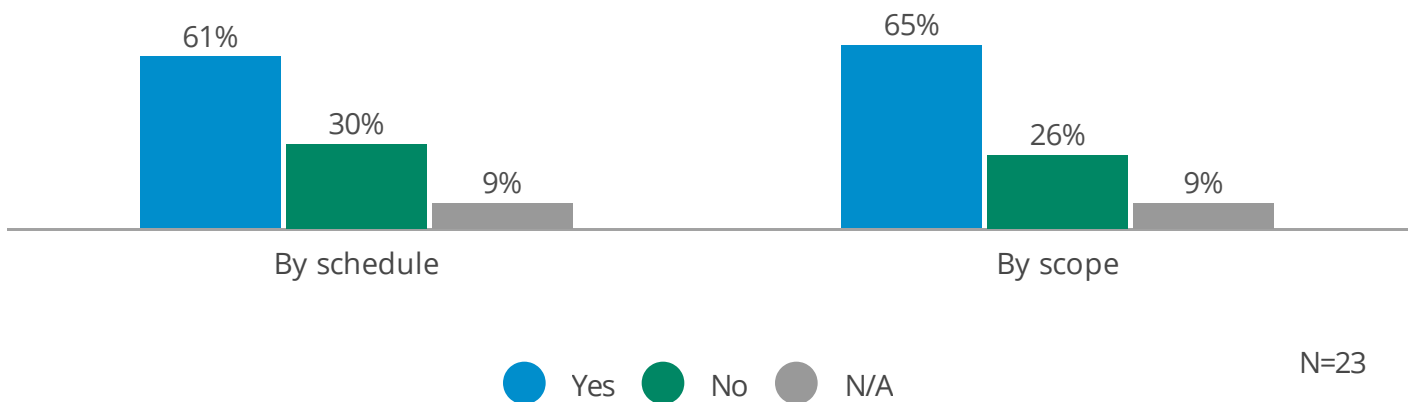
# Key Insights

## Companies conduct risk audits based on the scope of the risk as well as internal schedule

According to respondents, risk-based audits are regularly scheduled as well as conducted based on the scope of the risk.

### Use of Environmental Risk to Prioritize Audits

Figure 11



In the write-in responses, those that use environmental risk for audit prioritization explained their approach in the following ways:

“High risk hazard x high product impact = prioritized. Low risk hazard x low product impact=lower priority.”

“We focus on areas which have previously demonstrated gaps and/or non-conformances, as well as areas that have recently experienced change (ie. change in chemicals, waste streams, processes, etc.)”

“Basically sites are ranked as high, medium aor low risk based on the environmental hazards of the site (types and quantities of chemicals, location, types of processes, regulatory complexity of the State of the Country, etc.) The site risk ranking dictates how often a comprehensive internal and third-party audit occurs.”

“All large/complex sites will receive comprehensive environmental audit a least twice a year. Depending the ‘hot topic issues’ (e.g. regulatory scrutiny, risk, etc.) some scope areas may receive a dedicated audit (e.g. ‘waste’ audit or ‘haz mat shipping’ audit, etc.)”

# Acknowledgments

---

## Publisher

---

The National Association for Environmental Management (NAEM)  
1612 K St., NW, Suite 1002  
Washington, DC 20006  
(202) 986-6616  
[www.naem.org](http://www.naem.org)

## Sponsor

---

Thank you to our research sponsor:



## Contributors

---

NAEM extends its deepest appreciation to the following experts who contributed their knowledge and perspectives to this guide:

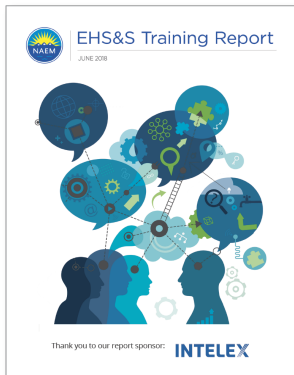
Dixie Chemical  
Pacific Gas & Electric Co.  
BNSF Railway  
Global Foundries  
Newell Brands  
Vulcan Materials Co.  
BP  
Intelligrated  
The David J. Joseph Co.

e-Cycle  
Scotts Miracle-Gro  
The Estee Lauder Cos.  
Enbridge Energy  
Lockheed Martin  
Bunge North America Inc.  
Harris Corp.  
GE Aviation  
Schneider Electric

Genentech  
BIC Graphic  
Charter Steel  
Georgia-Pacific  
JM Huber/CP Kelco  
Charterdura-bar.com  
NBC Universal  
AbbVie  
United Airlines

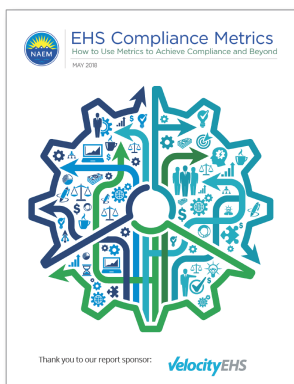
# NAEM's Research Resources

Download NAEM's other research reports below at [NAEM.org](http://NAEM.org)



## EHS Training Report

What are the strategies your peers are using to engage employees and build EHS culture? What training methods are the most effective? And how do you measure whether your training is working? Join this FREE webinar to hear results from NAEM's benchmark on EHS training and to hear how your programs stack up.



## EHS Compliance Metrics

What are the metrics your peer companies use to drive EHS performance? Which metrics do senior management use to get a snapshot of how EHS programs are faring? This report provides benchmarking data from companies who are leveraging metrics to improve their compliance program. You'll get quantitative data as well as verbatim perspectives from peers so you can use to optimize your own EHS compliance metrics.



## Ready, Set, Implement: How to Successfully Deploy an EHS&S Software System

This report distills the observations, recommendations, and "lessons learned" from in-depth interviews with EHS&S professionals and implementation partners into six steps that will help you start - and stay - on the right track as you introduce an EHS&S application that can deliver tangible benefits to your organization.



## Leading GHG Management Strategies and Metrics

NAEM's Leading Greenhouse Gas Management Strategies and Metrics report provides a benchmark for the strategies companies are using to reduce their carbon emissions, the scope of their programs and provides a snapshot of leading practices.