Enhesa's 2015 Global EHS Regulatory Forecast.

Association québécoise de vérification environnementale (AQVE)

21st Annual Colloquy

Centre Mont-Royal, Montréal, Quebec, Canada

By: Paul Beatley | 16 April 2015

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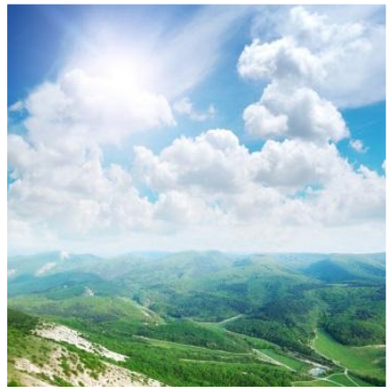
Agenda

EHS Regulatory Growth Around the World

EHS Trends Posing the Greatest Risks to Industry by Region

Question & Answer

What Are the Biggest EHS Issues or Challenges Your Company Will Face in 2015?



Climate Change

Air Emissions

Energy Efficiency

Chemicals Management

Worker Health & Safety

Product Stewardship

Regulatory Developments in Asia

U.S. Air Regulations

Compliance in European Union

Country-Specific GHS Requirements

Economic Conditions

Reduced EHS Budgets

Tracking/Understanding Global EHS Requirements

EHS Data Management

Ensuring a Consistent & Sustainable Compliance Program

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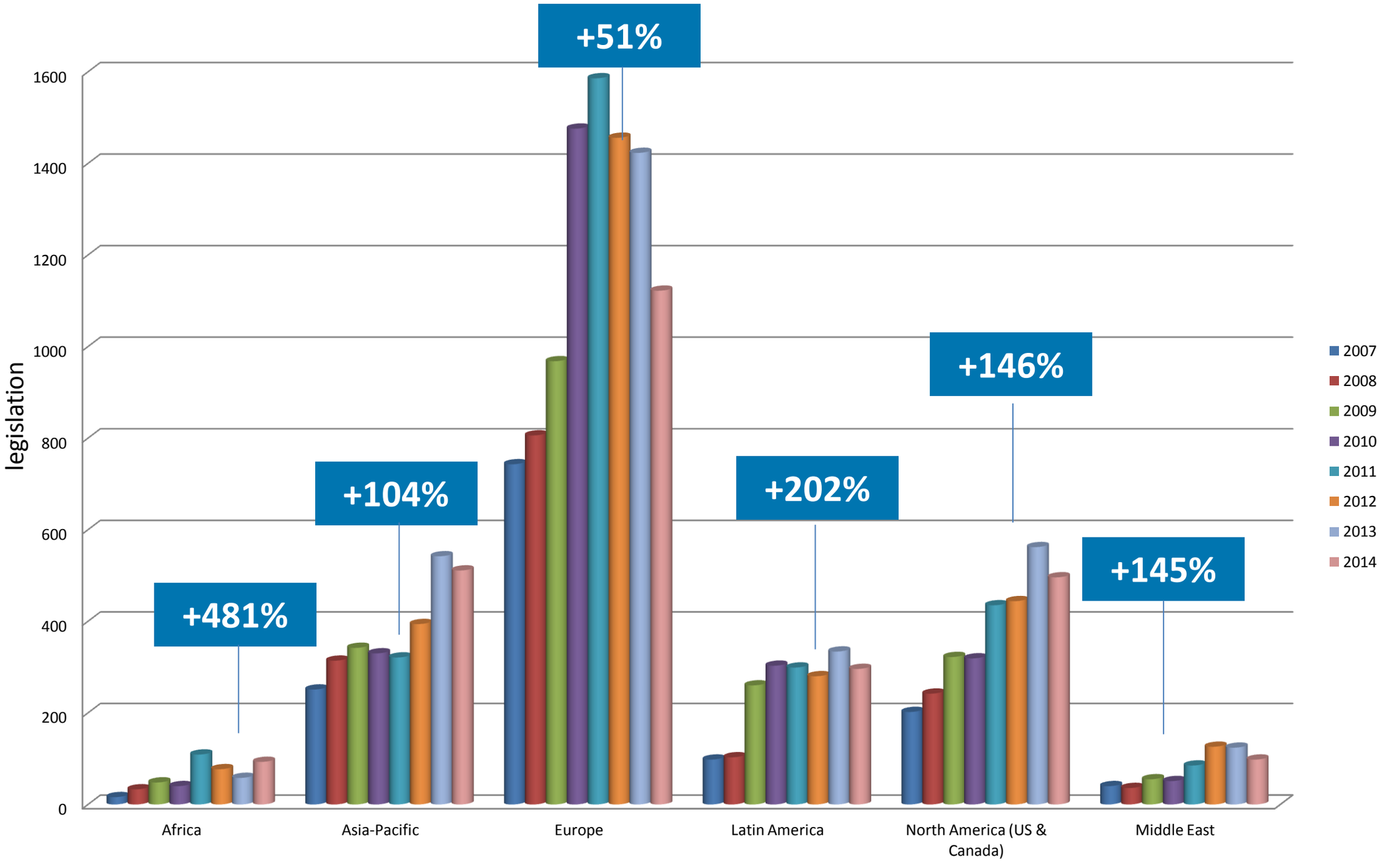
Global Regulatory Growth by Region: 2007-2014



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Global Regulatory Growth by Topic Area: 2011-2014

When asked where you thought regulatory growth has occurred (in both region and topic area) over the past few years, you said…

North America:
26.39% - Air Emissions
20.83% - General Environment
15.28% - Chemicals

Europe:
39.74% - Chemicals
20.51% - General Environment
16.67% - Product Management

Asia Pacific:
28.57% - General Environment
20.63% - Chemicals
15.87% - Hazardous Materials

Middle East:
39.74% - Chemicals
20.51% - General Environment
16.67% - Product Management

Latin America:
39.13% - General Environment
13.4% - Hazardous Material
10.87% - Safety

Africa:
34.21% - General Environment
15.79% - Occupational Health

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Global Regulatory Growth: Areas of Highest Growth from 2007-2014

North America: +146%
Water Management: +243%
Air Emissions Management: +168%
Product Stewardship: +62.5%
Chemicals Management: +14.64%

Europe: +51% (206% in EU)
Product Management: +58%
Air Emissions Management: +59%
General Environment: +21.8%
Waste Management: +22.6%

Asia Pacific: 104%
General Environment: +233%
Product Management: +19.20%
Air Emissions Management: +308%
Chemicals Management: +24%

Middle East: +145%
Product Management: +111%
General Environment: +700%
Air Emissions Management: 120%
Waste Management: +120%

Latin America: +202%
General Environment: +333%
Air Emission Management: +153%
Water Management: +150%
Product Management: +123%

Africa: +481%
General Environmental: +480%
Air Emissions Management: +220%
Occupational Health: +1400%
Product Management: +1700%

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What's Driving Global Regulatory Growth?

Natural resource constraints

Standardizing requirements due to globalization

Public opinion & pressure

Increase in climate change concerns

New technologies

New evidence from research

Agenda

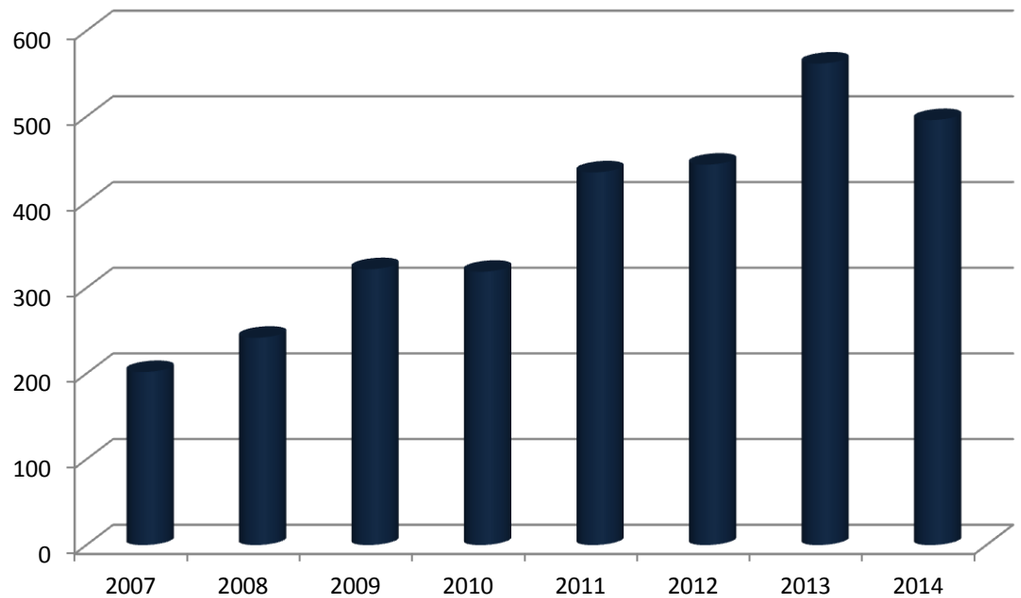
EHS Regulatory Growth Around the World

EHS Trends Posing the Greatest Risks to Industry by Region

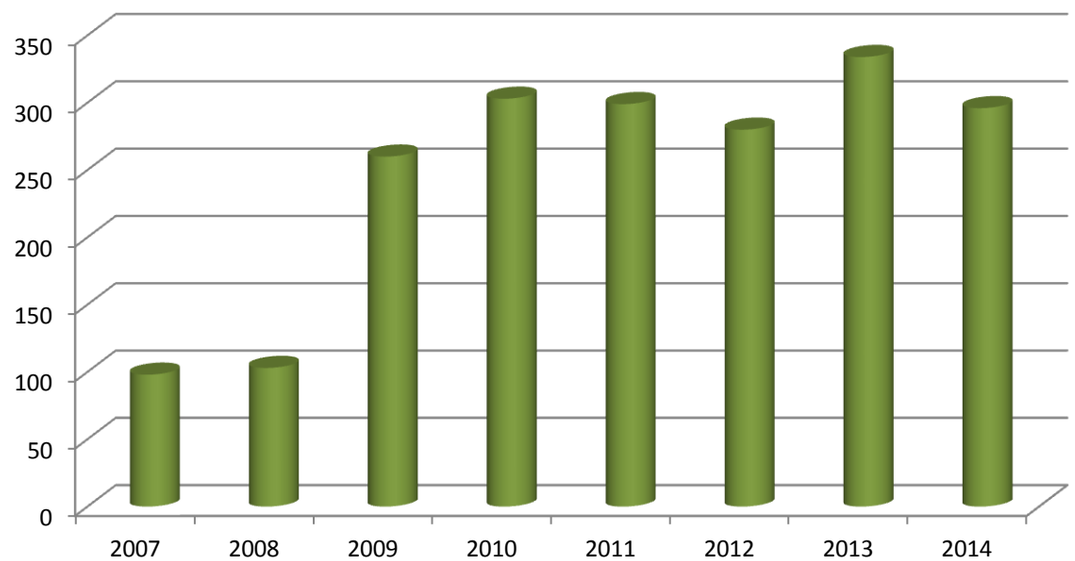
Question & Answer

THE AMERICAS

Regulatory Growth: North America



Regulatory Growth: Latin America



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EHS Trend 1: Chemicals Management Initiatives

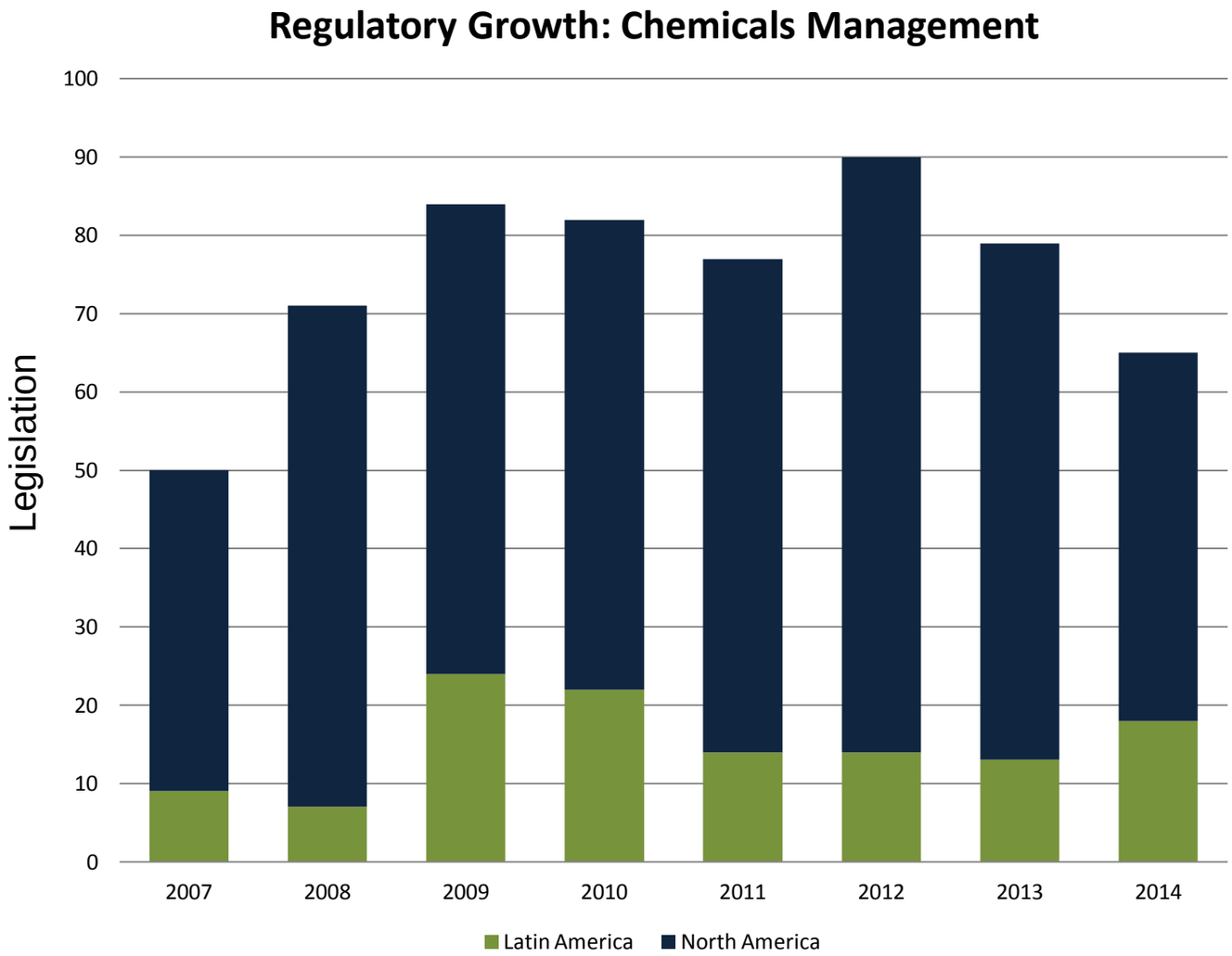
Since 2007, chemicals legislation has grown:

- 14.63% in North America
- 100% in Latin America

What's contributing to this trend?

Standardizing requirements due to globalization

New evidence from research



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EHS Trend 1 : Chemicals Management Initiatives

United States:
Occupational Safety & Health Administration (OSHA) issues Request for Information on out-of-date Permissible Exposure Limits.

Mexico:
Certain Globally Harmonized System of Classification and Labelling of Chemicals (GHS) could be made compulsory.

Canada:
The draft regulations adopting the Globally Harmonized System for the Classification and Labeling of Chemicals (GHS) for workplace chemicals proposed in August 2014 was finalized and published in the Canada Gazette on 11 February 2015.

EHS Trend 2: Stricter Air Emission Requirements

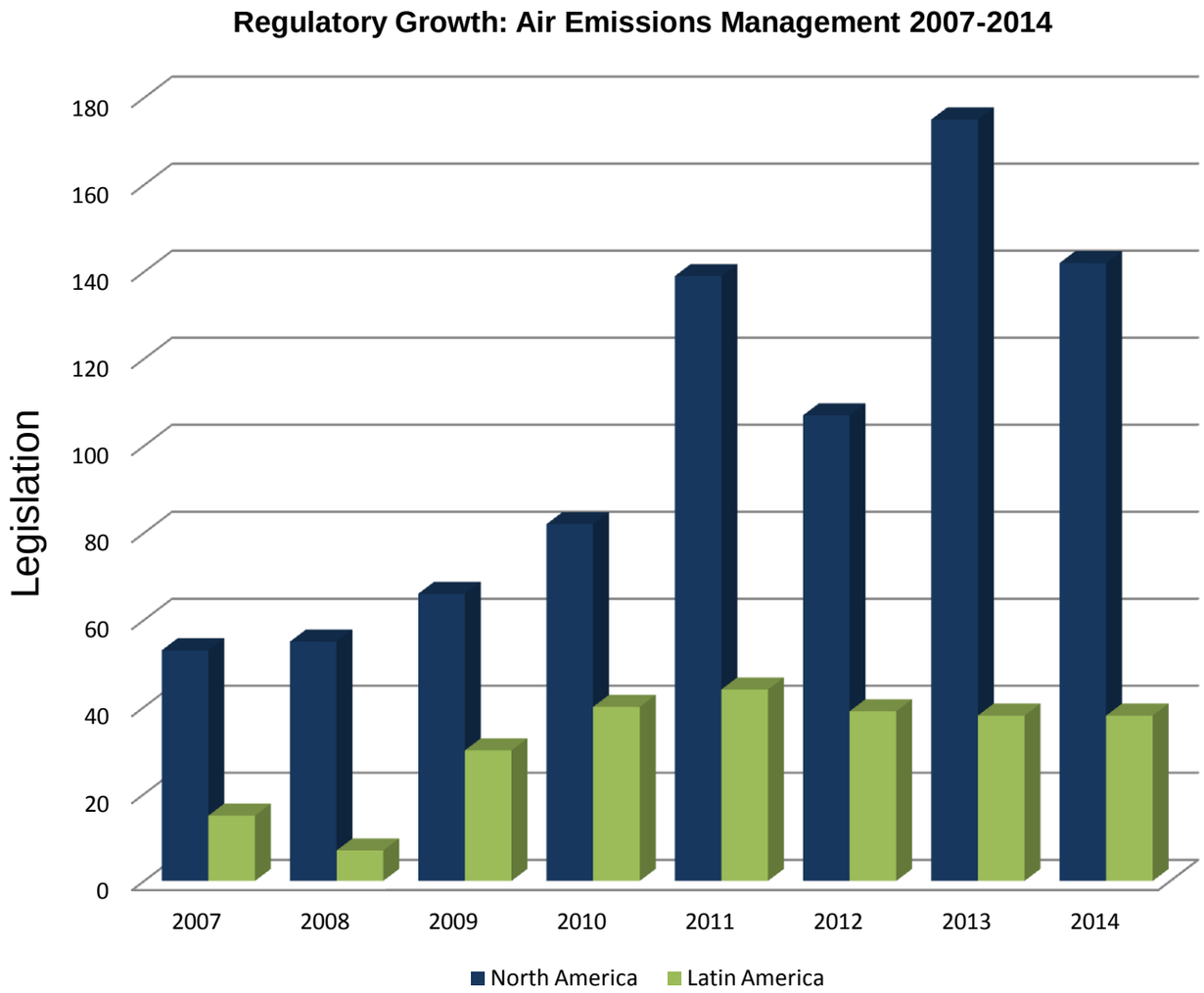
Since 2007, air emission legislation has grown:

- 168% in Latin America
- 154% in North America

What's contributing to this trend?

New technologies

New evidence from research



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EHS Trend 2: Stricter Air Emissions Requirements

United States:

Environmental Protection Agency (EPA) proposes lowering ozone National Ambient Air Quality Standards from 75 ppb to 65-70 ppb.

Canada:

Environment Canada announces plan to regulate bulk hydrofluorocarbons (HFCs)

Mexico:

Stricter air emission requirements are being discussed in the Chamber of Deputies

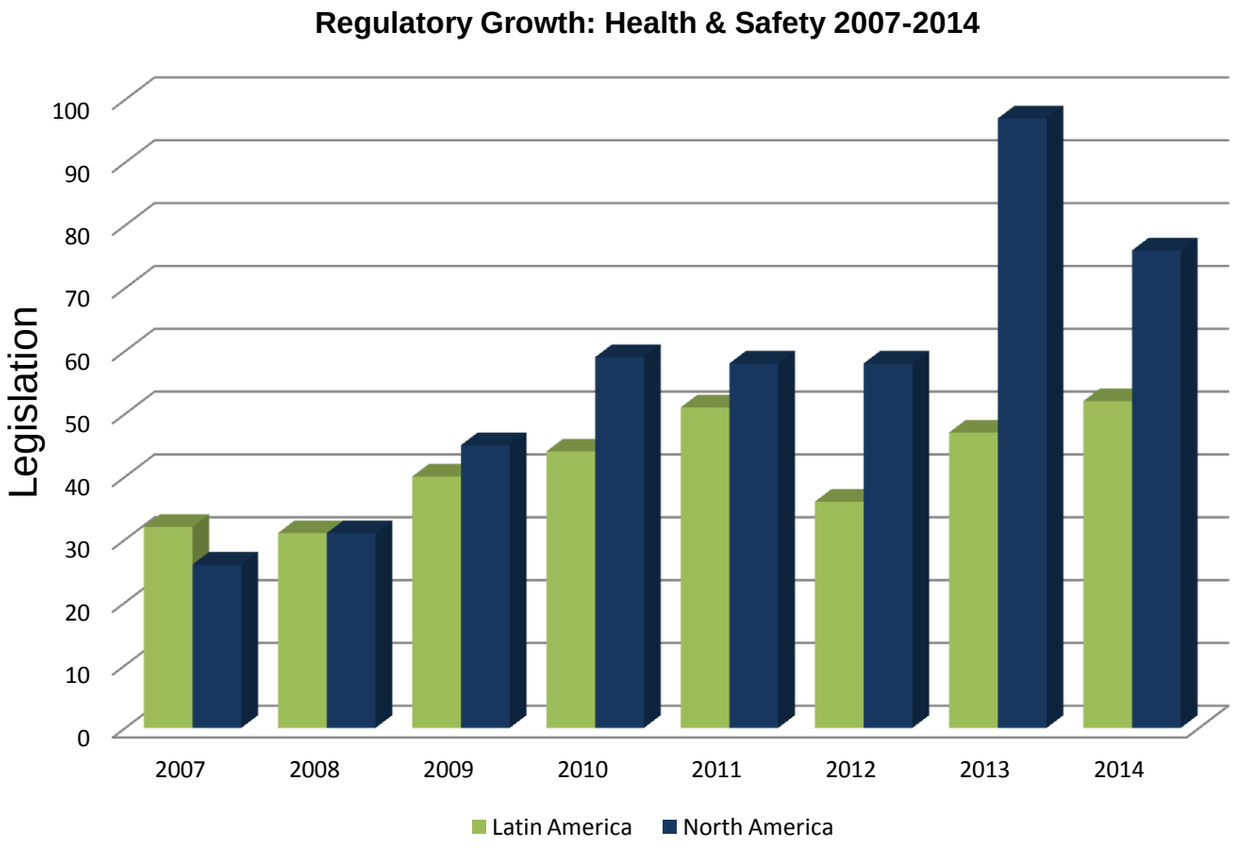
Peru:

Mandatory continuous emissions monitoring systems (CEMS) for stationary sources proposed

EHS Trend 3: Increased Focus on Better Management of Health & Safety at Work

Since 2007, health & safety legislation has grown:

- 62.5% in Latin America
- 192% in North America



In a recent survey conducted by Enhesa:

62.34 % of respondents saw injury/death of employee

AND

44.16% of respondents saw damage to worker health

to be risks of greatest concern.

What's contributing to this trend?

Standardizing requirements due to globalization	Public opinion & pressure

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EHS Trend 3: Increased Focus on Better Management of Health & Safety at Work

Mexico:

New federal health and safety regulation published

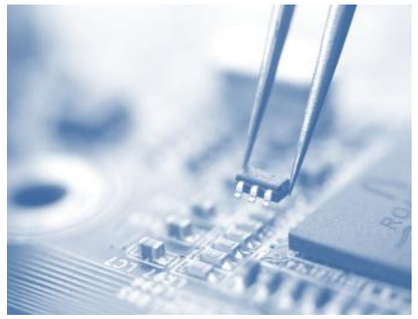
Colombia:

All employers required to implement a management system for health & safety

Argentina:

Employers face higher fines for breaching health and safety provisions

EHS Trend 4: Significant Rise in Enforcement Activities



Argentina:
Proposal to add environmental offenses to Argentine criminal code.

- Could face 25 years of imprisonment
- Fines as high as 500,000 Argentinian Pesos

Chile:
Draft law proposes establishing criminal liability for companies

- Companies would be criminally liable for work accidents that occurred as a consequence of the employer's negligence
- Penalties would include dissolution of the company and cancellation of its legal status or a fine

Mexico:
Proposal to impose higher fines for breaching environmental legislation

- Fines imposed on corporations would range between 600,000 to 8,000,000 Mexican Pesos, daily minimum general wage.

Mexico:
Operators of potentially polluting activities to have environmental insurance

- Insurance coverage would be based on the costs for environmental remediation activities
- Operators would be subject to stricter enforcement provisions
- Could be held liable for environmental damage

United States:
EPA releases enforcement data from 2014, indicating trend of increased prison time for most severe violations

- EPA's criminal program generated $63 million in fines and restitution, $16 million in court-ordered environmental projects, and a combined total of 155 years of incarceration for guilty defendants.

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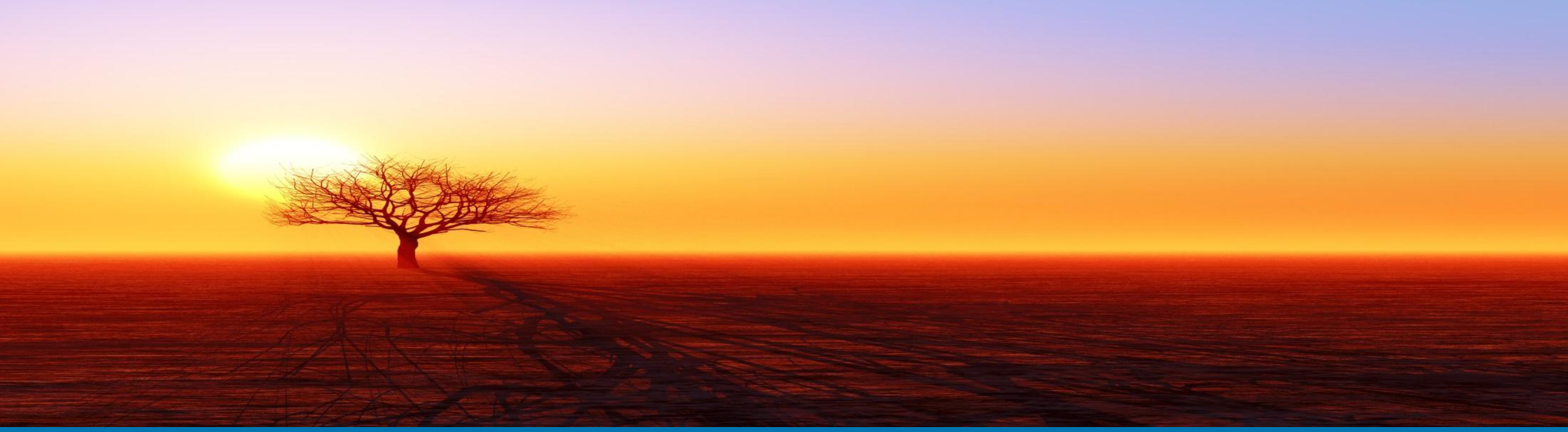
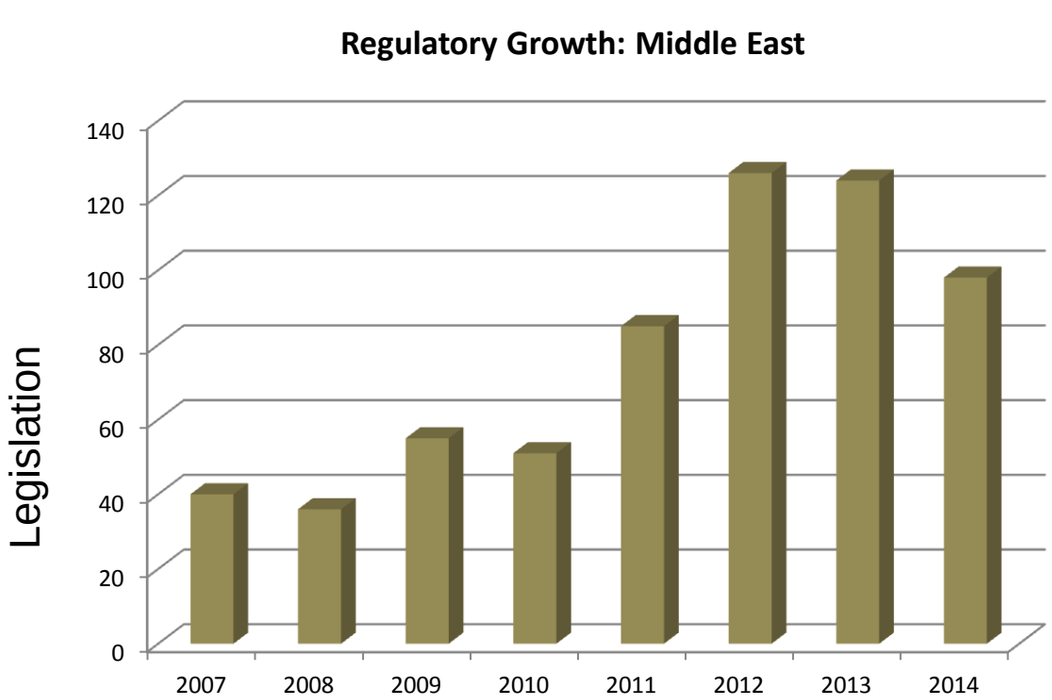
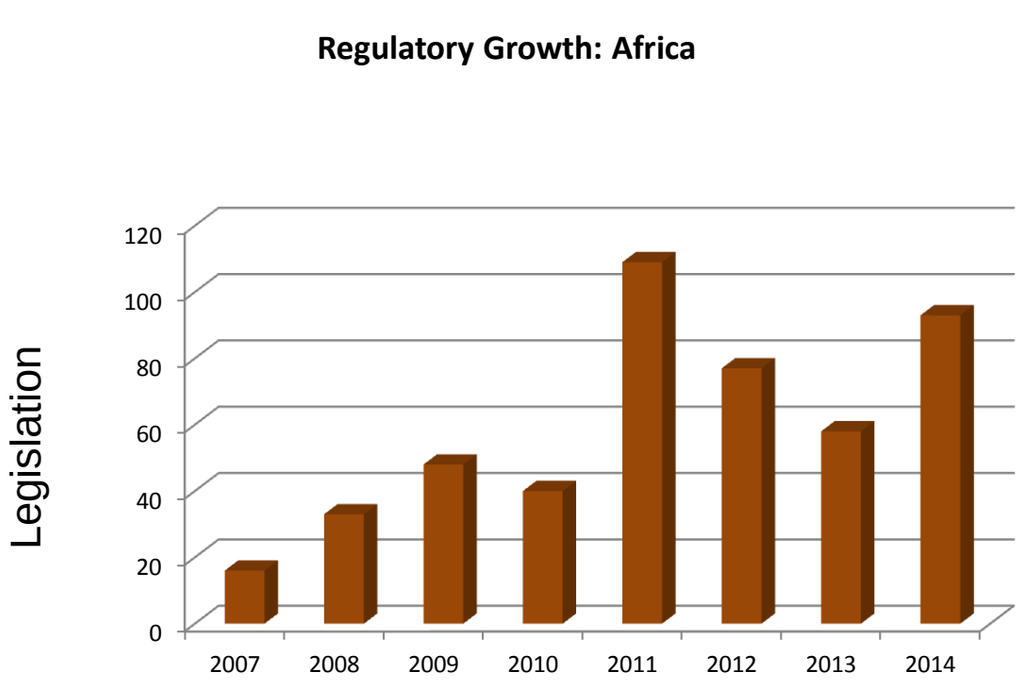


MIDDLE EAST & AFRICA





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EHS Trend 1: Development of Waste Management Sector - Increasing Regulation and Enforcement

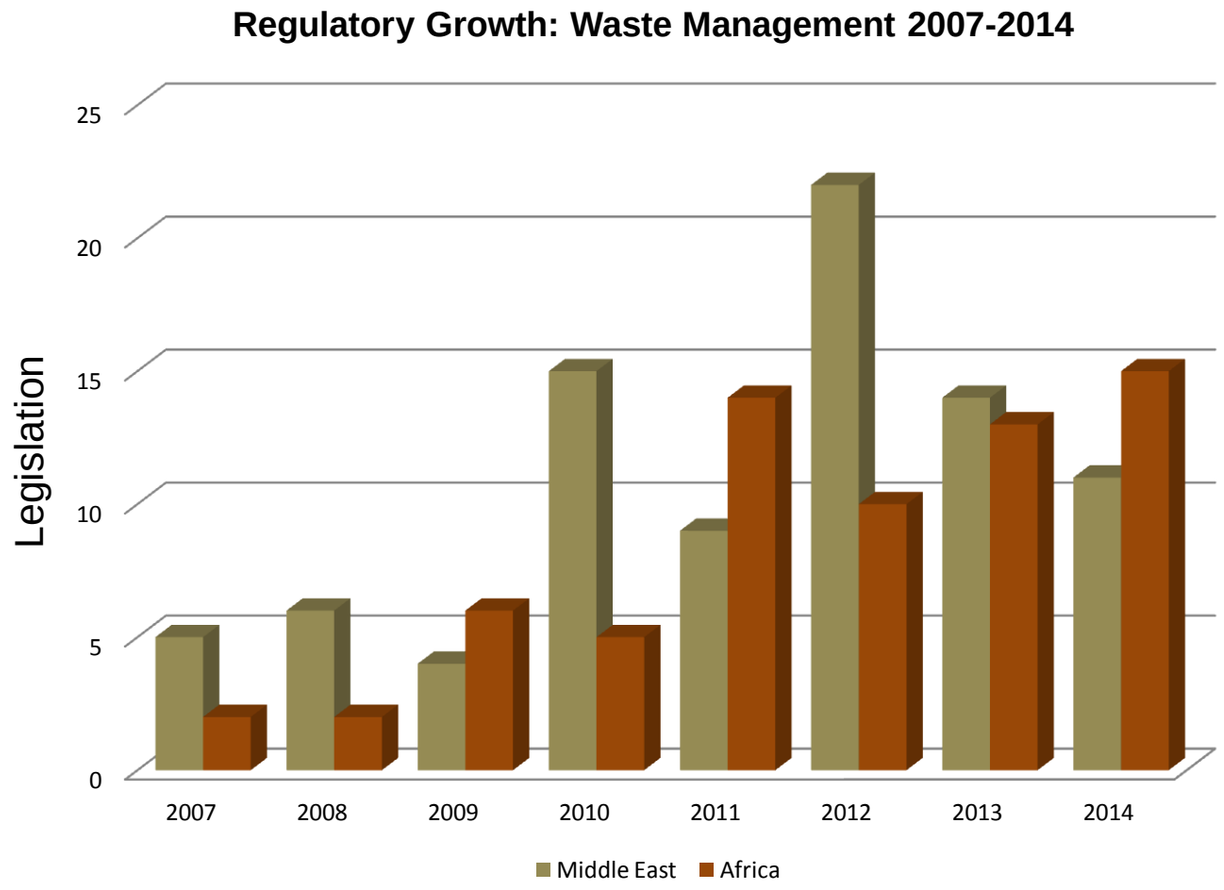
Since 2007, waste management legislation has grown:

- 120% in the Middle East
- 650% in Africa

What's contributing to this trend?

Natural resource constraints

Public opinion & pressure



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EHS Trend 1: Development of Waste Management Sector - Increasing Regulation and Enforcement

United Arab Emirates:

Companies may soon be subject to new requirements for the management and disposal of radioactive waste.

Jordan:

New environmental protection law proposed, addressing waste management

Nigeria:

Facilities should anticipate tougher requirements for the management, storage, and disposal of chemical wastes and controlled substances

Egypt:

Companies face potential imprisonment and significant monetary fines for improper disposal of construction and building waste

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EHS Trend 2: Meeting Energy Demands – Renewable Energy Sources vs. Coal

Renewable Energy

vs.

Coal

What's contributing to this trend?

New technologies	Natural resource constraints	Public opinion & pressure

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EHS Trend 2: Meeting Energy Demands - Renewable Energy Sources vs. Coal

Dubai, United Arab Emirates:

1,200 MW coal-fired plant planned in Dubai as the emirate simultaneously plans for a 200 MW solar plant

Egypt:

Enacted feed-in-tariff policy in order to promote renewable energy

South Africa:

Companies in the renewable energy sector may soon be able to use EIA guidelines for renewable energy projects

Mauritius:

Construction moves forward on two first wind farms in the country

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EHS Trend 3: Air Quality – Tackling Emissions & Pollution

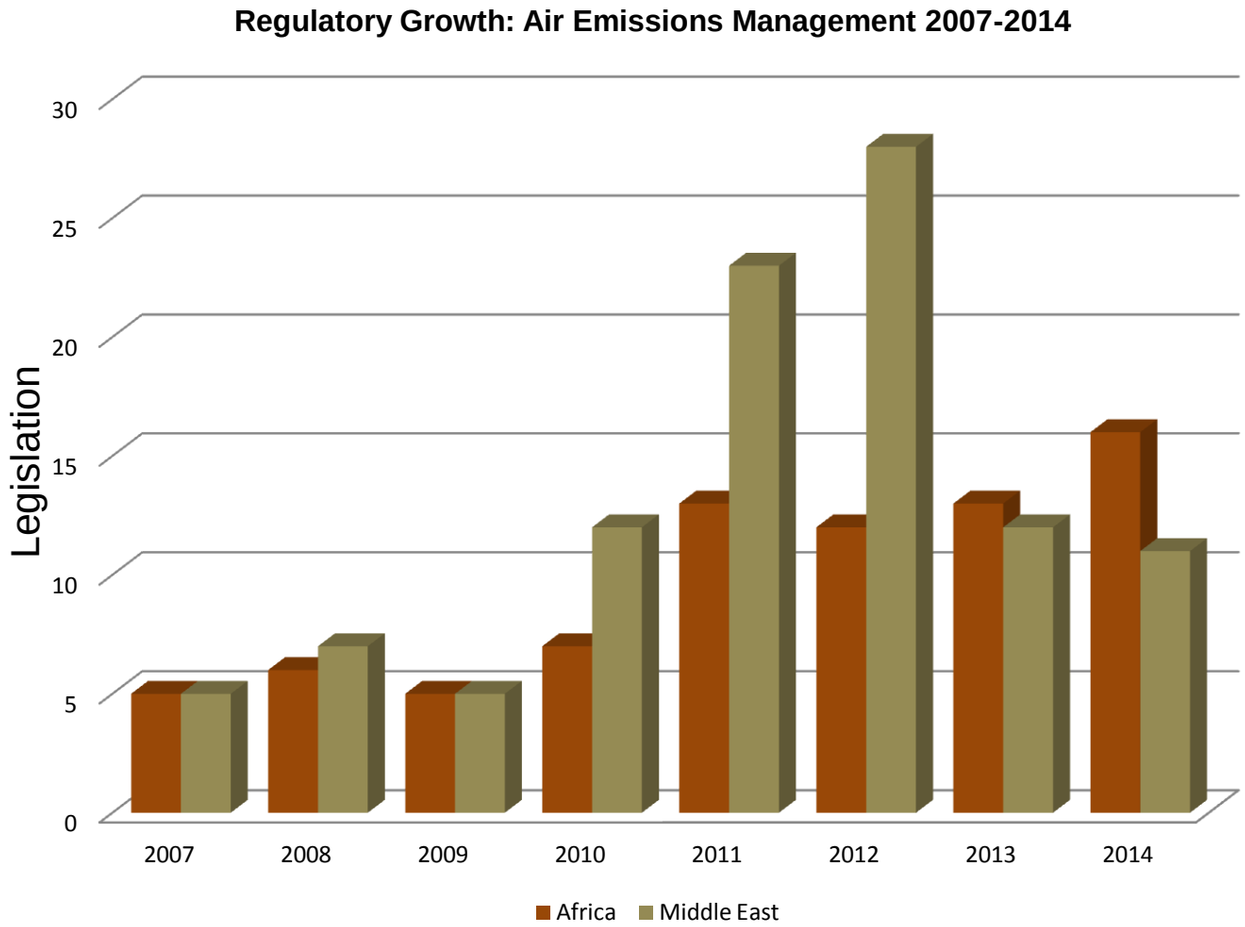
Since 2007, air emissions legislation has grown:

- 220% in Africa
- 120% in the Middle East

What's contributing to this trend?

New technologies

Increase in climate change concerns



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EHS Trend 3: Air Quality – Tackling Emissions & Pollution

Egypt:

Egyptian Environmental Affairs Agency reports inspection of 3,439 industrial facilities amid efforts to manage bouts of acute air pollution

UAE:

Companies will soon be required to use only low-sulfur diesel

UAE:

Crushing and cement plants face closure due to environmental violations

Ghana:

Companies can expect new environmental standards and emissions restrictions with EPA's newly commissioned laboratory

EHS Trend 4: Counteracting Climate Change - Reducing Greenhouse Gases & Ozone Depleting Substances

South Africa:

Declaration of greenhouse gases as priority air pollutants.

Turkey:

1) As of 1 January 2015, more ozone depleting substances are subject to import restrictions.

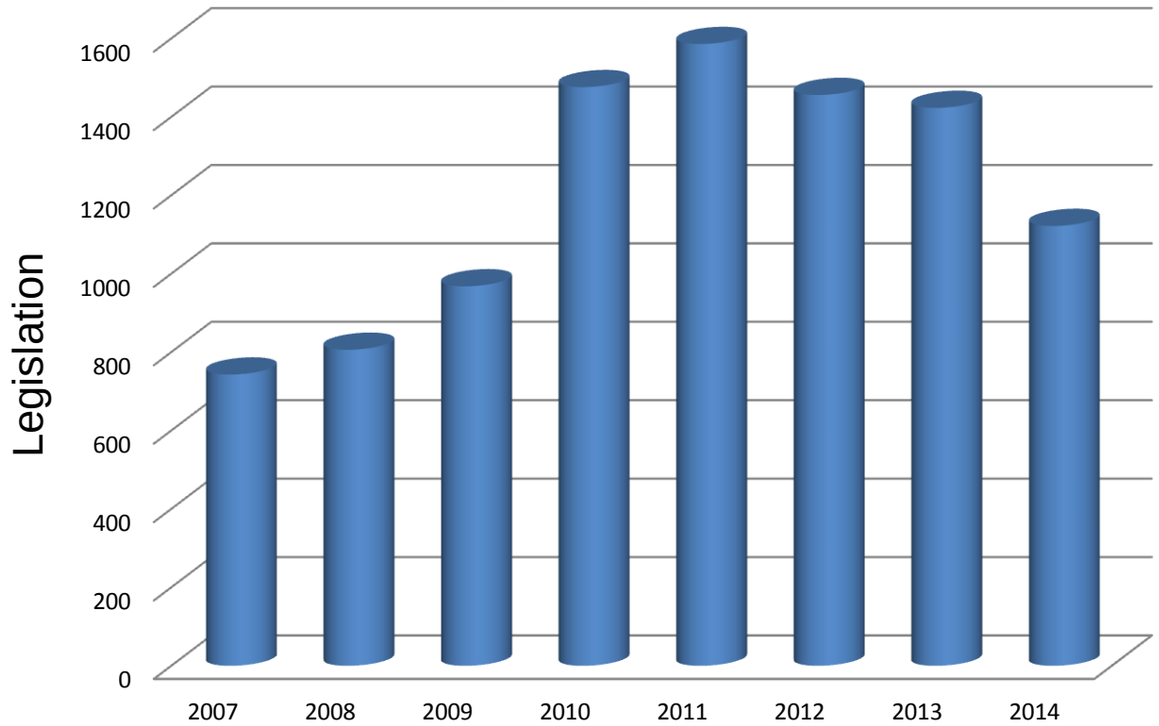
2) Fluorinated greenhouse gases and equipment containing these gases will be subject to restrictions

Saudi Arabia:

Adoption of the “Unified GCC Regulation on Substances that Deplete the Ozone Layer.”

EUROPE

Regulatory Growth: Europe



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EHS Trend 1: Greater Focus on CSR Initiatives

New Amendment Clarifies Scope of CSR Reporting in EU

- Under the new amendment, companies exceeding an average of 500 employees on their balance sheet will be subject to non-financial reporting.
- European enterprises will need to prepare a non-financial statement containing information relating to environmental matters, social and employee-related matters.
- Estimated that **6,000 companies** will be subject to CSR reporting in Europe.

What's contributing to this trend?

Standardizing requirements due to globalization	Public opinion & pressure

<u>4 critical questions</u> companies need to answer as they begin to create procedures to ensure compliance when EU member states implement the amending directive.

1) Are you required to report?
2) What CSR information do you have to provide?
3) What aspects of your supply chain do you need to analyze and disclose?
4) Will you have to have any CSR information assumed by a third party?

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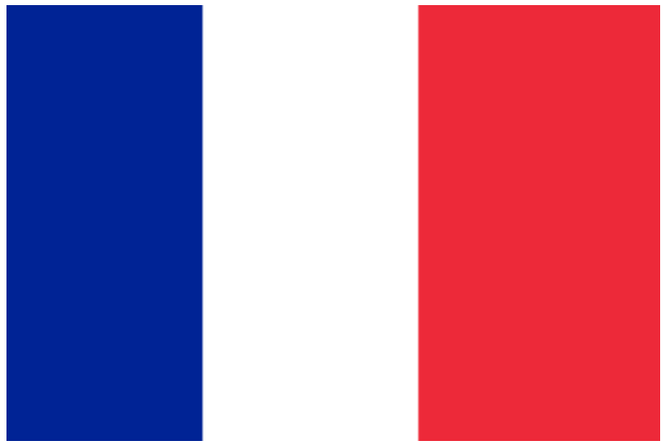
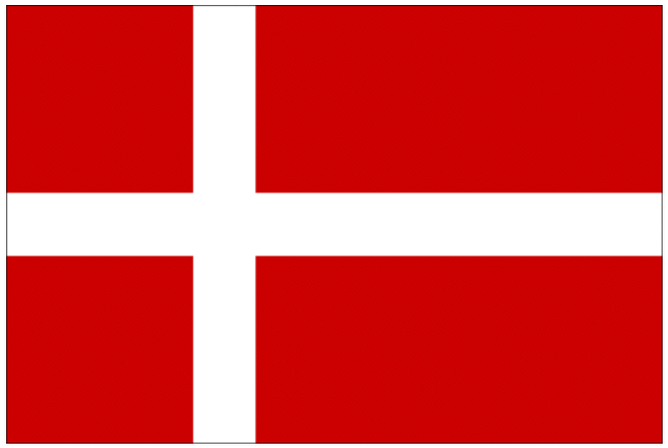
EHS Trend 1: Greater Focus on CSR Initiatives



France:
Listed companies and companies with annual turnover or a balance sheet above €100 million that employ at least 500 employees in France are required to report non-financial information to shareholders.



Denmark:
CSR Reporting is compulsory for the 1,100 biggest companies, including listed companies, state-owned companies and institutional investors.

EHS Trend 2: Increase in Environmental Protection Obligations

What's contributing to this trend?

Natural resource constraints

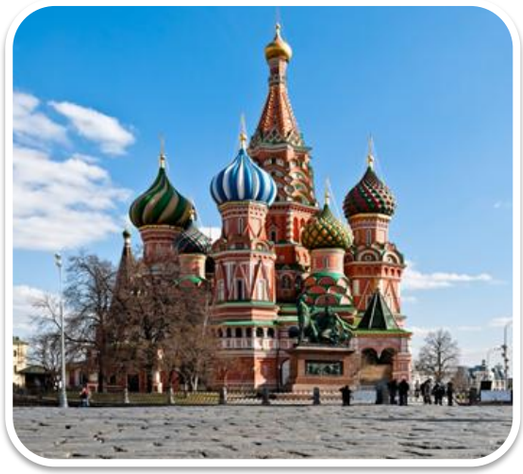
Standardizing requirements due to globalization

Public opinion & pressure

EHS Trend 2: Increase in Environmental Protection Obligations

France:

Strict liability regime for environmental damage proposed.



Russia:

Published draft law on environmental audits.

Italy:

New streamlined provisions would enhance environmental protection through the creation of new criminal offenses and sanctions.

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EHS Trend 3: Transposition of Energy Audit Requirements

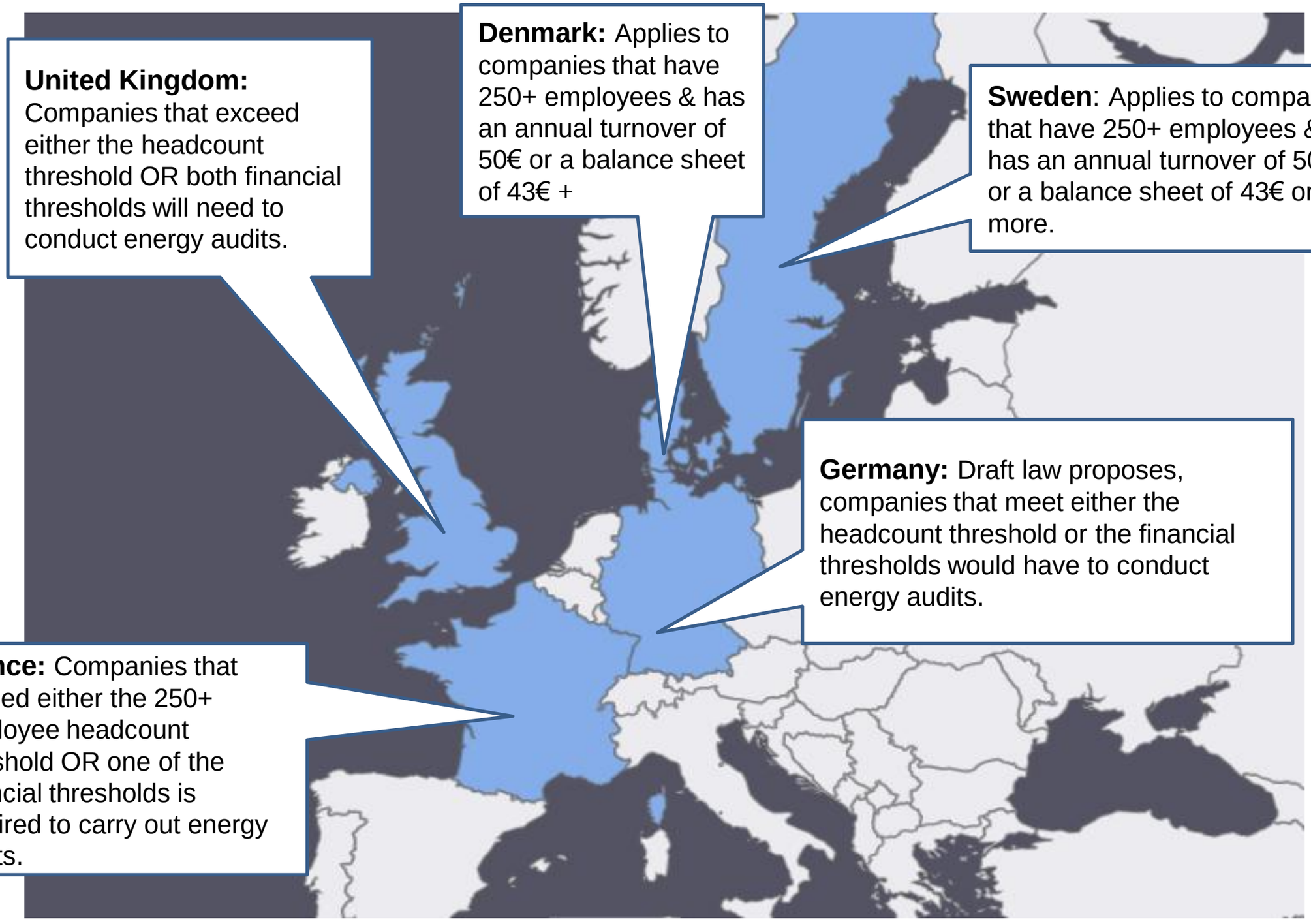
Various countries have not yet issued their regulations even though companies must carry out their first audit by 5 December 2015.

Substantial variations among local laws implementing energy audit requirements.

What's contributing to this trend?

Natural resource constraints	New technologies

EHS Trend 3: Transposition of Energy Audit Requirements



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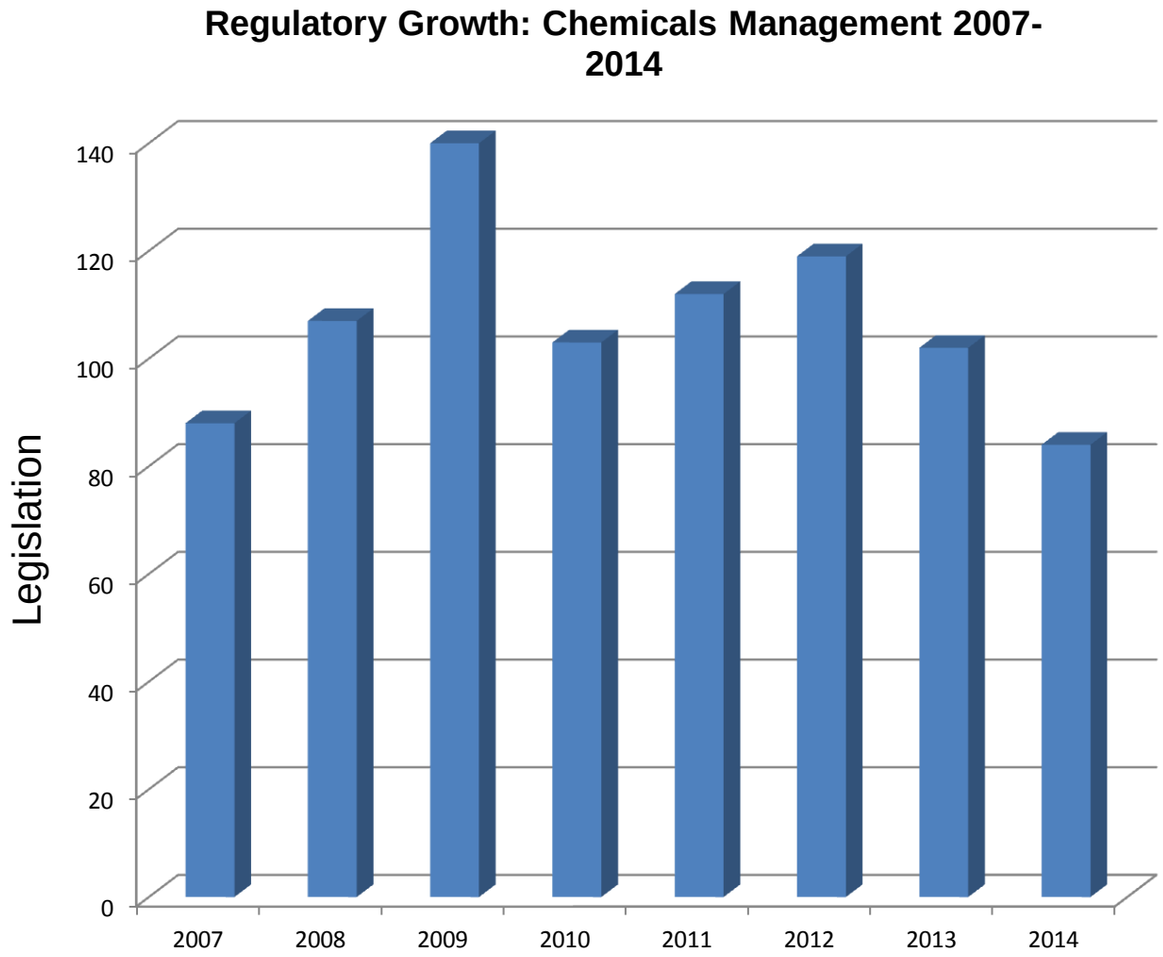
EHS Trend 4: Increased Focus on Chemicals Management

Chemicals Management has sustained an average growth rate of 9% since 2007.

What's contributing to this trend?

Standardizing requirements due to globalization

New evidence from research



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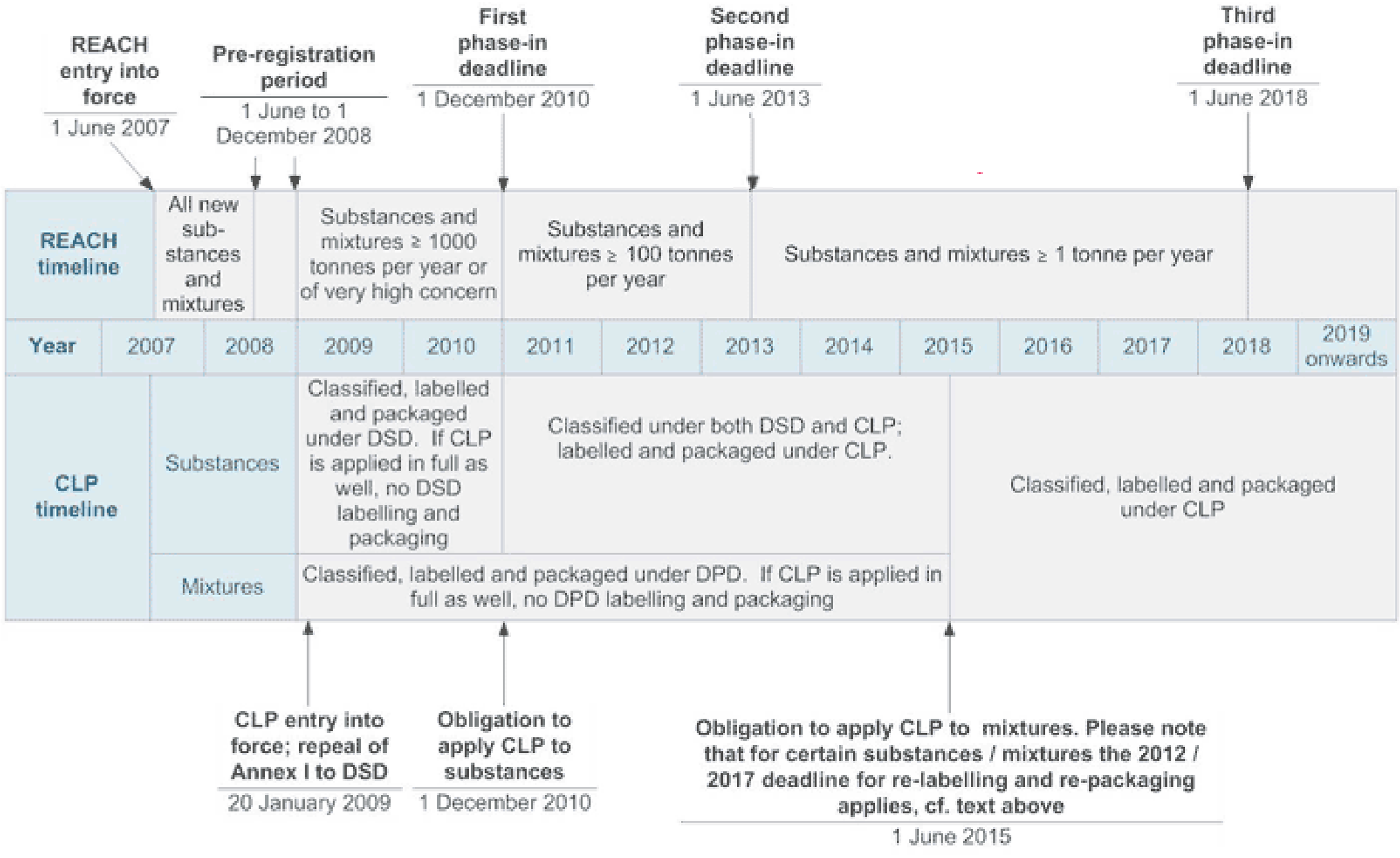
EHS Trend 4: Increased Focus on Chemicals Management: CLP/REACH Timeline



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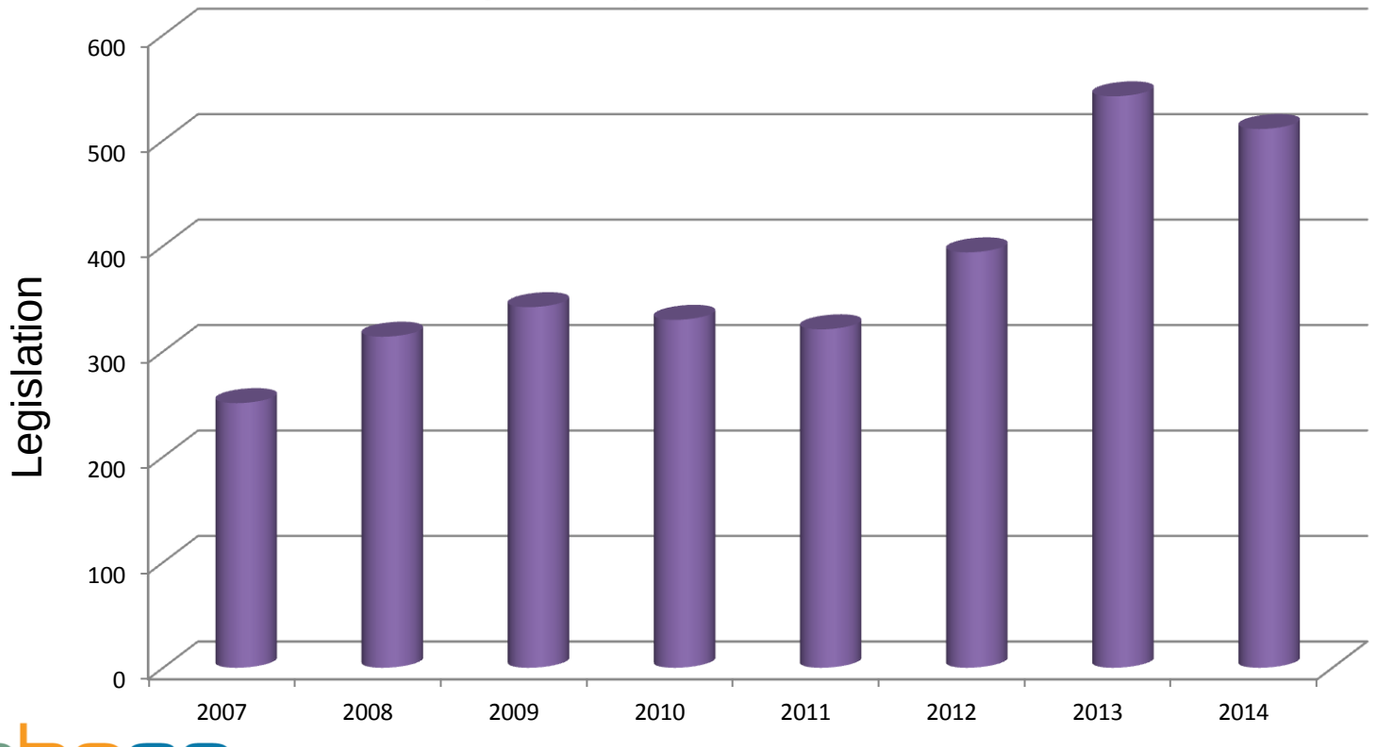
ASIA PACIFIC

Regulatory Growth: Asia-Pacific



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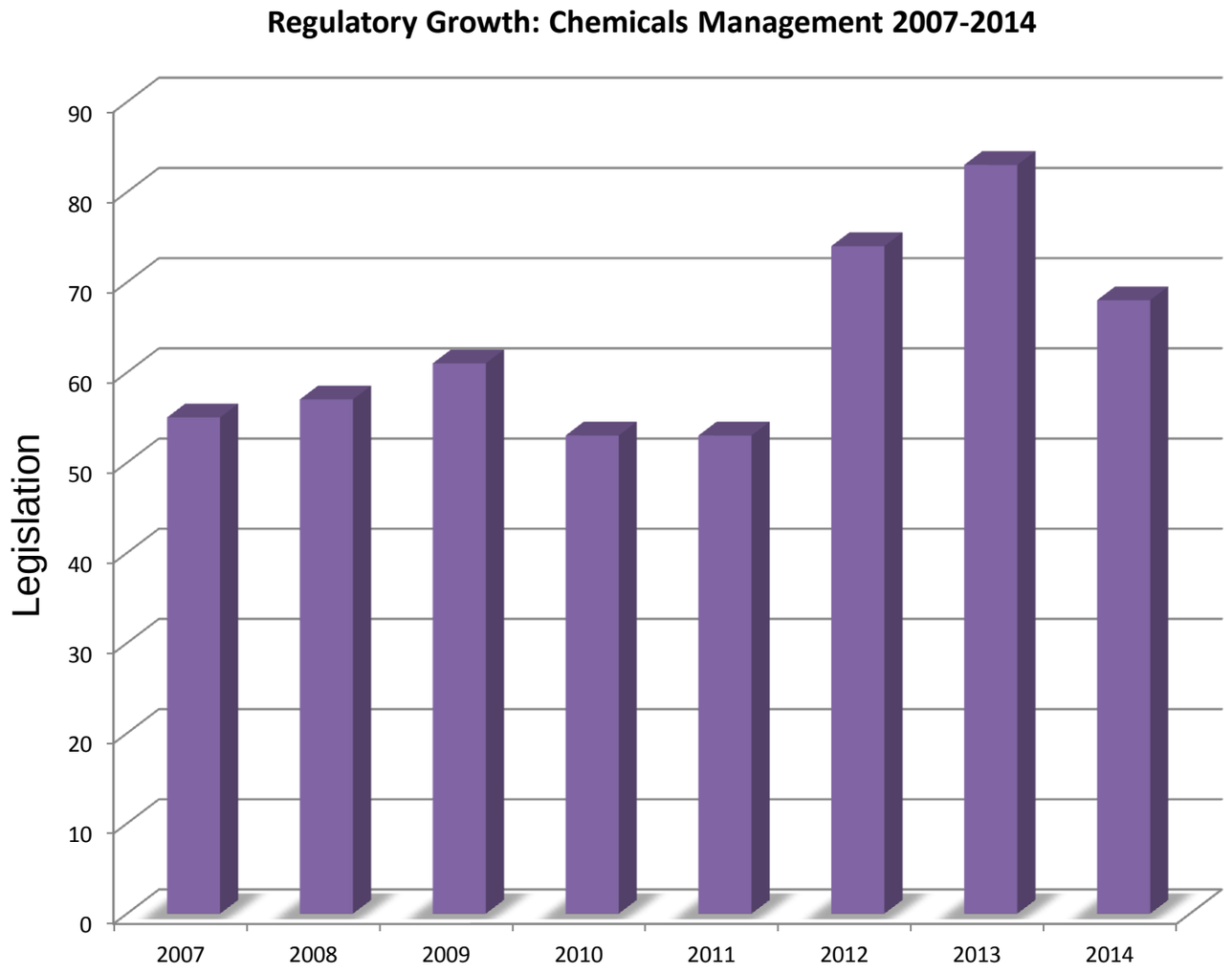
EHS Trend 1: Chemicals Management: Transitioning to a More Comprehensive Chemicals Management System

Over the past 8 years, legislation surrounding chemicals management has grown by **24%.**



What's contributing to this trend?

- Standardizing requirements due to globalization
- New evidence from research

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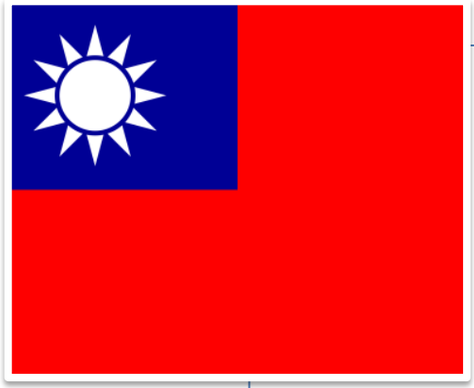
EHS Trend 1: Chemicals Management: Transitioning to a More Comprehensive Chemicals Management System

South Korea:

K-REACH went into effect on 1 January 2015.



Taiwan:

Registration procedure and timetable detailed regarding the mandatory registration for new and existing chemicals

Thailand:

Manufacturers, importers, exporters, and possessors of hazardous substances can expect expanded coverage of hazardous substances regulated

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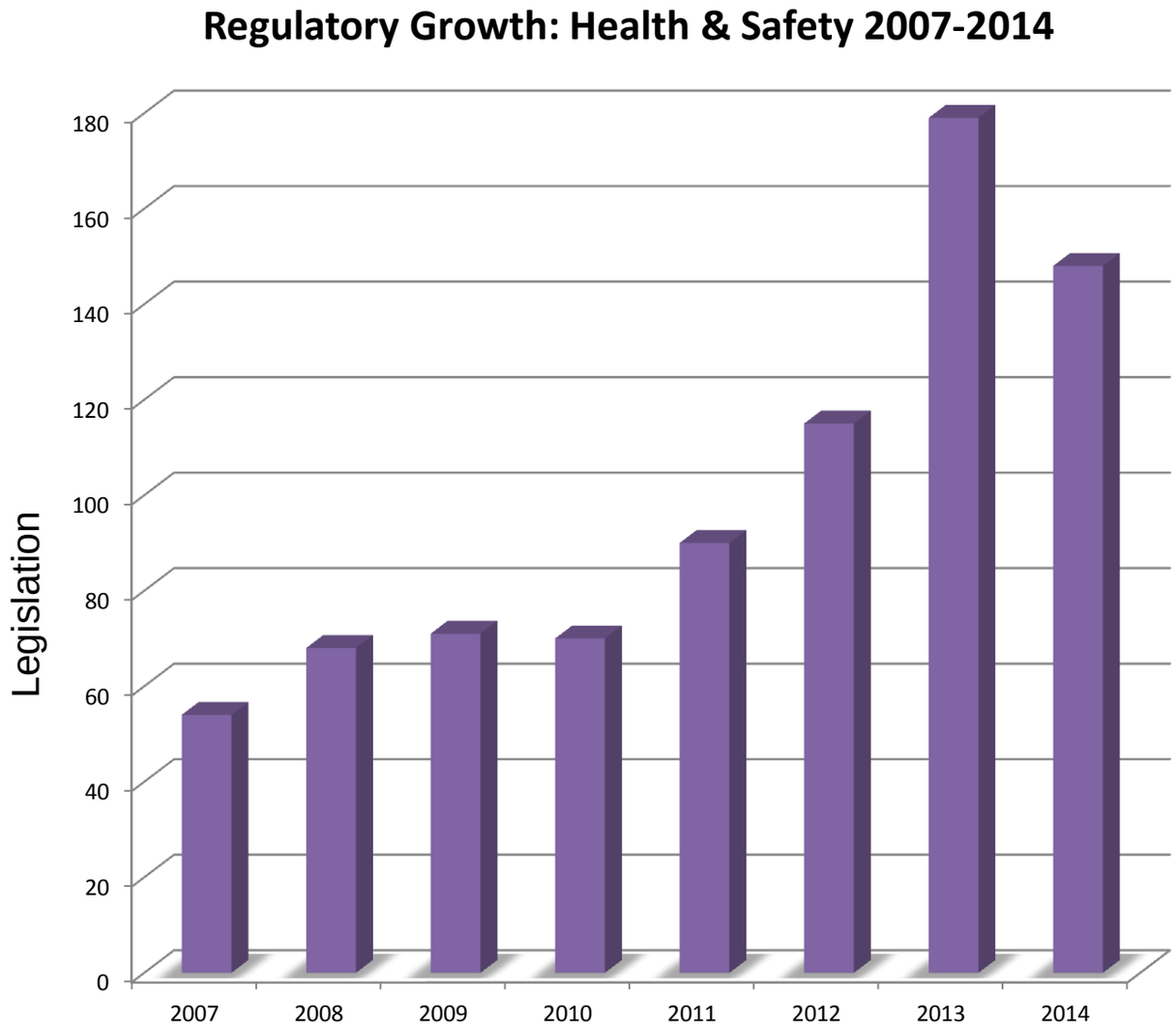
EHS Trend 2: Increased Focus on Worker Health & Safety - Working with Chemicals

Since 2007, health & safety legislation has grown **174%**, sustaining an <u>average growth rate of 18%.</u>

What's contributing to this trend?

Public opinion & pressure

New evidence from research



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EHS Trend 2: Increased Focus on Worker Health & Safety: Working with Chemicals

Japan:

Manufacturers and handlers of 20 hazardous chemical substances will be required to submit a worker exposure report for 2015.

South Korea:

As of 1 January 2015, companies that manufacture, import, sell, store, transport or use chemicals have to comply with the wholly-amended Chemicals Control Act.

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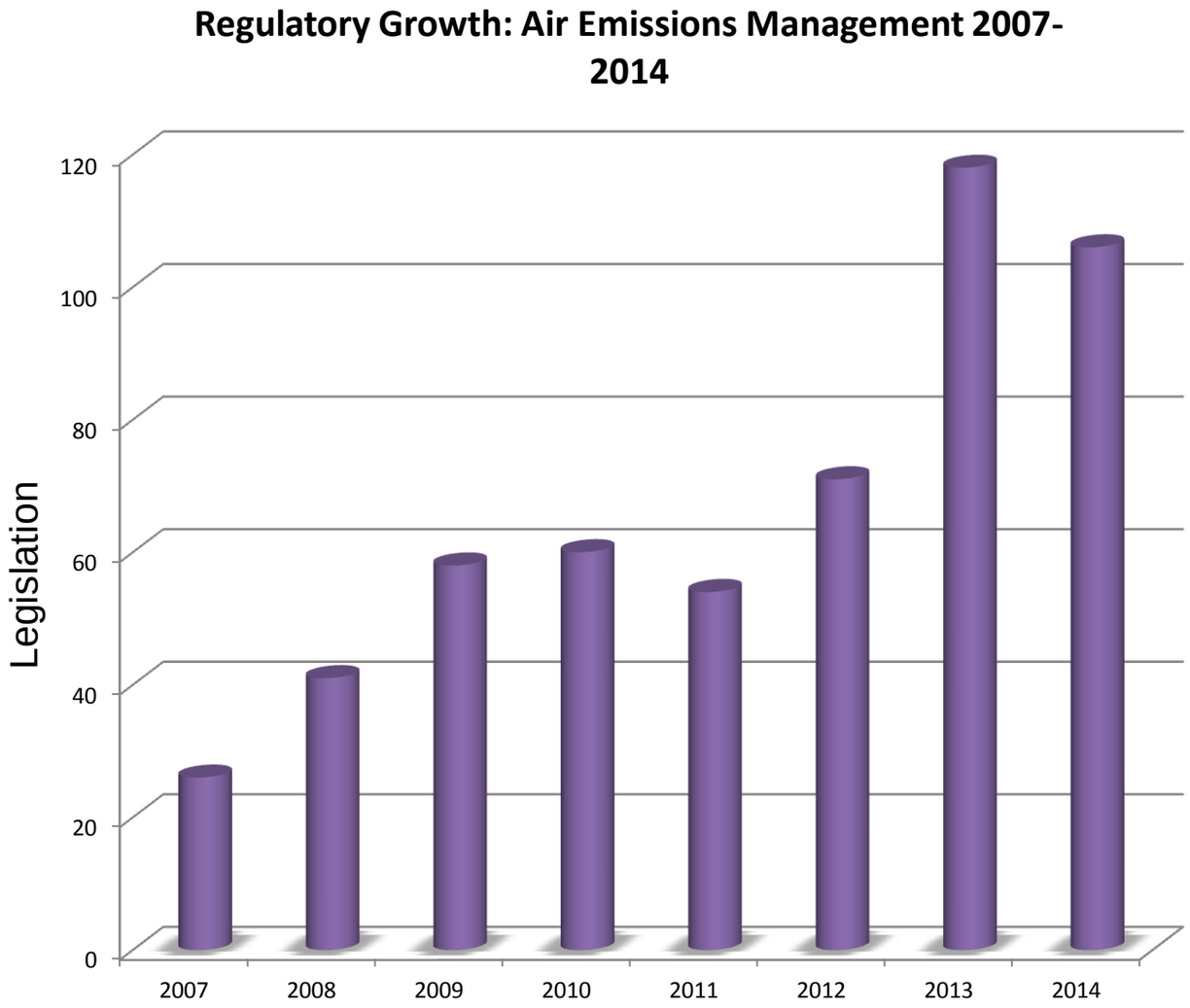
EHS Trend 3: Stricter Air Pollution Prevention and Control Measures

Since 2007, legislation surrounding air emissions management has grown **308%**, sustaining an average growth rate of **26%.**

What's contributing to this trend?

Natural resource constraints

Standardizing requirements due to globalization



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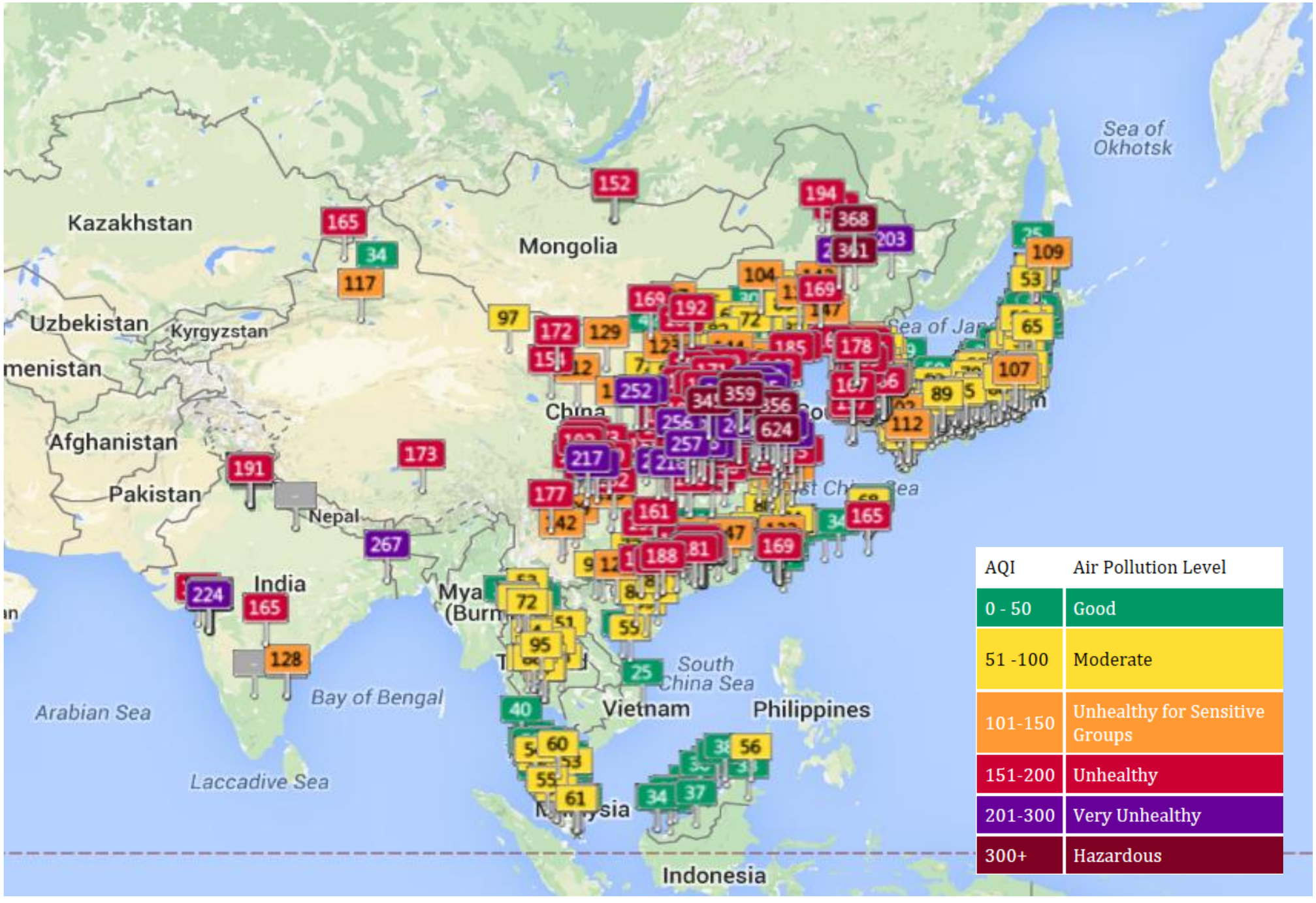
EHS Trend 3: Stricter Air Pollution Prevention and Control Measures: Pollution Map



AQI	Air Pollution Level
0 - 50	Good
51 -100	Moderate
101-150	Unhealthy for Sensitive Groups
151-200	Unhealthy
201-300	Very Unhealthy
300+	Hazardous

Source: AQICN & World Air Quality

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EHS Trend 3: Stricter Air Pollution Prevention and Control Measures

China:
Integrated pollutant discharge permit system to be established at the national level.

Facilities discharging pollutants, such as air emissions and wastewater, into the environment would soon be subject to the permitting requirements as provided under the Proposed Interim Management Measures on Pollutant Discharge Permit.

South Korea:
7 regulations on the operation of the greenhouse gas emission trading system adopted in preparation of the system coming into effect in 2015

A greenhouse gas emissions trading system in Korea will begin in 2015. If the company is one of the 526 large emitters of greenhouse gases designated as subject to the emissions trading system, the company will be required to participate in the emissions trading system.

Australia:
Emissions Reduction Fund legislation passed, expected implementation in 2015

Legislation implementing the Australian Government's Emission Reduction Fund (ERF) has passed in Parliament, and replaces the Carbon Pricing Mechanism entirely.

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EHS Trend 4: Improving Environmental Quality - Growth of Enforcement Intensity

What's contributing to this trend?

Natural resource constraints

Increase in climate change concerns

Public opinion & pressure

China:

- Environmental Protection Law amended- first time in 25 years. Entered into force, 1 January 2015. Significantly increases enforcement intensity.

Vietnam:

- More stringent requirements and direct responsibilities applicable to the heads of facilities causing serious environmental pollution.

Australia:

- New nature conservation law will come into force in June 2015.

Questions?

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