





















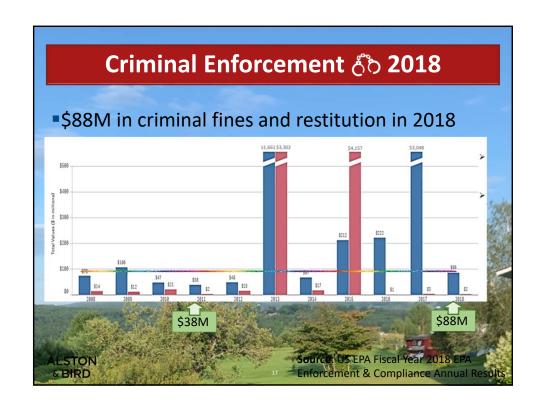


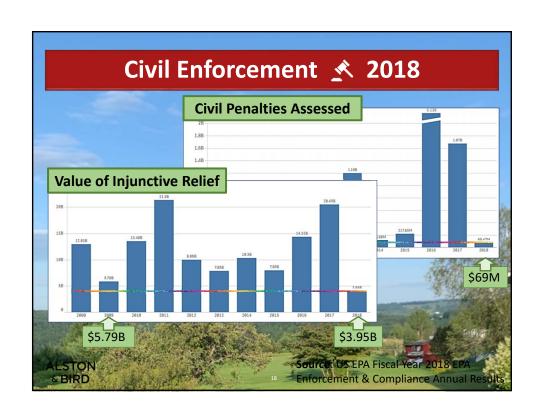
Water Regulations Land Regulations Coal Ash Rule Clean Water Rule/Waters of the Financial Assurance for **United States/WOTUS Hard Rock Mining** Financial Assurance for Effluent Limits for **Everything Else Power Plants** Hazardous Waste State Certifications Releases at Farms Groundwater discharges Analytical Methods Peak Flows and for **Superfund Task Force** Municipal Sewer Systems LSTON

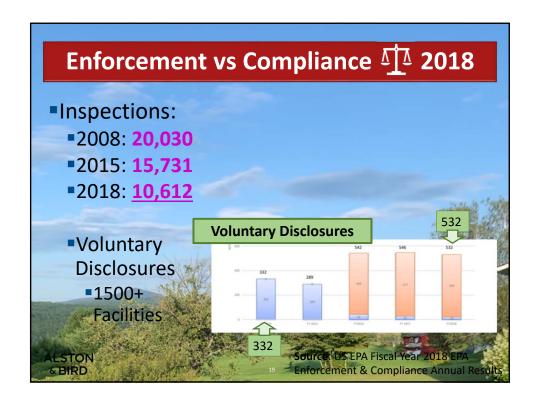




■ Air ■ Creating Cleaner Air for Communities by Reducing Excess Emissions of Harmful Pollutants ■ Stopping Aftermarket Defeat Devices for Vehicles and Engines ■ Hazardous Chemicals ■ Reducing Hazardous Air Emissions from Hazardous Waste Facilities ■ Reducing Risks of Accidental Releases at Industrial and Chemical Facilities ■ Water ■ Reducing Significant Non-Compliance with National Pollutant Discharge Elimination System (NPDES) Permits ■ Reducing Non-Compliance with Drinking Water Standards at Community Water Systems ALSTON ◆ BIRD ■ Air ■ Creating Cleaner Air for Communities by Reducing Excess Emissions of Harmful Pollutants ■ Water ■ Reducing Non-Compliance with Drinking Water Standards at Community Water Systems









Fuel Mix Cleaner: More Needed

Utility-Scale Net Electricity Generation*

Natural Gas: 33.2% (PA) 31.7% (U.S.)

Coal: 22.4% 28.7%

Nuclear: 39.3% 21.2%

Renewables: 4.7% 17.3%

Petroleum-Fired: 0.1% 0.3%

* EIA as of 3/21/19



Technology Investment Drivers

- · Safety, reliability and resilience
- Customer experience
- Physical and cyber security
- Sustainability
 - Low carbon technologies
 - Renewable energy access
- Risk management
 - Process-oriented approach (i.e., "reasonable standard")
 - Best practices and industry standards





Decarbonizing Energy Supply

- GHG emissions reductions
 - Increase state renewable energy requirements
 - Nuclear energy zero emissions credit programs
 - Regional GHG Initiative Expansion
- Limit Global Temperature Increase to 2° C
 - Internal operations
 - Customer solutions
 - Electrification (e.g., transportation sector)
 - Economy-wide carbon emission reduction program



Disclosure and Reporting: Overarching Trends

- Increasing pressure on companies to:
 - Disclose information on expanding scope of non-financial "environment, social and governance" (ESG) topics
 - Improve quality, increase formality of information disclosed over time (more detail, greater comparability and assurance)
 - Improve substantive performance on ESG topics disclosed



Disclosure and Reporting (cont.)

- Many different drivers
 - Regulatory requirements, procurement initiatives, investor indices, NGO rankings and campaigns, shareholder resolutions
 - Company sustainability and CSR goals, desire to prevent or manage potential reputational and financial risks
 - Talent recruiting and retention



What's Happening Around the World? Mandatory Requirements

- EU Non-Financial Reporting Directive
- Modern Slavery Disclosure Laws
 - CA, UK, Australia, New South Wales
- Other Business and Human Rights disclosure or reporting initiatives
 - French Vigilance Law, Swiss Responsible Business Initiative
- Extractive industry disclosures and conflict minerals (EU and Canada)



What's Happening Around the World? Influential Voluntary Initiatives

- · Global Reporting Initiative (GRI)
- Sustainability Accounting Standards (SASB)
- Task Force on Climate Development (TFCD)
- Corporate Human Rights Benchmark (CHRB)
- UN Global Compact
- UN Sustainable Development Goals (SDGs)
- Sustainable Stock Exchanges Guidance on ESG Reporting



Extra-Regulatory Requirements

- · Can have the effect of regulations
- Expectations from new "accountability centers" –
 investors, shareholders, lenders, insurers, large retailers,
 NGOs
- NGO criteria-setting bodies and ecolabel programs (can be required by customers, or later adopted by government bodies, e.g. in federal procurement context
- Supplier codes of conduct



Expanding Scope of ESG Topics

- Conflict Minerals
 - US Dodd-Frank/SEC Rule
 - Limited to the derivatives tantalum, tin, tungsten, gold
 - EU Conflict Minerals Initiative
 - Limited to same minerals as Dodd-Frank/SEC Rules
 - Primary minerals produced in DRC
 - NGO and Civil Society Organizations are driving actions on other minerals, including cobalt.
 - May extend more broadly to other raw materials of concern
 - Not limited to particular area



Expectations to Improve Quality and Increase Formality • Climate Disclosures - Investors perceive climate disclosures and SEC enforcement to be largely inadequate - Climate Change is big concern among investors • 2018: institutional investors petitioned SEC to require Est disclosures

Beveridge & Diamond



Risk Profile of Sustainability Disclosures

- Enforcement for non-compliance with disclosure requirements
- FTC Green Guides/Section 5 of FTC Act (unfair or deceptive claims)
- Lanham Act/competitor claims
- Consumer protection lawsuits
- SEC risks associated with false or misleading statements (express or by omission)
- Shareholder action
- U.S. Tariff ACT
- CAATSA

