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GREEN SUPPLY CHAIN MANAGEMENT: A PERSPECTIVE ON BEST PRACTICES IN GSCM DESIGN¹

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I. INTRODUCTION

Greening of company supply chains has become almost de rigeur for large, publicly facing companies. One indication of this situation is the fact that 35 of the Fortune 50 companies and at least 58 of the Fortune 100 companies discuss at least some aspects of their green supply chain management (GSCM) activities on their public websites, primarily under the heading of “responsible sourcing.”² These GSCM activities have the potential to contribute in very important ways to meeting societal sustainability goals, influencing suppliers that are beyond the reach of the national laws of consumer nations, and driving changes in environmental aspects of supplier operations. For the legal community this trend represents an interesting evolution of environmental law from focusing primarily on government regulation when representing clients to also paying close attention to provisions in supply chain contracts, both from the perspective of the purchaser and the supplier, as well as mitigating legal and reputational risks that may arise throughout a company’s supply chain.

1. Parts of this article are derived from the following publications by the co-author of this article: *See generally* LeRoy Paddock and Molly Masterton, *Private Environmental Enforcement: Using Supply Chain Requirements to Achieve Better Environmental Outcomes*, in, *IMPLEMENTING ENVIRONMENTAL LAW* (P. Martin and A. Kennedy eds., Edward Elgar 2015); Lee Paddock, *Stemming the Deforestation Tide: The Role of Corporate No Deforestation Commitments*, 7 *GW J. OF ENERGY AND ENV’T L.* 205 (2016); LeRoy C. Paddock, *Green Governance: Building the Competencies Necessary for Effective Environmental Management*, 38 *ELR* 10609 (Sept. 2008); LeRoy C. Paddock, *Beyond Deterrence: Compliance and Enforcement in the Context of Sustainable Development*, 42 *ELR* 10622 (July 2012).

2. List on file with author.

Because of the prominence of GSCM and its potential for contributing to sustainability goals it is important to understand how these programs are designed and how the supplier commitments are reviewed to assure that the GSCM requirements are actually implemented and environmental goals are being achieved. This article examines the GSCM programs focusing primarily on Fortune 50 companies to assess their structure and, in particular, their compliance mechanisms. We draw from this assessment, and previous work on environmental compliance issues, a set of factors that we believe constitute best practices in GSCM design and operation. In addition, we conclude by exploring some options for encouraging wider adoption of demonstrable strong GSCM programs.

Complex, multi-level international supply chains are now an integral part of the world economy. For example, large retailers may purchase many of their products from companies in China, India or other countries where the cost of manufacturing is lower than in the retailer's home country.³ Similarly, automobile manufacturers today source parts from many countries rather than manufacturing the parts themselves or buying them from local parts manufacturers.⁴ As companies, especially in the United States and the European Union, have increasingly outsourced manufacturing or moved manufacturing offshore, these operations have become for the most part beyond the reach of national environmental laws.⁵ The facilities may be located in countries that have either weak environmental laws or weak enforcement of environmental laws. National governments typically have little leverage over the extra-

3. Walmart, for example, works with hundreds of factories in China alone. See *Walmart Continues to Strengthen Global Supply Chain Sustainability; Announces New Commitment to Advance Factory Energy Efficiency in China*, WALMART, (Aug. 27, 2014) https://corporate.walmart.com/_news_/news-archive/2014/08/27/walmart-continues-to-strengthen-global-supply-chain-sustainability-announces-new-commitment-to-advance-factory-energy-efficiency-in-china, [https://perma.cc/8SS5-M8FE].

4. For example, parts for the Detroit-assembled Mustang may come from China, France, the United Kingdom and Mexico. See Craig Howie, *Is Your Car Made in America?*, AUTOBLOG, (Dec. 7, 2016) <https://www.autoblog.com/2010/10/06/is-your-car-really-american/> [https://perma.cc/V698-PVNQ].

5. Philip Sutherland, *Globalization and Corporate Law*, in GLOBALIZATION AND PRIVATE LAW: THE WAY FORWARD 255, 267-68 (M. Faure and A. van der Walt eds., Edward Elgar 2010).

territorial operations of multi-national companies.⁶ Further, aspects of product manufacturing in many countries, including greenhouse gas emissions, energy use, and reuse/recycling design requirements, remain outside the regulatory system even in some countries with sophisticated programs. Even in the United States, the national government is stepping back from regulating greenhouse gas emissions. The United States does not regulate energy efficiency in manufacturing operations and has no national product take back laws. Thus, as nations increasingly focus on sustainability as a societal goal, achieving better environmental outcomes is more and more dependent upon private regulatory and enforcement mechanisms to drive environmental outcomes.

Because products or parts are sourced from often-distant locations, companies find that they need to focus on management of their supply chain to assure product quality, protect their reputation, and minimize product liability claims among other issues.⁷ These supply chain concerns also extend to environmental attributes of products. Companies both local and multinational have used environmental supply chain requirements, also known as “green” supply chain management or “GSCM,” as part of their economic decision-making. GSCM can be considered a convergence of traditional supply chain management, defined broadly as the oversight of product life cycles throughout the supply chain from manufacturing and

6. See Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment, L. 37/19, available at <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32002L0095> (commonly referred to as the Restriction of Hazardous Substances Directive or RoHS) [<https://perma.cc/AVQ5-RHJX>]; see, e.g., MINN. STAT. §§ 115A.1326, 328, 330 (West 2017).

7. While most supply chain programs are voluntary, there are some mandatory aspects of supply chain management. For example, the Security and Exchange Commission receives annual reports on the use of certain “conflict minerals” as required by the Dodd-Frank legislation (discussed later in the paper). See Securities and Exchange Act of 1934, 15 U.S.C. § 78(p). For more information on the Dodd-Frank conflict minerals requirements see *FACT SHEET: Disclosing the Use of Conflict Minerals*, U.S. SEC. & EXCH. COMM’N, <https://www.sec.gov/opa/Article/2012-2012-163htm—related-materials.html> [<https://perma.cc/H5S6-V44F>].

transport to use and end life, and newer systems for environmental management.⁸

GSCM regimes can be very different from one company to another. Some touch only ‘first tier’ suppliers while others go much deeper into the supply chain; some involve single companies and single products while others involve large collaborative efforts among industry groups; and some employ much more in-depth oversight mechanisms than others. It is therefore important to look beyond the fact that a company imposes supply chain environmental requirements to examine the nature and extent of those requirements.

This article will next lay out some of the key governance concepts that demonstrate why private environmental supply chain requirements are so important in achieving sustainability-based outcomes.

II. THE ROLE OF INTERNAL ECONOMIC DRIVERS AND SOCIETAL VALUES

In today’s globalized economy, achieving the goal of sustainable development⁹ requires new governance mechanisms that incorporate, but also reach well beyond, traditional regulatory programs. Several factors make new forms of environmental governance a necessity. These include: globalization of the economy; outsourcing and offshoring of manufacturing; difficulty in regulating diffuse, smaller (but still significant) sources of pollution and environmental harm; the

8. For a general overview of green supply chain management and its origins, see Samir K. Srivastava, *Green Supply-Chain Management: A State-of-the-Art Literature Review*, 9 *IJMR* 53,54-55 (2007).

9. Klaus Bosselmann and David Grinlinton observe in their book *Environmental Law for a Sustainable Society*,

The notion of “sustainability” is more than a catchy phrase for an improved environmental protection strategy. Many commentators have linked sustainability to fundamental concepts such as freedom, justice and equity. There is a widespread perception today that sustainability must inform future development of society in much the same way as freedom and equity informed its present development. Only a sustainable society, capable of working with nature, not against it, will have a chance of survival.

limited resources available for government environmental programs, the public concerns about expanding the role of government, and retrenchment of Federal environmental programs in the United States. These new forms of governance cannot simply rely on regulation to drive behavior; instead they must incorporate economic and social behavioral drivers.¹⁰

Supply chain management programs involve both economic and social behavioral drivers. When a company makes a decision to exceed baseline environmental regulatory requirements or to incorporate sustainability into its strategic plans, the decision is likely based on a wide range of economic considerations that are often underlain by changes in societal norms that have evolved in significant ways over the past decade.¹¹ A recent study by Unilever indicated that over one-third of customers are now “choosing to buy from brands they believe are doing social or environmental good.”¹² A senior Unilever staffer observed

“This research confirms that sustainability isn’t a nice-to-have for businesses. In fact, it has become an imperative. To succeed globally, and especially in emerging economies across Asia, Africa and Latin America, brands should go beyond traditional focus areas like product performance and affordability. Instead, they must act quickly to prove their social and environmental credentials and show consumers they can be trusted with the future of the planet and communities, as well as their own bottom lines.”¹³

10. For a more detailed discussion of economic and values-based environmental behavioral drivers see generally LeRoy C. Paddock, *Green Governance: Building the Competencies Necessary for Effective Environmental Management*, 38 ELR 10609 (2008).

11. One 2015 study found “85% of the U.S. population can now be considered, at least to some degree, accepting of sustainable practices, although only 22% can be considered true leaders in sustainability. However, those falling in the middle of the spectrum, about 63%, are increasing their purchasing of green products and continually adopting more sustainable behaviors.” See Ashlan Bonnell, *Consumer Attitudes Toward Green Brands Reach All-Time High*, MKT. RES. (Apr. 2, 2015) <https://blog.marketresearch.com/sustainability-in-america-consumer-attitudes-toward-green-brands-reach-all-time-high>, [<https://perma.cc/96W6-UGQ7>].

12. See *Report Shows a Third of Consumers Prefer Sustainable Brands*, UNILEVER (May 1, 2017) <https://www.unilever.com/news/press-releases/2017/report-shows-a-third-of-consumers-prefer-sustainable-brands.html>, [<https://perma.cc/Y4BD-ACM7>].

13. *Id.*

These changes in social values have become reflected in the “economic” considerations companies must take into account in sourcing their products. Among the critical economic drivers are reputation, the ability to attract and retain customers, access to markets where customers have clear environmental preferences, the desire to attract or retain socially conscious investors, community relations including community “license to operate,” and the ability to attract and retain employees, among other factors.¹⁴ In addition, other economic factors are influencing the adoption of more sustainable practices including reducing operational risk, liability mitigation, insurance cost and availability, lender concerns or requirements, government relations, the ability to plan operations and anticipate or even shape future regulatory standards, product differentiation, green procurement standards, industry codes of conduct, international environmental standards such as ISO 14000, and operational efficiency.¹⁵ Research has suggested that improved environmental practices may help a company to gain competitive advantage by reducing production inefficiencies, increasing brand loyalty, or even creating new markets with potential for significant revenue growth.¹⁶

Reputational value is a good illustration of the importance of these economic factors. Reputation, estimated to now account for 30 to 70 percent of a company’s value, is one of the key drivers of environmental performance.¹⁷ Forbes magazine has observed that companies now exist in a “reputation economy.”¹⁸ A 2017 survey by consulting firm KPMG, found

14. See Paddock, *supra* note 10, at 10636.

15. See *Id.*

16. Daniel C. Esty and Andrew S. Winston, GREEN TO GOLD: HOW SMART COMPANIES USE ENVIRONMENTAL STRATEGY TO INNOVATE, CREATE VALUE, AND BUILD COMPETITIVE ADVANTAGE 13-14 (2006). GE provides a good example. It launched ‘ecoimagination,’ which among other things includes putting new green products on the market that are expected to generate \$20 billion in revenues by 2010. See *GE Launches Ecomagination to Develop Environmental Technologies; Company-Wide Focus on Addressing Pressing Challenges*, BUSINESSWIRE (May 9, 2005), <https://www.businesswire.com/news/home/20050509005663/en/GE-Launches-Ecomagination-Develop-Environmental-Technologies-Company-Wide>, [<https://perma.cc/3378-RLQN>].

17. See Ronald J. Burke et al., CORPORATE REPUTATION: MANAGING OPPORTUNITIES AND THREATS 3 (2011).

18. See Bruce Rogers, *How to Leverage Your Reputation as Your #1 Driver of Value*, FORBES (Oct. 1, 2012),

that reputation is the third of sixteen top concerns among corporate CEOs.¹⁹

As one commentator noted:

The volume of shareholder value tied up under the loose banner of ‘intangibles’ has grown inexorably in the last few decades to the point where by the start of 2012 tangible book or net asset value only accounted for around 49% of the total market capitalisation of companies in the S&P500 and 55% of the FTSE100. Earnings expectations based on analysts’ consensus forecasts of future earnings growth and predicted dividend pay-out ratios help account for some of the difference, but the bulk of the remainder is a function of the intangibles, identifiable and unidentifiable, of which a considerable portion comes back to the brands and their outward manifestation, the corporate reputation of firms whose equity is traded.²⁰

Environmental behavior or misbehavior can have a significant impact on reputation.

<https://www.forbes.com/sites/forbesinsights/2012/10/01/how-to-leverage-reputation-as-your-1-driver-of-value/#59c800eb6ccf> (last visited Apr. 7, 2018).

19. See *CEOs Cite Reputational and Brand Risk as a Top Current Concern*, KPMG (Jun. 14, 2017), <https://home.kpmg.com/sk/en/home/media/press-releases/2017/06/ceo-cite-reputational-and-brand-risk-as-top-concern.html> [<https://perma.cc/L5WG-NPYE>]. The Boston University Center for Corporate Citizenship has noted,

“In the 1970s, a company’s market value was comprised of 83 percent tangible assets, things like the physical property, products, and machinery that the company owned. Only 17 percent of the market value of a company was made up of intangible assets, like intellectual property, human capital or reputation. Fast-forward to the present day and the proportion has completely inverted. Only 16 percent of a company’s value is comprised of tangible assets, while 84 percent is made up of intangible assets.

Today’s top brands are highly recognizable companies with value that is nearly entirely made up of intangible assets. They rely on their reputation, brand, intellectual property, and human capital for nearly all of their market valuation.”

See Elizabeth Rogers, *Corporate Citizenship Perspectives: Creating CSR Value with Strong Brand and Reputation*, B.C. CTR. FOR CORP. CITIZENSHIP (Nov. 3, 2017), <http://corporatcitizenship.bc.edu/creating-csr-value-with-strong-brand-and-reputation> [<https://perma.cc/82V6-QWSJ>].

20. Simon Cole, *The Impact of Reputation on Market Value*, 13 WORLD ECON. 47, 48 (2012).

Two relatively recent examples demonstrate reputational risk. The BP Horizon oil spill and BP's earlier refinery explosion significantly eroded the firm's reputation²¹ and even led to a boycott of some of its retail outlets.²² The Volkswagen diesel scandal resulted in a significant drop in its reputational score and consumer willingness to buy Volkswagen vehicles.²³ In addition, VW stock rapidly dropped by 24 percent.²⁴ These reputational risks can occur as a result of environmental problems that occur along a firm's supply chain, leading companies to pay increasing attention to their supply chain as an aspect of reputation management. Studies have indicated that it can take four years for a company to recover its reputation following a reputation-damaging crisis.²⁵ Although not as tangible as a patent or a trademark, corporate reputation can create direct financial benefits, including enhanced brand value and better access to capital markets.²⁶ Thus, building a good reputation is an aspect of competitive advantage. As Esty and Winston observed, "The logic of corporate environmental stewardship need not stem from a personal belief that caring for the natural world is the right thing to do. If critical stakeholders believe the environment matters, then it's the right thing to do *for your business.*"²⁷

Investor pressure can also play an important role in the way companies approach environmental issues. The engagement of the Nathan Cummings Foundation is a good example of this dynamic. The Nathan Cummings Foundation, which has supported environmental causes, in 2003 held 32,000 shares in

21. See Jad Mouawad and John Schwartz, *Rising Cleanup Costs and Numerous Lawsuits Rattle BP's Investors*, N.Y. TIMES (June 2, 2010).

22. See Naureen S. Malik, *BP Protests Threaten Independent Dealers*, WALL ST. J. (Jun. 16, 2010).

23. See Steph Willems, *Rebuilding Volkswagen's Reputation – Hard or Downright Impossible? An Expert Weighs In*, (May 17, 2016), [http:// www.thetruthaboutcars.com/2016/05/rebuilding-volkswagens-reputation/](http://www.thetruthaboutcars.com/2016/05/rebuilding-volkswagens-reputation/) [<https://perma.cc/9NPB-S7MR>].

24. See *Volkswagen: A Long Road to Recovery*, THE ECONOMIST (Nov. 10, 2016), [https:// www.economist.com/news/business/21710009-carmakers-efforts-move-its-emissions-scandal-are-thwarted-long-road-recovery](https://www.economist.com/news/business/21710009-carmakers-efforts-move-its-emissions-scandal-are-thwarted-long-road-recovery) [<https://perma.cc/FND9-WBAK>].

25. See Burke et al., *supra* note 17, at 4-5.

26. See generally Ervin L. Black and Vernon J. Richardson, *The Market Valuation of Corporate Reputation*, 3 Corp. Reputation Rev. 31 (2000).

27. See Esty and Winston, *supra* note 16, at 14.

Smithfield Foods.²⁸ Smithfield had been criticized for some of its agriculture and animal protection practices. The Foundation decided to exercise its proxy rights in an effort to encourage changes in some of these practices. Even though the resulting shareholder resolution filed by the Foundation did not come close to attracting a majority of votes, filing of the resolution led the company to negotiate with the Nathan Cummings Foundation about improvements that could be made in Smithfield's animal welfare performance.²⁹ Among the motivations for Smithfield to enter into the negotiations was maintaining its reputation among its key customers including McDonalds and Wal-Mart.³⁰ Supply chain requirements are a major issue for Smithfield in that all of its top 20 customers include in their contracts supply chain performance requirements.³¹

The need and the ability to leverage economic and value-based motivations for environmental improvement as part of a governance system fundamentally alters the role of government and the private sector in environmental protection. As Marc Allen Eisner has noted:

Future gains in environmental quality may be impossible without a fundamental reconsideration of regulatory design. This reconsideration must take the form of incorporating advances in corporate self-regulation, associational regulation, and standards into the regulatory system and thinking creatively about how public policies can be used to reinforce incentives or compensate for their absence.³²

III. DESIGNING GSCM PROGRAMS

While a given product's materials may have several intrinsic environmental impacts, the supply chain that brings the

28. LeRoy C. Paddock, *The Farm to Fork Initiative: A Shareholder and Management Partnership*, in ENHANCING THE EFFECTIVENESS OF SUSTAINABILITY PARTNERSHIPS 103 (National Research Council ed., 2009).

29. *Id.* at 103-04.

30. *Id.* at 104.

31. Statistics on file with author.

32. See Marc Allen Eisner, *Governing the Environment: The Transformation of Environmental Regulation* 282 (2007)

materials together that make up products creates further complexities, and may be responsible for the majority of negative externalities affecting the environment. Vulnerabilities in supply chain management are particularly acute in the age of social media since problems identified in a supply chain can almost instantly be communicated to a very large audience, quickly threatening a company's reputation.³³

GSCM programs rely on a range from approaches that including third-party certification, external codes of conduct, internal codes and contract specifications, and long-term working relationships with suppliers aimed at building the suppliers capacity to meet environmental and energy goals. Businesses may move from one approach to another, or the approaches may be used in combination to create an integrated strategy for environmental management.

A. Third-Party Certification

By providing a mechanism for evaluation and monitoring of the production process, certification systems can aid businesses in management and improvement of their global supply chain. There are a broad range of third-party certification programs such as the Marine Stewardship Council³⁴ that certifies sustainably harvested fish, the Roundtable on Sustainable Palm Oil (RSPO)³⁵ that was organized to deal with public concerns about deforestation caused by palm oil production, the Responsible Minerals Initiative which certifies smelters as conflict mineral-free,³⁶ and the Leadership in Energy and Environmental Design (LEED) green building design program.³⁷ One of the longest standing certification programs is

33. See Deloitte Touche Tohmatsu, *Managing Social Media Risks to Reputation Risk: A Hot Topic on the Board Agenda* (2014), <https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/risk/lu-managing-social-media-risks-reputation-risk-03032015.pdf> [<https://perma.cc/GM9N-8YAE>].

34. See Marine Stewardship Council, <https://www.msc.org/> [<https://perma.cc/9XB3-USAT>].

35. See Roundtable on Sustainable Palm Oil RSPO, <https://rspo.org/about> [<https://perma.cc/4DT8-N9RS>].

36. See Responsible Minerals Initiative, <http://www.responsiblemineralsinitiative.org/smelter-introduction/> [<https://perma.cc/9H9Y-4WHP>].

37. See U.S. Green Building Council USGBC, <https://new.usgbc.org/leed> [<https://perma.cc/66GZ-H89T>].

Forest Stewardship Council's Sustainable Forestry Initiative.³⁸ The Forest Stewardship Council (FSC) was founded in 1993 as one of the first collaborative efforts to bring together NGOs, retailers, and manufacturers to agree upon a set of internationally applicable forest management criteria.³⁹ FSC certification requires wood to be traced from origin to manufacturing, creating a "paper trail" and placing additional pressure upon various levels in the supply chain. Wood harvested in a manner that meets the FSC standard is identified by a label indicating that the wood was grown in a sustainable manner.

For some companies, using third-party certification programs is a convenient way to demonstrate that they are acting in a sustainable manner. For example, Home Depot became the first major retailer to sell FSC-certified wood in 1994, and since then has played a central role in creating a market for sustainably grown and harvested lumber.⁴⁰ Interestingly, part of the impetus for change within Home Depot resulted from NGO concerns and the possibility of public campaigns or other actions highlighting what they perceived as unsustainable forestry practices by the company.⁴¹ For other products that are marketed worldwide, using labels to indicate compliance with legal standards such as the EU's Regulation of Hazardous Substances (RoHS)⁴² and the Waste Electrical and Electronic Equipment (WEEE)⁴³ directives can indicate both compliance with the standard in EU countries and leverage the environmental leadership implications of these standards for

38. See Sustainable Forestry Initiative, "Getting Certified," <http://www.sfiprogram.org/getting-certified/> [<https://perma.cc/72SF-D9KE>].

39. See Forest Stewardship Council, <https://us.fsc.org/en-us/who-we-are/our-history> [<https://perma.cc/DLG3-Y5WJ>].

40. See Jen Krill, *Felling the Lumbering Giants*, 22 MULTINATIONAL MONITOR No. 1 & 2 (2001) <http://multinationalmonitor.org/mm2001/01jan-feb/corp5.html> [<https://perma.cc/XVC7-WSLE>].

41. See *id.*

42. See European Commission, *The RoHS Directive*, http://ec.europa.eu/environment/waste/rohs_eee/index_en.htm [<https://perma.cc/2GUD-DVVM>].

43. See European Commission, *History of the WEEE Recast*, http://ec.europa.eu/environment/waste/weee/legis_en.htm [<https://perma.cc/F76L-53RZ>].

non-EU markets. Microsoft is one of the companies that has adopted the EU standards for its products in all markets.⁴⁴

B. External Codes of Conduct

GSCM approaches can also rely on external codes of conduct developed by industry associations. One of the most prominent external codes of conduct involves the use of conflict minerals.⁴⁵ Concern about conflict minerals became a prominent issue in the latter half of the 2000s ultimately resulting in legislation requiring disclosures related to the use of conflict minerals. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 noted in a sense of Congress provision that the “exploitation and trade of conflict minerals originating in the Democratic Republic of the Congo is helping to finance conflict characterized by extreme levels of violence in the eastern Democratic Republic of the Congo, particularly sexual- and gender-based violence, and contributing to an emergency humanitarian situation therein”⁴⁶ As a result, Congress required the Securities and Exchange Commission to develop rules that require companies to report annually on whether minerals used in their business originated in a conflict area.⁴⁷

Advocacy groups began raising concerns about conflict minerals in the early 2000s⁴⁸ leading to pressure on electronics companies to act. In 2004, the industry formed the “Electronic Industry Citizenship Coalition,” now the “Responsible Business

44. See Microsoft, *Sustainable Materials and Approach*, <https://www.microsoft.com/en-us/environment/product/resources> [<https://perma.cc/U5UM-GUE2>].

45. Conflict minerals include tin, tantalum, tungsten and gold originating from the Democratic Republic of the Congo and nearby countries that are sold to support conflicts. See Achilles, *What are Conflict Minerals?*, <http://www.achilles.com/en/about-achilles/industry-insights/4837-what-are-conflict-minerals> [<https://perma.cc/2DJ2-BTNR>]. Advocacy organizations closely watch the use of conflict minerals and publicize companies that they determine are leaders or laggards in utilizing conflict-free minerals. See, for example, Annie Callaway, *Demand the Supply*, The Enough Project, https://enoughproject.org/wp-content/uploads/2017/11/DemandTheSupply_EnoughProject_2017Rankings_final.pdf, [<https://perma.cc/JC59-V5HS>].

46. Dodd-Frank §1502(a).

47. Dodd-Frank §1502(b).

48. See Amy Lehr, *Old and New Governance Approaches to Conflict Minerals: All are Better Than One*, 52 HARV. INT’L L. J. ONLINE 148, 162 (2010).

Alliance⁴⁹ to address the growing public concern about conflict minerals. Among EICC's founding members were Cisco, Dell, HP, IBM, Intel, Microsoft and Sony.⁵⁰ RBA members "commit [to] and are held accountable to a common Code of Conduct and utilize a range of RBA training and assessment tools to support continuous improvement in the social, environmental and ethical responsibility of their supply chains."⁵¹

The Code of Conduct is a voluntary program for the electronics industry that addresses "all organizations that may design, market, manufacture, or provide goods and services that are used to produce electronic goods."⁵² Those companies that adopt the code are expected to formally declare their support for the code and put in place a management system that helps assure that the requirements of the code are met.⁵³ The Code requires compliance with all applicable national laws and "encourages Participants to go beyond legal compliance, drawing on internationally recognized standards, in order to advance social and environmental responsibility and business ethics."⁵⁴ The Code addresses labor, health, safety, and environmental issues and includes business ethics standards as well as "elements of an acceptable system to manage conformity" with the Code.⁵⁵ Today over 110 companies including most of the large electronics companies in the world are participants in Responsible Business Alliance and have committed to the Code of Conduct.⁵⁶

Commitments related to deforestation are a more recent example of wide adoption of External Codes of Conduct.

49. The Responsible Business Alliance was formed by a group of leading electronics companies "to support[] the rights and wellbeing of workers and communities worldwide affected by the global electronics supply chain." Responsible Business Alliance, <http://www.responsiblebusiness.org/about/> [<https://perma.cc/SM7P-64VS>].

50. See Bob Leet, *Introduction to the Electronic Industry Citizenship Coalition*®, IPC, (Apr. 12, 2011), http://www.ipc.org/3.0_Industry/3.3_Gov_Relations/2011/CSR-Bob-Leet-Carbon-Footprint.pdf [<https://perma.cc/J9KZ-7PAB>].

51. See Responsible Business Alliance, *supra* note 49.

52. Responsible Business Alliance, *Code of Conduct* (2018) <http://www.responsiblebusiness.org/media/docs/RBACodeofConduct6.pdf> [<https://perma.cc/4MXC-63AW>].

53. *Id.*

54. *Id.*

55. *Id.*

56. See Responsible Business Alliance, <http://www.responsiblebusiness.org/about/members/> [<https://perma.cc/H3RK-QXSS>].

According to the World Wildlife Fund, forests still cover about 31 percent of the Earth's surface but forest cover equating to 18.7 million acres is being lost each year.⁵⁷ Agriculture (palm oil, beef and soy) and forest products make up a significant portion of the demand placing pressure on forest resources.⁵⁸

The last five or so years have seen a dramatic increase in corporate and governmental commitments to end deforestation that results from either direct action of an organization or by the actions of suppliers. NGO campaigns focusing on protecting orang-utans and tigers have played a key role in building social pressure to reduce deforestation.⁵⁹ The World Wildlife Fund has championed one of the leading deforestation campaigns by developing the concept of zero net deforestation. At the Ninth Conference of the Parties on Biological Diversity in May 2008, 67 countries pledged support for WWF's zero net deforestation by 2020 proposal.⁶⁰ Over 400 companies have now made no deforestation pledges.⁶¹

The Consumer Goods Forum⁶² uses the WWF zero net deforestation approach as the basis for the commitment by its members to limit destructive forestry practices. The CGF was formed in 2009 as a result of the merger of the International Committee of Food Chains (CIES), the Global Commerce Initiative (GCI) and the Global CEO Forum.⁶³ CGF includes many of the World's largest companies such as Nestle, The

57. World Wildlife Fund, *Deforestation*, [https:// www.worldwildlife.org/ threats/ deforestation](https://www.worldwildlife.org/threats/deforestation) [<https://perma.cc/2NGF-RDDS>].

58. *Id.*

59. See World Wildlife Fund, *Orang-utans*, [http://wwf.panda.org/ what_we_do/ endangered_species/ great_apes/ orangutans/](http://wwf.panda.org/what_we_do/ endangered_species/ great_apes/ orangutans/) [<https://perma.cc/X4NT-VF94>]; GREENPEACE, *Down To Zero 7,8, (2013)*, [http://m.greenpeace.org/ seasia/ id /Global/international/publications/forests/2013/Down-To-Zero.pdf](http://m.greenpeace.org/seasia/id/Global/international/publications/forests/2013/Down-To-Zero.pdf) [<https://perma.cc/BWK2-UWSE>].

60. See World Wildlife Fund, *Zero Net Deforestation by 2020*, <http://wwf.panda.org/?181181/Zero-Net-Deforestation-for-2020> [<https://perma.cc/SW6G-AN8L>].

61. See Tess Riley, *Companies' 'Zero Deforestation' Pledges: Everything You Need to Know*, (Sep. 29, 2017), THE GUARDIAN, <https://www.theguardian.com/sustainable-business/2017/sep/29/companies-zero-deforestation-pledges-agriculture-palm-oil-environment> [<https://perma.cc/7LYA-QFNU>].

62. See Consumer Goods Forum, *Deforestation*, <https://www.theconsumergoodsforum.com/initiatives/environmental-sustainability/key-projects/deforestation/> [<https://perma.cc/86ZU-5BWR>].

63. See Forest 500, *Rankings*, [https:// forest500.org/ rankings/ other-powerbrokers/ consumer-goods-forum](https://forest500.org/rankings/other-powerbrokers/consumer-goods-forum) [<https://perma.cc/XEY3-QAC5>].

Coca-Cola Company, 3M, Henkel, Mitsubishi, and many more. Together the 400 member companies employ 10 million people and have gross revenues of more than \$2.5 trillion.⁶⁴ CGF “brings consumer goods retailers and manufacturers together globally, we are a CEO-led organisation that helps the world’s retailers and consumer goods manufacturers to collaborate, alongside other key stakeholders, to secure consumer trust and drive positive change, including greater efficiency.”⁶⁵ Because of growing concerns about deforestation associated with commodities such as palm oil, soya beans, and cattle, the CGF developed a zero net deforestation goal to be achieved by its members by 2020.⁶⁶ The CGF members “aim to achieve this through the responsible sourcing of these key commodities – soy, palm oil, paper and pulp and cattle – so that the sourcing of these key commodities will not deplete tropical rainforests.”⁶⁷

One of the earliest environmental voluntary codes of conduct is the Ceres Principles created by the non-profit Coalition of Environmentally Responsible Economies (Ceres)⁶⁸ in response to the 1989 Exxon Valdez spill.⁶⁹ More recently international organizations have developed codes of conduct for specific issues such as the United Nations’ Food and Agriculture Organization Code of Conduct for Responsible Fisheries.⁷⁰

Similar external codes of conduct exist for the financial sector. While environmental financing commitments are somewhat different than product supply chains, the decision of what types of activities to support (renewable energy or sustainable transportation) or not support (coal power plants) in the financial services supply chain can have important impacts

64. See Consumer Goods Forum, *Corporate Brochure*, <http://www.theconsumergoodsforum.com/who-we-are/overview/> [https://perma.cc/LS6W-SHXS].

65. Consumer Goods Forum, *WHO WE ARE*, <http://www.theconsumergoodsforum.com/who-we-are/overview/> [https://perma.cc/87NG-FUQP].

66. See *Deforestation*, *supra* note 62.

67. *Id.*

68. See Ceres, *About Us*, <https://www.ceres.org/about-us> [https://perma.cc/7ZGK-RBJR].

69. See Rajib N. Sanyal and Joao S. Neves, *The Valdez Principles: Implications for Corporate Social Responsibility*, 10 J. BUS. ETHICS 883, 884-90 (1991).

70. See Food and Agriculture Organization of the United Nations, *Code of Conduct for Responsible Fisheries*, <http://www.fao.org/docrep/005/v9878e/v9878e00.htm> [https://perma.cc/SU4P-45JN].

on environmental outcomes analogous to decisions in the product supply chain. The 10 “Equator Principles”⁷¹ are a “risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risks of projects.”⁷² The Equator Principles emerged from a discussion about the environmental and social implications of project financing initiated by the International Finance Corporation in 2003 that involved several leading banks.⁷³ Today 92 financial institutions from 37 countries including some of the world’s most influential banking companies such as Barclays, Citigroup, Credit Suisse, the U.S. Export-Import Bank, HSBC, JP Morgan Chase, Lloyds, Sumitomo, and Wells Fargo have agreed to abide by the Equator Principles for projects valued at \$10 million and larger.⁷⁴ The Principles address the following issues:⁷⁵

Principle 1: Review and Categorisation

Principle 2: Environmental and Social Assessment

Principle 3: Applicable Environmental and Social Standards

Principle 4: Environmental and Social Management System and
Equator Principles Action Plan

Principle 5: Stakeholder Engagement

Principle 6: Grievance Mechanism

Principle 7: Independent Review

Principle 8: Covenants

Principle 9: Independent Monitoring and Reporting

71. See EQUATOR PRINCIPLES, <http://www.equator-principles.com/> [https://perma.cc/D9X3-DAHE].

72. See *About – The Equator Principles*, EQUATOR PRINCIPLES, <http://equator-principles.com/about/> [https://perma.cc/4AJX-VM3N].

73. Miki Kamijyo, *The “Equator Principles”: Improved Social Responsibility in the Private Financial Sector*, 4 SUSTAINABLE DEV. L. & POL’Y, 35, 35 (2004).

74. See *EP Association Members & Reporting*, EQUATOR PRINCIPLES, <http://equator-principles.com/members-reporting/> [https://perma.cc/5U3C-S2KM].

75. See *The Equator Principles June 2013*, EQUATOR PRINCIPLES, http://equator-principles.com/wp-content/uploads/2017/03/equator_principles_III.pdf [https://perma.cc/LJ4J-DXML].

Principle 10: Reporting and Transparency

Large U.S. banking companies including Bank of America, Citigroup, JP Morgan Chase, and Wells Fargo are Equator Principle members.⁷⁶

C. Internal Codes of Conduct and Contract Specifications

The most pervasive mechanism for GSCM among the Fortune 50 companies are internal codes of conduct and contract specifications. Several companies including a large number of the Fortune 50 companies require suppliers to meet detailed environmental goals or requirements in order to qualify as a supplier. These goals and requirements sometimes take the form of codes of conduct to which suppliers are contractually required to adhere. For example, contracts may include specific standards that the supplier must meet, as well as training, monitoring, and auditing provisions, and set out consequences if the supplier does not comply. In this regard, the codes of conduct and contracts specifications can look somewhat like government regulations and enforcement provisions.

Unilever has adopted a set of Fundamental Principles for suppliers. Principle 12 mandates that supplier's conduct their business "in a manner which embraces sustainability and reduces environmental impact [of] [o]perations, sourcing, manufacture, distribution of products and the supply of services are conducted with the aim to protect and preserve the environment."⁷⁷

Unilever's benchmarks for Principle 12 include the following:⁷⁸

76. See *EP Association Members & Reporting*, *supra* note 74.

77. UNILEVER, *Responsible Sourcing Policy* 10, (2014) https://www.unilever.com/Images/slp-unilever-responsible-sourcing-policy-2014_tcm244-409819_en.pdf [https://perma.cc/Z8CT-TC9S].

78. UNILEVER, *Responsible Sourcing Policy* 19, (June 2016), https://www.unilever.com/Images/rsp-english-v2_tcm244-483166_en.pdf [https://perma.cc/U23V-LA69].

- All necessary legal permits are held for operations.
- Training is provided to all personnel to ensure knowledge of and compliance with all necessary legal permits.
- Environmental management policies and procedures are in place regarding water, energy, hazardous materials, air quality and emissions, deforestation, waste, and other significant risks.
- Training is provided to all personnel on environmental policies and procedures to ensure effective implementation and compliance.
- Suppliers and where relevant farmers, uphold the guidelines within the Unilever Sustainable Agriculture Code and other applicable and publicly available Unilever industry or sector specific codes of conduct.
- Transparency is ensured on environmental performance.
- Sustainability practices are embedded across the supplier's operations and activities which aim to (i) reduce the generation of waste and achieve zero landfill; (ii) reduce greenhouse gas emissions and achieve carbon neutral solutions; (iii) reduce the consumption of water; (iv) protect and enhance nature and biodiversity; and (v) halt deforestation.
- A systematic review of the supplier's sustainability practices and environmental management systems is undertaken regularly with support from experienced conservationists and with the involvement of local communities to determine whether appropriate policies and procedures are in place and are functioning to achieve the aims outlined [in the previous bullet].

Target has one of the most detailed sets of supplier environmental responsibilities. The company requires “all vendors, suppliers, manufacturers, contractors, subcontractors

and their agents⁷⁹ to abide by the following environmental sustainability standards:⁸⁰

Environmental Management and Monitoring Systems

Suppliers must have environmental monitoring systems which accurately measure and track operational and production impacts to air, water and any other environmental system which may be deemed necessary.

Water Stewardship

Suppliers must identify, characterize and inventory all wastewater streams on an ongoing basis. In addition, suppliers must install and maintain appropriately sized wastewater treatment systems to ensure pollutants are at or below legally required levels. We will not tolerate suppliers with undersized, bypassed, or inoperable wastewater treatment systems.

Waste Reduction & Disposal

Suppliers must handle, store, transport, and dispose of hazardous waste legally. We will not tolerate suppliers that engage in illegal waste dumping. We seek suppliers who demonstrate they actively work to reduce waste throughout the production process.

Energy Management

79. *Standards of Vendor Engagement*, TARGET, [https:// corporate.target.com/corporate-responsibility/ responsible-sourcing/ social-compliance/ standards-of-vendor-engagement](https://corporate.target.com/corporate-responsibility/responsible-sourcing/social-compliance/standards-of-vendor-engagement) [<https://perma.cc/U485-VGKJ>]

80. *Id.*

With respect to both production facilities and processes, suppliers must identify all applicable energy sources and energy consumption. Suppliers must also periodically set clear goals to improve energy efficiency and document progress made toward achieving those goals.

Emissions to Air

With respect to both production facilities and processes, suppliers must monitor and document all air emissions in accordance with the applicable regulatory requirements. In addition, suppliers must install and maintain appropriate air emissions control devices to ensure air emissions' pollutants are at or below legally required levels.

Licenses and Permitting

Suppliers must acquire and maintain all legally required environmental permits and business operating licenses necessary for the production of their products and operation of their facilities. We will not tolerate suppliers operating without valid current permits.

Some internal codes of conduct are less directive than those discussed above. Microsoft requires all suppliers to “[c]omply with all applicable environmental laws and regulations regarding hazardous materials, air emissions, waste, and wastewater discharges, including the manufacture, transportation, storage, disposal, and release to the environment of such materials.”⁸¹ However, it only asks suppliers to “[e]ndeavor to reduce or eliminate waste of all types, including water and energy, by implementing appropriate conservation measures in their facilities, through their maintenance and production processes, and by recycling, re-using, or substituting materials.”⁸²

81. MICROSOFT, *Supplier Code of Conduct* 4, <https://www.microsoft.com/en-us/procurement/supplier-conduct.aspx#tab=1> [<https://perma.cc/24UP-PDEK>].

82. *Id.*

Although not the same as other GSCM programs, Citigroup provides an interesting example of how a major financing company is setting green finance goals and measuring the outcomes of those goals. Citigroup has established a \$100 billion environmental financing goal focusing on renewable energy, energy efficiency, green buildings, water quality and conservation, sustainable transportation, and clean technology.⁸³ Citigroup also regularly reports on progress towards meeting this goal indicating that more than \$53 billion has been invested as of 2017.⁸⁴ The company also estimates the environmental impact of these investments, including their impact on greenhouse gas emissions.⁸⁵ Citigroup relies on FSC certification for its supplier goals for paper products.

IV. BEST PRACTICES IN GSCM

The rapid growth of GSCM has raised questions about what constitutes best practices in supply chain management. The Global Environmental Management Initiative,⁸⁶ an industry-based sustainability organization, recently created a set of “Responsible Supply Chain Guiding Principles” designed to “outline foundational elements that business leaders across industries believe to be essential when engaging suppliers on sustainability.”⁸⁷ GEMI hopes the Guidelines will “provide a framework to help companies and industry stakeholder groups to: guide the process for engaging suppliers regarding sustainability; advance strategic collaborations; and, promote

83. See CITIGROUP, *Sustainable Growth at Citi*, 6, <http://www.citigroup.com/citi/sustainability/data/Sustainable-Growth-at-Citi.pdf?ieNocache=209> [<https://perma.cc/QZ33-UKE9>].

84. *Id.* at 9.

85. *Id.* at 12-13.

86. GEMI describes itself as “an organization of leading companies dedicated to fostering global environmental, health and safety (EHS) and sustainability excellence through the sharing of tools and information to help business achieve environmental sustainability excellence. Through the collaborative efforts of its members, GEMI also promotes a worldwide business ethic for EHS management and sustainable development through example and leadership.” See *About Us*, GEMI, <http://gemi.org/about-us/> [<https://perma.cc/H9GT-HHBN>].

87. *Responsible Supply Chain Guiding Principles*, GEMI, <http://gemi.org/gemi-responsible-supply-chain-guiding-principles/> [<https://perma.cc/N7BB-28V7>].

increased alignment across industry-focused supply chain sustainability initiatives.”⁸⁸ The Guidelines include:⁸⁹

Accountability – The buyer/supplier relationship is a partnership and should be built on shared responsibility and commitment to exemplary/good practices.

Collaboration – Engagement with suppliers should focus on actionable outcomes, and be viewed as an opportunity to drive innovation and continuously improve the sustainability performance of both buyers and suppliers.

Commitment to Shared Value – It is important to clearly define the strategic purpose for engaging suppliers, while being mindful of culture and maturity, and seeking opportunities for mutual value creation throughout the process.

Inform Decision-Making – Information gathered through buyer/supplier engagements should inform business decision-making, and be utilized to reduce risk, differentiate, innovate and add value for all involved stakeholders.

Relevance – Customers and suppliers should identify those aspects of sustainability performance most relevant to both the buyer’s internal goals and objectives, and those most applicable to the supplier given its sector, size and location.

Scalability – For solutions to be scalable across global supply chains, it is important that they be aligned with existing systems/standards, and provide a usable framework that promotes sustainable outcomes. Opportunities to reduce duplication and increase shared value through mutual recognition of assessments and/or audits should be considered whenever possible.

Transparency – Buyer/Supplier relationships should be built on trust and require clear communication and education on sustainability expectations, including expectations around traceability of data, while maintaining confidential and proprietary business information.

88. *Id.*

89. *Id.*

Another source of practices related to supply chain management can be found in the California Transparency in Supply Chains Act of 2010⁹⁰ that was designed to help eradicate slavery and human trafficking by providing consumers with information about steps companies are taking to deal with the issue. Pursuant to the Act, a company must disclose if it:⁹¹

1. Engages in verification of product supply chains to evaluate and address risks of human trafficking and slavery. The disclosure shall specify if the verification was not conducted by a third party.
2. Conducts audits of suppliers to evaluate supplier compliance with company standards for trafficking and slavery in supply chains. The disclosure shall specify if the verification was not an independent, unannounced audit.
3. Requires direct suppliers to certify that materials incorporated into the product comply with the laws regarding slavery and human trafficking of the country or countries in which they are doing business.
4. Maintains internal accountability standards and procedures for employees or contractors failing to meet company standards regarding slavery and trafficking.
5. Provides company employees and management, who have direct responsibility for supply chain management, training on human trafficking and slavery, particularly with respect to mitigating risks within the supply chains of products.

With the GEMI factors and the California law as a backdrop, an examination of the Fortune 50 information on GSCM allows a picture of what could be considered GSCM best practices to emerge. While not every practice will be equally applicable to all companies engaging in GSCM or to all GSCM activities, these practices could provide a template in designing and executing GSCM practices that are more likely to receive broad public support, may provide the best means of protecting

90. Cal. Civ. Code § 1714.43 (West 2018).

91. Cal. Civ. Code § 1714.43 (c) (West 2018).

a company's reputation and achieving its supply chain goals, may aid in achieving significant sustainable outcomes, and could serve as the basis for greater governmental recognition of and support for GSCM programs. These best practices include (1) engagement of senior company management, (2) public reporting and transparency, (3) adoption of clear goals or expectation of suppliers, (4) assisting suppliers through capacity building, (5) effective and detailed auditing processes, and (6) processes that encourage reporting of violations.

A. Senior Management Engagement

Senior level management engagement can help ensure that GSCM efforts are routinely taken into account in company decision-making and that GSCM policies are effectively implemented. Senior management and the company boards are involved in sustainability and supply chain decisions among several of the Fortune 50 companies. GE's governance page defines the scope of sustainability overview:

GE's Board of Directors (Board) oversees the execution of GE's sustainability strategy through oversight of GE's business strategy and risk management. The Board and its committees conduct numerous reviews with our executive teams regarding sustainability aspects of our operations such as risk, employee health and safety, operations, executive talent, compliance and business strategies.⁹²

The Nomination, Governance and Public Affairs Committee of Citigroup's Board of Directors oversees the company's sustainability program, which includes its supplier responsibility program.⁹³ The company also has established an Environmental and Social Policy Review Committee composed of senior bankers and managers from across the company's businesses.⁹⁴ At Walmart, the Board's Compensation, Nominating and Governance Committee is responsible for

92. See *How GE Works*, GENERAL ELECTRIC, <http://www.gesustainability.com/how-ge-works/governance/> [https://perma.cc/JKM3-68AP]

93. See Citigroup, *Environmental and Social Policy Framework* 10, (Feb. 2018), <http://www.citigroup.com/citi/sustainability/data/Environmental-and-Social-Policy-Framework.pdf?ieNocache=742> [https://perma.cc/4DEZ-8LMT]

94. *Id.*

overseeing the companies sustainability initiatives.⁹⁵ Boeing's environmental strategy is created by the company's Environment, Health and Safety Policy Council, made up of Boeing's Executive Council and led by the Chairman, President and Chief Executive Officer.⁹⁶

B. Transparency

Transparency is an important aspect of building a credible GSCM program. A robust website that discloses supply chain goals, sets out the company's supply chain code of conduct or standards (whether using certification programs, external codes, or internal codes or standards), includes data on progress in meeting goals, and discloses the company's compliance process plays a central role in assuring transparency. Members of the public, suppliers, employees and others should be able to readily understand the company's GSCM program in detail.

The amount and quality of sustainability-related information disclosed on company websites varies greatly across the Fortune 50, as does the disclosed measurement tools and reporting mechanisms used by the companies. Some companies provide little information on their goals and little to no information related to progress they are making in meeting their GSCM objectives on their websites. Others provide quite detailed information that allows viewers to get a good sense both of the dimensions of and progress in meeting the company's GSCM objectives. A number of the Fortune 50 companies rely on the Global Reporting Initiative (GRI) as the basis for their reporting.⁹⁷ The GRI provides a widely recognized set of reporting standards to make sustainability reporting more understandable to external audiences.⁹⁸

95. See WALMART, *2016 Global Responsibility Report*, 134 (2016), https://corporate.walmart.com/2016grr/promoting-good-governance_ [<https://perma.cc/UHK7-UEYN>].

96. See BOEING, *Build Something Cleaner: 2017 Environmental Report 5*, (2017) http://www.boeing.com/resources/boeingdotcom/principles/environment/pdf/2017_environment_report.pdf [<https://perma.cc/7LF7-P5S3>].

97. See *About GRI*, GLOBAL REPORTING INITIATIVE, <https://www.globalreporting.org/information/about-gri/Pages/default.aspx> [<https://perma.cc/V33Z-ULSD>].

98. *Id.*

Walmart is an example of a company that provides significant data on goals and outcomes on its website. The website includes a sustainability dashboard that sets out accomplishments in achieving the company's goals. For example, the dashboard indicates that 76 million acres of agricultural land owned by the company's suppliers are now committed to Walmart's fertilizer optimization program.⁹⁹ Walmart also sets its climate goals using a new Science-Based Target Initiative¹⁰⁰ developed by the Carbon Disclosure Project, the UN Global Compact, The World Resources Institute, and the World Wildlife Fund.¹⁰¹ According to SBTi "[t]argets adopted by companies to reduce greenhouse gas (GHG) emissions are considered 'science-based' if they are in line with the level of decarbonization required to keep global temperature increase below 2 degrees Celsius compared to pre-industrial temperatures, as described in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR5)."¹⁰² GE also provides extensive and comparative data demonstrating its sustainability progress on its website.¹⁰³

C. Clear Goals and Expectations

GSCM programs vary widely in how they word their expectations of suppliers. Some companies simply "encourage" their suppliers to follow what may be a long list of sustainability and environmental practices. Safeway-Albertsons is one example of this approach.¹⁰⁴ The company's *Supplier Sustainability Guidelines and Expectations* includes 24 pages of

99. WALMART, *2017 Global Responsibility Report 3*, (2017), <https://corporate.walmart.com/2017grr/performance-highlights> [<https://perma.cc/JZV3-ZJD4>].

100. See *Companies Taking Action*, SCIENCE BASED TARGETS, <http://sciencebasedtargets.org/companies-taking-action/> [<https://perma.cc/22QH-VYHS>].

101. See *About the Science Based Targets*, SCIENCE BASED TARGETS, <http://sciencebasedtargets.org/about-the-science-based-targets-initiative/> [<https://perma.cc/HTA6-EFZ5>]; WALMART, *supra* note 99, at 55.

102. *What is a Science Based Target?*, SCIENCE BASED TARGETS, <http://sciencebasedtargets.org/what-is-a-science-based-target/>, [<https://perma.cc/WB9R-QKNM>].

103. *GRI Index*, GENERAL ELECTRIC, <http://www.gesustainability.com/performance-data/gri-index/> [<https://perma.cc/FVW9-L67J>].

104. See SAFEWAY-ALBERTSONS, *Supplier Sustainability Guidelines and Expectations* 4-11, (Aug. 2015), https://suppliers.safeway.com/docs/supplier_sustainability_expectations.pdf [<https://perma.cc/46A6-QAFC>].

procurement issues.¹⁰⁵The company “expects” but does not specifically mandate that suppliers for its own, labeled products meet the Safeway-Albertsons sustainability standards.¹⁰⁶

Target is more specific in its requirements of suppliers. Most of the company’s expectations are stated in terms of what suppliers “must” do.¹⁰⁷ For example, one of Target’s environmental standards reads “[s]uppliers must have environmental monitoring systems which accurately measure and track operational and production impacts to air, water and any other environmental system which may be deemed necessary.”¹⁰⁸ Perhaps the strongest statement about expectations of suppliers comes from Apple. The company’s sustainability progress report for 2017 notes “[o]ur Supplier Code of Conduct outlines our standards for creating safer working conditions, treating workers fairly, and using environmentally responsible practices in our supply chain. We demand that all suppliers doing business with Apple affirmatively agree to adhere to our Code of Conduct and supporting standards.”¹⁰⁹

Target identifies several environmental goals on their website. These include:

- Sourcing 100 percent sustainable cotton by 2022¹¹⁰
- Formulating products without formaldehyde, phthalates and several other chemicals¹¹¹

105. *Id.* at 10-34.

106. *Id.* at 4.

107. *Standards of Vendor Engagement*, TARGET, [https:// corporate.target.com/corporate-responsibility/ responsible-sourcing/ social-compliance/ standards-of-vendor-engagement](https://corporate.target.com/corporate-responsibility/responsible-sourcing/social-compliance/standards-of-vendor-engagement) [<https://perma.cc/C9FM-2FY5>].

108. *Id.*

109. APPLE, *Apple Supplier Responsibility 2017 Progress Report 3*, (2017), [https:// images.apple.com/ supplier-responsibility/ pdf/ Apple- Progress- Report- 2017.pdf](https://images.apple.com/supplier-responsibility/pdf/Apple-Progress-Report-2017.pdf) [<https://perma.cc/DG8F-S2YP>].

110. *See This Team Traveled the Globe to Kick off Target’s New Sustainable Cotton Sourcing Goal*, TARGET, (Oct. 4, 2017), [https:// corporate.target.com/ article/ 2017/ 10/ sustainable- cotton- goal](https://corporate.target.com/article/2017/10/sustainable-cotton-goal) [<https://perma.cc/FS7H-8ELA>].

111. *See Target Announces New Chemical Strategy Including Policy and Goals for its Products and Operations*, TARGET, (Jan. 25, 2017), [https://corporate.target.com/ article/ 2017/ 01/ chemical- policy- and- goals](https://corporate.target.com/article/2017/01/chemical-policy-and-goals) [<https://perma.cc/X6NZ-HXZF>].

- Sourcing forest products from FSC certified forests¹¹²
- Setting goals for scope three greenhouse gas emissions based on Science-Based Targets¹¹³
- All palm oil used in Target products will be fully traceable and sustainable by 2018.¹¹⁴

Target also utilizes a detailed scoring index in its procurement process which awards points to products based on sustainability attributes.¹¹⁵

Intel sets and tracks goals for achieving 100 percent sustainable packaging, creating green transportation capacity among its suppliers and related to the use of conflict-free minerals.¹¹⁶ Archer Daniels Midland (ADM) sets and tracks goals related to deforestation based on their 2015 commitment to no deforestation. The company provides a detailed progress report on these commitments.¹¹⁷

D. Capacity Building

112. See *Target's Responsible Sourcing Policy for Forest Products*, TARGET, https://corporate.target.com/_media/TargetCorp/csr/pdf/Target-Forest-Products-Policy.pdf, [<https://perma.cc/G49C-3WUY>].

113. See *Target Commits to New Climate Policy, Science-Based Target-Aligned Sustainability Goals*, SUSTAINABLE BRANDS (Oct. 18, 2017), http://www.sustainablebrands.com/news_and_views/organizational_change/sustainable_brands/target_introduces_new_climate_policy_science [<https://perma.cc/6AUG-A9RQ>].

114. See *Responsible Sourcing*, TARGET, <https://corporate.target.com/corporate-responsibility/responsible-sourcing> [<https://perma.cc/V7ZR-ERYA>].

115. See generally *Target Sustainable Product Index*, TARGET, https://corporate.target.com/_media/TargetCorp/csr/pdf/Target-Sustainable-Product-Index_1.pdf [<https://perma.cc/5GVU-DDL3>].

116. See INTEL, *2016 CORPORATE RESPONSIBILITY REPORT* 29, 55, (2016), https://csreportbuilder.intel.com/PDFfiles/CSR-2016_Full_Report.pdf [<https://perma.cc/TC8R-XUMQ>].

117. See generally ADM, *ADM Commitment to No Deforestation: Policy Implementation*, (2017), <https://s3-us-west-2.amazonaws.com/adms3/Sustainability/H1-2017-Progress-Report.pdf> [<https://perma.cc/6A2C-XMZ5>].

Helping suppliers meet GSCM requirements is important in assuring implementation of these programs. Capacity building in GSCM programs is analogous to compliance assistance for regulatory programs that has been utilized for decades by regulatory agencies to support implementation of environmental regulations. Several of the Fortune 50 companies have well-developed supplier assistance programs. Apple, for example, notes,

Our discussions with these supplier partners begin with a new supplier onboarding process, where we visit their facilities in person to review our Code of Conduct, share best practices across our supplier base, and give them a head start on developing successful management systems. We help these new suppliers understand common missteps and we provide them with proven solutions. We also teach them to perform their own risk assessments, and develop corrective action plans, which we then verify along with our third-party auditors. In 2016, suppliers who took part in our new supplier onboarding process increased scores by 39 percent on average, compared to their initial self-assessment scores. When we uncover Code of Conduct violations at our supplier facilities, we work with them to correct the violations and we teach our partners how to proactively prevent future issues. Following supplier assessments, we conduct onsite meetings to review gap analysis of low-score areas, identify the root cause of all issues, and develop with our supplier partners a customized corrective action plan. During this process, we draw upon a bank of over 100 technical toolkits assembled from our extensive experience in building supplier capability. Over a period of three to six months following an assessment, Apple technical experts conduct detailed reviews with suppliers to help them meet their targets. We then schedule a final visit to determine if the improvements were sufficient for the supplier to return to the regular engagement cycle, or if we should extend the partnership to support the supplier's efforts to improve performance.¹¹⁸

118. See *Apple Supplier Responsibility 2017 Progress Report*, *supra* note 109, at 4.

Assessment of compliance with Apple's supply chain requirements following capacity building efforts showed significant progress in meeting standards.¹¹⁹

E. Compliance Auditing

Just as in the case of environmental regulation, deploying mechanisms to assure that compliance GSCM standards is essential to both the credibility of the standards and achieving substantive outcomes. For GSCM, auditing is the principle mechanism used to assure compliance. These auditing programs vary widely. Some companies simply require suppliers to hire auditors to verify compliance at the suppliers' expense. Other companies hire third party auditors to verify compliance with the GSCM standards, some of which are certifying organizations such as the Responsible Minerals Alliance while others are independent auditing organizations including the Big Four accounting firms.¹²⁰ Still others conduct some or most of their own audits or select some third-party audits for additional verification. Some of these auditing programs are described in more detail below.

[At GE] [s]uppliers are prioritized for detailed, on-site assessments depending upon the country in which they are located, their past performance and whether they are producing parts or components that will be incorporated into GE products. Almost all our on-site assessments are conducted in developing countries as part of our overall supplier-management strategy.

GE's on-site supplier assessments cover environmental, health, safety, labor, human rights and security issues. For these assessments, we utilize a global questionnaire. The

119. *Id.* at 5. "In 2016, Apple trained more than 2.4 million workers on their rights as employees. Since 2008, over 2 million people have participated in Apple's Supplier Employee Education and Development (SEED) program." See *Raising the Bar: Apple's 11th Annual Supplier Responsibility Progress Report Released*, APPLE, (Mar. 27, 2017) <https://www.apple.com/newsroom/2017/03/raising-the-bar-apples-11th-annual-supplier-responsibility-progress-report-released/> [<https://perma.cc/B47V-P3UZ>].

120. See Leon Walker, *Big Four Audit Firms Lead Sustainability Assurance Services*, ENVIRONMENTAL LEADER (Jun. 22, 2011) <https://www.environmentalleader.com/2011/06/big-four-audit-firms-lead-sustainability-assurance-services/> [<https://perma.cc/YSM2-E2CY>].

assessments take place prior to placing initial orders with new suppliers, and periodically thereafter, on a one- to three-year time frame, depending on our experience with the supplier.¹²¹

In 2016, GE assessed about 2,660 new or existing suppliers resulting in more than 20,870 findings.¹²² These assessments are conducted primarily by GE personnel.¹²³ The findings are tracked through a proprietary software system.¹²⁴ Typically, findings must be closed within 60 days.¹²⁵ Failure to close the findings within 60 days can result in suspension of a contract.¹²⁶ The process has resulted in some contract terminations. “Since 2005, more than 26,500 supplier assessments spanning 100 countries have addressed more than 209,770 findings”¹²⁷

Target’s website describes one of the more elaborate auditing programs among Fortune 50 companies.¹²⁸ The audit process is described below.

- Vendors or factories that produce target-brand products must participate in Target’s “social compliance program” and all applicable facilities must comply with the social compliance program.¹²⁹ Vendors must authorize unannounced auditing visits at all registered facilities.¹³⁰
- Auditing priorities are based on social compliance risk by country.¹³¹ The monthly audit plan also

121. *Supply Chain: Monitoring & Evaluation*, GE, [http:// www.gesustainability.com/building- things- that- matter/ supply-chain/ monitoring- evaluation/](http://www.gesustainability.com/building-things-that-matter/supply-chain/monitoring-evaluation/) [<https://perma.cc/JX5A-KE3L>].

122. *Id.*

123. *Id.*

124. *Id.*

125. *Id.*

126. *See Supply Chain: Monitoring & Evaluation*, *supra* note 121.

127. *Id.*

128. *See Social Compliance Audit Process*, TARGET, [https:// corporate.target.com/corporate-responsibility/ resonsible- sourcing/ social- compliance/ audit-process](https://corporate.target.com/corporate-responsibility/responsible-sourcing/social-compliance/audit-process) [<https://perma.cc/NF54-RNQB>].

129. *Id.*

130. *Id.*

131. *Id.*

includes compliance history and the date of previous audits in setting priorities.¹³²

- All audits are 100 percent unannounced using Target's audit forms and tools, and are performed in most cases, by Target's own auditors.¹³³
- In countries where Target uses third-party auditors the company trains these auditors to use the Target audit forms and processes.¹³⁴ In some countries Target relies on audits conducted by Better Works.¹³⁵
- Audits must begin within 20 minutes of the time the auditor arrives at a facility or the auditor will leave and Target will consider the situation as a denied audit.¹³⁶
- The responsible sourcing team reviews all audits and rates any violations as non-critical, critical or severe.¹³⁷ Audit results are classified as acceptable, needs improvement, at-risk, or non-compliant.¹³⁸
- Non-compliant facilities are either classified as one-year non-compliant or zero tolerance. One-year non-compliant facilities are provided three opportunities to achieve an acceptable rating.¹³⁹ If a facility fails three consecutive times it may be subject purchase order cancellation or termination.¹⁴⁰
- Non-compliance applies to severe violations of Target's standards and may result in immediate

132. *Id.*

133. *See Social Compliance Audit Process, supra* note 128.

134. *Id.*

135. BetterWork is a partnership between the United Nations International Labour Organization and the International Finance Corporation designed to improve working conditions in the garment industry. *See* ABOUT US, BETTERWORK, <https://betterwork.org/about-us/the-programme/> [<https://perma.cc/TJY9-RKGP>], (last visited Apr. 9, 2018); TARGET, *2012 Corporate Responsibility Report* 44, (2012), https://corporate.target.com/_media/TargetCorp/csr/pdf/2012-corporate-responsibility-report.pdf [<https://perma.cc/YKS8-36JE>].

136. *Id.* at 44.

137. *See Social Compliance Audit Process, supra* note 128.

138. *Id.*

139. *See 2012 Corporate Responsibility Report, supra* note 135, at 45.

140. *See Social Compliance Audit Process, supra* note 128

termination.¹⁴¹ Most serious violations are related to labor standards.¹⁴²

- Target communicates the results of the audits to vendors and requires a corrective action plan be prepared for all needs improvement or at-risk audit findings.¹⁴³

Apple uses third-party auditors but has also developed an elaborate auditing process.¹⁴⁴

- Apple has developed an audit form with more than 500 data points based on its supplier Code of Conduct.¹⁴⁵
- Third-party auditors interview managers and line operators, review documents, and perform onsite inspections.¹⁴⁶
- Apple expects its suppliers to demonstrate year-over-year improvement which, if not demonstrated, can risk loss of business.¹⁴⁷

The company now places suppliers on immediate probation for any core violation such as egregious safety issues.¹⁴⁸ This policy resulted in reduced business for 13 suppliers and termination of three other suppliers.¹⁴⁹

Not surprisingly, Walmart also uses a detailed audit system to oversee its sustainability standards.

- Any facility producing Walmart products may be audited at any time.¹⁵⁰
- The company uses a risk-based approach to target audits that have a higher risk of noncompliance or that

141. *Id.*

142. *Id.*

143. *Id.*

144. *See Apple Supplier Responsibility 2017 Progress Report, supra* note 109, at 4.

145. *Id.*

146. *Id.*

147. *Id.*

148. *See Apple Supplier Responsibility 2017 Progress Report, supra* note 109, at 4.

149. *Id.*

150. *See Responsible Sourcing, WALMART*, <https://corporate.walmart.com/responsible-sourcing> [<https://perma.cc/ERD5-6V79>].

may pose a higher risk to Walmart.¹⁵¹ Countries are placed in one of three risk categories reflecting World Bank good governance indicators: low risk for which Walmart will use spot check auditing; medium risk in which facilities will be required to complete an audit and perhaps follow up audits based on the chosen third-party audit program; and high risk countries which follow the medium risk audit approach and also require a prequalification audit.¹⁵²

Walmart relies on third-party auditors retained by their suppliers and recognizes a wide range of third-party audit programs¹⁵³ that suppliers can employ including:

- Best Aquaculture Practices¹⁵⁴
- Business Social Compliance Initiative¹⁵⁵
- BetterWork¹⁵⁶
- Electronics Industry Citizenship Coalition (now Responsible Minerals Alliance)¹⁵⁷
- International Council of Toy industries¹⁵⁸
- Sedex members Ethical Trade Audit¹⁵⁹
- Social Accountability International¹⁶⁰
- Worldwide Responsible Accredited Production.¹⁶¹

The number of audit programs recognized by Walmart indicates the growth in the supply chain audit industry as a result for growing need to verify supply chain operations.

151. *Id.*

152. *Id.*

153. *Id.*

154. *Id.*

155. *See Responsible Sourcing, supra* note 150.

156. *Id.*

157. *Id.*

158. *Id.*

159. *Id.*

160. *See Responsible Sourcing, supra* note 150.

161. *Id.*

Walmart uses a color-coded system to classify audit results based on the auditor's evaluation:¹⁶²

- Green ratings indicates a high level of compliance¹⁶³
- Yellow indicates general compliance¹⁶⁴
- Orange indicates more serious violations, although Walmart allows these sources to remediate violations unless there are three consecutive orange ratings¹⁶⁵
- Red identifies violations for which temporary or permanent termination is appropriate or situations where a third-party certification has been revoked.¹⁶⁶

Each of these audit programs provide for suspension or dismissal of a supplier that does not meet the organization's GSCM requirements.¹⁶⁷ An interesting example of the consequences of failing to meet GSCM standards is the decision by Cargill to terminate a palm oil supplier for failing to meet the company's standards related to deforestation.¹⁶⁸

F. Reporting Non-Compliance

An important aspect of any enforcement program is reporting of violations and protecting employees who report violations from retaliation. Some companies have included non-compliance reporting (whistleblowing) provisions in their GSCM programs. For example, PepsiCo provides a "Speak Up"

162. See WALMART, *Audit and Assessment Policy & Guidance* 13 (June 2017) <https://cdn.corporate.walmart.com/37/04/cf02ae6743188d9c27a9b9409/audit-and-assessment-policy-guidance-final.pdf> [<https://perma.cc/Z6PJ-VGB3>].

163. *Id.* at 15.

164. *Id.*

165. *Id.* at 14.

166. *Id.*

167. WALMART, *supra* note 162, at 9.

168. See generally Mike Hughlett, *Cargill Takes Rare Step of Cutting Business with Guatemalan Palm Oil Supplier*, STAR TR., (Dec. 31, 2017, 7:52 PM), <http://startribune.com/cargill-takes-rare-step-of-cutting-business-with-guatemalan-palm-oil-supplier/467456473> [<https://perma.cc/WYX2-ZHKM>].

hotline number and weblines for its associates, as well as its consumers, business partners and others to facilitate reporting “potential violations of the PepsiCo Global Code of Conduct, our policies or applicable law.”¹⁶⁹ The company notes that “[a]ll employees have an obligation to report suspected Code of Conduct violations, and to ask questions, raise issues and seek guidance when a course of action is unclear.”¹⁷⁰ PepsiCo publishes the number of Speak Up reports on an annual basis.

Unilever’s responsible sourcing policy provides that “[a]ny failure to comply with this [responsible sourcing] Policy (including any failure by an employee of Unilever or anyone acting on behalf of Unilever to so comply), of which the supplier is aware, should be immediately reported to Unilever. The failure to do so will be a breach of this Responsible Sourcing Policy. We strongly support a culture of speaking up for both suppliers and their workers without any fear of retaliation against those who report actual or suspected breaches.”¹⁷¹

Target provides a confidential email reporting system for anyone who encounters what they believe to be “a potential violation of local laws or regulations, Target’s Standards of Vendor Engagement, or unethical behavior. . . .”¹⁷² Further “[r]etaliati[on] of any kind . . . ‘violates Target’s principles and will not be tolerated.’”¹⁷³

V. PROMOTING EXPANDED USE OF EFFECTIVE GREEN SUPPLY CHAIN REGULATION AND ENFORCEMENT

This article has noted how evolving internal economic drivers, globalization of the economy, and outsourcing of manufacturing and the changing nature of societal values have stimulated a wide variety of green supply chain mechanisms. While the specific impact of private supply chain requirements

169. See *Speak Up Hotline*, PEPSICO, <http://www.pepsico.com/About/SpeakUp> [<https://perma.cc/2ZPD-4WJQ>].

170. *Id.*

171. See UNILEVER, RESPONSIBLE SOURCING POLICY 25, (2014), https://www.unilever.com/Images/slp-unilever-responsible-sourcing-policy-2014_tcm244-409819_en.pdf [<https://perma.cc/5V9J-DVLR>].

172. *Standards of Vendor Engagement*, TARGET, <https://corporate.target.com/corporate-responsibility/responsible-sourcing/social-compliance/standards-of-vendor-engagement> (*emphasis in original*) [<https://perma.cc/B95M-G666>].

173. *Id.*

is not as predictable as the results of well-enforced government regulation, they nevertheless have the potential for producing environmental outcomes that are essential to sustainability. One course of action would be to leave to the market place the continued evolution of green supply chain requirements and, in fact, much of this development likely will remain in the private sector with varying degrees of public transparency. However, there may be a role that governments could play in promoting green supply chain management. The following discussion explores ways government could help expand the adoption of GSCM programs and promote effective GSCM auditing and compliance programs.

Michael Vandenberg has noted that “[a] policymaker not only has traditional regulatory and economic tools at her disposal, she also can seek to stimulate private environmental contracting in supply-chain, credit, corporate asset, insurance, and other markets.”¹⁷⁴ This facilitative role may include collection and dissemination of information regarding private standards or creating settings conducive to business collaboration.¹⁷⁵ Additionally, government could promote green supply chain management by supporting research that would provide better information about how well various supply chain models function in producing better environmental results, and on the effectiveness of different supply chain compliance and enforcement mechanisms.

Coordinating government green supply chain contracting with private green supply chain activities could also magnify the efforts of some private supply chains by adding the purchasing power of the federal government. The U.S. government has focused on environmentally preferred purchasing since 1993 with the promulgation of Executive Order 12873 that addressed federal acquisition, recycling and waste prevention.¹⁷⁶ In 2002, the Organization for Economic Cooperation and Development (OECD) Environment Ministers approved its OECD Council Recommendation on Improving the Environmental Performance

174. Michael P. Vandenberg, *The New Wal-Mart Effect: The Role of Private Contracting in Global Governance*, 54 UCLA L. Rev. 913, 968 (2007).

175. *Id.*

176. See generally Exec. Order No. 12873, 58 Fed. Reg. 54911 (October 22, 1993).

of Public Procurement.¹⁷⁷ The Bush Administration continued support for environmentally preferred purchasing through Executive Order 13423 entitled “Strengthening Federal Environmental, Energy, and Transportation Management.”¹⁷⁸ The emphasis on green procurement accelerated under President Obama who issued Executive Order 13514 focusing on “Federal Leadership in Environmental, Energy, and Economic Performance in 2009.”¹⁷⁹ The green procurement movement in the United States is reflected in green procurement efforts in other parts of the World such as work of the Nordic Council of Ministers.¹⁸⁰

Coordinating public and private green procurement could advance GSCM efforts. The Sustainable Purchasing Leadership Council is one avenue for this coordination. The Council is a non-profit organization formed in 2013 whose mission is to support and recognize purchasing leadership that accelerates the transition to a prosperous and sustainable future.¹⁸¹ The Council includes two federal agencies (GSA and the Department of Energy), several state agencies, a number of universities, and several private businesses.¹⁸² Government compliance and enforcement programs could also better support and leverage supply chain management.¹⁸⁴ Enforcement programs have, for some time, encouraged company voluntary

177. See *Recommendation of the Council on Improving the Environmental Performance of Public Procurement*, ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, (Jan. 23, 2002) <https://legalinstruments.oecd.org/Instruments/ShowInstrumentView.aspx?InstrumentID=46&Lang=en&Book=False> [<https://perma.cc/WY8X-RXHQ>].

178. Exec. Order 13423, 3 C.F.R. § 13423 (Jan. 24, 2007).

179. Exec. Order 13514, 3 C.F.R. § 13514 (Oct. 8, 2009).

180. See generally Mattias Ståhl et al., *Green Procurement Makes a Difference! Prime Examples from the Nordic Countries* (2009), <http://norden.diva-portal.org/smash/get/diva2:700882/FULLTEXT01.pdf> (discussing examples of green procurement in Nordic countries) [<https://perma.cc/XWK8-8HQH>].

181. See *Overview*, SUSTAINABLE PURCHASING LEADERSHIP COUNS., <https://www.sustainablepurchasing.org/about/> [<https://perma.cc/3CCN-GRKN>].

182. *Member Organizations*, SUSTAINABLE PURCHASING LEADERSHIP COUNS., <https://www.sustainablepurchasing.org/members/> [<https://perma.cc/K5FG-HMN6>].

184. The Green Suppliers Network, a collaborative effort between the U.S. Environmental Protection Agency and the U.S. Department of Commerce, also provides a forum for Environmentally driven suppliers to work closely with regulators. See *About E3's Green Suppliers Network*, ENVTL. PROTECTION AGENCY, <https://www.epa.gov/e3/about-e3s-green-suppliers-network> [<https://perma.cc/U6E3-ZJJ6>].

efforts that are designed to prevent pollution such as EPA's WasteWise program,¹⁸⁵ deploy better environmental management systems such as ISO 14001, and promote environmental auditing¹⁸⁶, all of which can have an impact on internal economics and on values. But enforcement officials typically have not assessed the extent to which their programs can and should strategically take into account internal economics and societal values in general, and supply chain regulation and enforcement specifically as part of the larger effort of environmental agencies to achieve sustainable outcomes.¹⁸⁷ Just as they have done with other pollution prevention and compliance assistance efforts, compliance and enforcement officials should find ways to encourage GSCM by developing and disseminating information on the most successful approaches to supply change management. Enforcement officials could also encourage GSCM practices through settlement agreements similar to the approach enforcement officials have taken in cases where part of an enforcement settlement includes a requirement to develop an effective environmental management system.

As discussed earlier, for many companies, reputation is one of the most important drivers of environmental behavior. Government agencies may be able to leverage this fact in the context of green supply chain management by recognizing companies that demonstrate leadership in GSCM. Governments have for some time experimented with ways to recognize superior environmental performance through voluntary programs, leadership initiatives, and rating systems. In the United States, this effort began in earnest in the early 1990s with a voluntary toxics reduction program known as "33/50," which challenged companies to reduce the use of 33 of the most toxic

185. See *About Wastewise*, ENVTL. PROTECTION AGENCY, <https://www.epa.gov/smm/wastewise> [<https://perma.cc/Y7DD-FP48>].

186. *EPA's Audit Policy*, ENVTL. PROTECTION AGENCY, <https://www.epa.gov/compliance/epas-audit-policy> [<https://perma.cc/234T-XWDY>].

187. See LeRoy C. Paddock, *Green Governance: Building the Competencies Necessary for Effective Environmental Management*, 38 ENVTL. L. REP. 10609, 10628 (2008) (discussing Intel's participation in the EPA programming that accommodated short product cycles).

chemicals by 50 percent within a period of a few years.¹⁸⁸ EPA began its most ambitious effort to recognize and support superior performance near the end of the 1990s with the “Performance Track Program.”¹⁸⁹ The EPA designed Performance Track to recognize facilities (and later companies) that exceeded environmental requirements in a variety of areas. Participants were expected to use an environmental management system to assess their environmental impacts, set ‘stretch goals’ to reduce several of the impacts, and report regularly on the results they achieved.¹⁹⁰ Performance Track companies were expected to have a good compliance record.¹⁹¹ This EPA recognition helped enhance the reputation of participant companies.

Although the Obama Administration terminated Performance Track, the idea of recognizing superior performance, such as through supply chain management, remains important. The Rand Corporation study of the Performance Track program and other voluntary environmental programs concluded the voluntary programs “can complement regulatory approaches to accelerate environmental improvement.”¹⁹² The report also concluded that members of the program displayed “increased consideration of environmental issues in formal decisionmaking [processes].”¹⁹³ Thus, recognizing leadership in GSCM could be an important way of encouraging companies to adopt GSCM programs or enhance existing GSCM regulatory and enforcement programs.

One example of government recognition of a supply chain management program is China’s Star of Green Supply Chain award. In 2017, GE was recognized with the “Star of Green

188. *33/50 Program: The Final Record*, ENVTL. PROTECTION AGENCY (Mar. 1999), <https://archive.epa.gov/oppt/3350/web/pdf/3350-fnl.pdf> [<https://perma.cc/8RQN-2LT6>].

189. See Scott Hassel et al., *An Assessment of the U.S. Environmental Protection Agency’s National Environmental Performance Track Program iii*, (2010), https://www.rand.org/content/dam/rand/pubs/technical_reports/2010/RAND_TR732.pdf [<https://perma.cc/MDV6-GS59>].

190. *Id.* at 1.

191. *Id.* at 18.

192. *Id.* at 89.

193. *Id.* at 69.

Supply Chain” award.¹⁹⁴ The award was created “jointly by China’s Ministry of Environmental Protection (MEP) and the ASEAN Environmental Cooperation Center, Shanghai Environmental Protection Bureau, Shanghai Commission of Commerce, Shanghai Environmental Science & Technology Institute, Shanghai Foreign Investment Association, and U.S. Environmental Protection Agency.”¹⁹⁵ GE touts the award on its website.¹⁹⁶

VI. CONCLUSION

GSCM is now a widely adopted practice among Fortune 50 and many other companies. GSCM is driven by important economic considerations for companies and by public values. The practice holds promise as an important way to achieve societal sustainability goals. However, GSCM practices vary widely with some practices being far more detailed than others and therefore more likely to drive change in environmental results throughout the supply chain. These detailed programs allow a picture of best practices in supply chain management to begin to emerge. These practices include senior management leadership, transparency, the adoption of clear goals, the use of detailed standards or codes of conduct, robust auditing systems that can result in suspension or termination of non-compliant suppliers, and support for reporting problems identified at a supplier’s facility. Because of the importance of well-designed GSCM management programs to achieving sustainability outcomes that cannot or may not otherwise be produced through the regulatory system, supporting companies that have adopted good GSCM programs and encouraging broader adoption of good GSCM programs is important. State governments and the Federal government can take steps to recognize companies with strong GSCM programs either through procurement processes or through public recognition of these programs (such as the China Star of Green Supply Chain award). They can also support the expansion of good GSCM through providing information about

194. *See Supply Chain: Supplier Resource Efficiency*, G.E. SUSTAINABILITY, <http://www.gesustainability.com/building-things-that-matter/supply-chain/supplier-resource-efficiency/> [https://perma.cc/6ZDX-VPAX].

195. *Id.*

196. *Id.*

the value of GSCM programs or by recognizing GSCM programs as a factor taken into account in enforcement actions.