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KNOW THY PRODUCT: THE GLOBAL EXPANSION OF PRODUCT STEWARDSHIP LAWS' IMPACT ON ENVIRONMENTAL LAW

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Introduction

The term “globalization” has only become commonplace over the last few decades, as a consequence of the rapid expansion of outsourcing and the economic advantage of producing products in less developed nations.[1] These major changes were driven to a large extent by an increase in the cost of production resulting from increases in regulation and wages in developed economies.[2] The consequence of this phenomenon has been the displacement of the traditional Western manufacturing base to countries with a lower cost of labor and per unit production.[3] This trend has also resulted in traditional environmental regulation, focused on the manufacturing process, to be found wanting by many major economies — prompting the establishment of new regulatory regimes focused on product stewardship.[4] These regulations shift the burden of compliance onto the supply chain and the importer of finished goods.[5] Consequently, companies seeking to import products into regulated markets must maintain complex databases evidencing compliance with the environmental laws that impact the products that will enter such markets.[6]

I. Product Stewardship: It Began at Production's End

The origin of the new environmental movement can be traced to the concept of product stewardship[7] and the initial packaging regulations that began in the European Union (EU).[8] As with most environmental laws, this regulation was reactionary, and resulted from a growing concern about the capacity of European countries to handle the quantity of imported waste packaging materials.[9] The EU took action by drafting and deploying packaging directives,[10] followed by the regulation of battery waste,[11] and the regulation of waste electrical and electronic equipment.[12] Each of these regulatory schemes adopted a similar approach of promoting the recyclability of the prescriptive waste class and charging a mandatory fee for each unit of waste that was “placed on the market.”[13] The remainder of this paper refers to this form of fee-paying environmental legislation as Extended Producer Responsibility (“EPR”) laws.

This approach fundamentally changed the relationship of environmental regulation by establishing a legally mandated recycling fee for manufacturers, distributors, and importers of record, resulting from the action of placing a product on the market.[14] The next subsections discuss (A) the EU restrictions on the use of hazardous substances in electrical and electronic equipment; and (B) the

effect of the Registration, Evaluation, Authorisation and Restriction of Chemicals (“REACH”) regulation on supply chain data exchange processes.

A. EU’s Restriction of the Use of Certain Hazardous Substances and the Origin of Substance Control Directives

The EPR regulations proved that environmental legislation dedicated to product stewardship could impact upstream producer’s behavior, as recycling and waste reduction rapidly expanded through the EU.[15] As a result, the EU stretched the concept of product stewardship to also include the restriction of the use of certain hazardous substances in electrical and electronic equipment (“RoHS”).[16] The key difference between the EU RoHS law and predecessor EPR legislation was the focus on eliminating the use of substances in a defined product group.[17] The burden of demonstrating compliance also expanded deeper into the supply chain to the business functions of product lifecycle management, engineering, and design.[18]

The EU RoHS regulation quickly became a hot topic in environmental law as RoHS model legislation perpetuated around the globe.[19] To standardize the challenge of exchanging highly detailed substance level compliance data, industry bodies established legally binding material content data exchange standards.[20] These data exchange standards were designed by engineers and regulatory experts to provide two essential functions:

1. Provide a mechanism to transfer compliance data throughout the supply chain.[21]
2. Offer a legally binding mechanism to certify compliance with a law.[22]

B. EU REACH Disrupts the Supply Chain Data Exchange Process

The EU’s passage of the Registration, Evaluation, Authorisation and Restriction of Chemicals regulation[23] fundamentally changed the data exchange processes. REACH differs from its predecessors: It is broader in scope and updated approximately every six months by the regulatory body charged with categorizing all substances in existence, the European Chemicals Agency (“ECHA”), with special attention dedicated to “substances of very high concern” (“SVHCs”).[24] The rapid evolution and constant change inherent in the REACH regulation’s design fundamentally shifted data exchange standards to allow them to keep up with the exponential increase in available health, safety, and environmental data.[25] **Under these constructs, it is no longer a sustainable practice to seek adherence to a specific compliance regulation because, for example, before a complete survey cycle could be finalized, the law itself and the substances being regulated were often different.**[26]

II. The Unmitigated Risks of Modern Environmental Product Compliance

Compliance with EPR and substance control regulations place an expanded burden on the global supply chains to collect, share, and produce traceable, transparent product compliance data.[27] **Compliance necessitates comprehensive master data management strategies that support legally binding product**

declarations.[28] However, in practice, many organizations are short-circuiting the requirements of supply chain and material traceability concerning the raw materials and substances that are used to create components.[29] As a result, some individuals within sales, marketing, engineering, or compliance are often delegated the task of balancing the respective risk of lost business against that of legal prosecution.[30] Unfortunately, these agents frequently lack the training or resources to further evaluate the heightened risk of disclosing confidential business information, managing disputes over data rights, or evaluating the risk of anticompetitive or collusive antitrust liability.[31]

This reality is further complicated by the absence of traceability or control over where and when a finished good will eventually be “placed on the market,” or the absence of insights into how customers or the general public will rely on publicized legally binding compliance statements.[32] Product stewardship regulations necessitate proactive business-to-business disclosure or require time-sensitive windows to respond to information requests.[33] Thus, the process of outsourcing production, design, and manufacturing carries the added risk of not knowing and not having the requisite design details available.[34] Essentially, outsourcing these critical business functions results in the same dilemma that is present wherever control is divorced from ownership.[35] The supplier is granted control over the activity; however, the outsourcing firm owns the result.[36] In spite of these risks, companies often fail to understand, put in the necessary controls to ensure legal compliance, and effectively allocate the necessary resources to mitigate the risks of product withdrawal.[37] As would be expected, the number of product withdrawals due to product stewardship violations has steadily increased.[38]

The following table provides a snapshot of the product withdrawal trend by leveraging REACH product withdrawal data from EU RAPEX site.[39]

Year	# of Product Withdrawals/Recalls	% Change from Prior Year
2015	119 (As of March 31, 2015)	
2014	383	158%
2013	242	128%
2012	224	108%
2011	116	193%

Such data shows that product withdrawals that stem from product stewardship violations is steadily increasing.

III. Managing the Risk of Product Recall and Withdrawal

The default regulatory penalty for product stewardship regulation is a product recall, or the withdrawal of products from the market.[40] Practically, withdrawal is a complete loss of revenue for the withdrawn product.[41] However, the expense to implement and comply with the regulations can make managerial sign-off on investment to ensure legal compliance difficult to obtain.[42] The majority of the anticipated costs arise from the modernization of supply chain tracking systems to meet reporting obligations, while concurrently protecting intellectual property.[43] “Existing supply chain technologies are good at tracking where things are, but they’re not good about tracking the genealogy and traceability of those items.”[44] Yet, monitoring the origination, destination, and movement of materials is precisely the obligation of product stewardship, and the ability to shirk compliance costs continues to dwindle as enforcement increases.[45] To succeed under this framework, a commitment to part- and substance-level monitoring and reporting is required, else one must expect legal implications.[46]

The benefits of a robust compliance system extend beyond legal compliance, as a well-structured system often results in competitive advantage and unprecedented access to regulated states.[47] This economic justification creates a direct impact on downstream users and purveyors of regulated goods who, in turn, increase pressure on suppliers to rapidly implement compliance programs or suffer the consequence of lost customer revenue.[48] Therefore, compliance has emerged as a competitive advantage for manufacturers and importers seeking to ensure products can be used for their intended purposes.[49] If a downstream user intends to use a chemical outside of its registered uses, then that user must develop and register its own approved protocol in accordance with the regulation, which is costly and has the counterproductive effect of disclosing innovative new uses of a constituent article.[50]

The converging economic forces of increased product recall costs, supply chain management expenses, and competitive market access benefits of product stewardship are reshaping the meanings of product stewardship and environmental compliance.[51] The solution to product stewardship compliance establishes an interesting but all too familiar conundrum for affected companies. In practice, the options are binary, either build an internal compliance team or outsource the compliance function to a professional firm specializing in regulatory compliance.[52] With the former, the current phenomenon of re-shoring and bringing manufacturing and design back under the jurisdiction of the parent corporation seemingly gains further traction.[53] However, the expense and time commitment of building a knowledgeable product stewardship team capable of managing many of the most multi-dimensional and complex regulations in existence warrants consideration of an outsourced compliance model.[54]

Conclusion: A Global Call to Action

No one can seriously deny that the scope and complexity of environmental problems facing the world today call for extraordinary regulatory flexibility beyond that contemplated under the environmental movement from the late 1990s.[55] Internationally, product regulation policies are gaining momentum, as governments seek to obtain the benefits of product stewardship, while progressing and improving upon the policies originally set forth by Europe.[56] The European product stewardship initiative has generated significantly broader implications as competing governments attempt to stay relevant in the international environmental dialogue, within which the EU has emerged as the most progressive and innovative voice in recent years.[57] As a result, non-action is not a viable option.[58]

To effectively administer product compliance programs, corporations must integrate the traditional silos of engineering, compliance, manufacturing, supply chain management, and sales.[59] Corporations must also evaluate whether outsourced relationships have stripped it of the knowledge required to demonstrate compliance.[60] Should such circumstances prove to be self-evident, the only viable compliance decision is to rebuild that lost knowledge base by deploying structured data collection and management strategies.[61] With product-based regulations, time is of the essence, as the deadlines for mandatory compliance continue to expire and new regulations emerge.[62] Corporations must embrace the change; there are both strong ethical and business justifications for promoting the regulations.[63] Moreover, in retrospect, few people would now consider environmental laws like the Clean Water Act[64] or Clean Air Act[65] to have been valueless endeavors. The same will be true of product stewardship laws, as the safety and efficacy of the products consumers use transitions from a novel burdensome concept to an expectation.



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[1] See Stanford Encyclopedia of Philosophy, *Globalization*, <http://plato.stanford.edu/entries/globalization/#3> (last visited Apr. 15, 2015).

[2] See Fred Hoerger et al., *The Cumulative Impact of Health, Environmental, and Safety Concerns on the Chemical Industry During the Seventies*, 46 *Duke L. & Contemp. Probs. L. Rev.* 60, 62-63, 93 (1983).

[3] See Dion Wiggins and Diane Morello, Gartner, *Outsourcing Backlash: Globalization in the Knowledge Economy*, <http://www.gartner.com/id=405776> (last visited Apr. 15, 2015).

[4] Nicole C. Kibert, *Extended Producer Responsibility: A Tool for Achieving Sustainable Development*, *J. Land Use*, vol. 19, issue 2, at 503, 510-11 (Spring 2004).

[5] See *id.* 511-17.

[6] Eur. Comm'n, *Green Paper on Integrated Product Policy* (Feb. 7, 2001).

[7] See *Product Stewardship*, U.S. Env'tl. Prot.

Agency, <http://www.epa.gov/epawaste/consERVE/tools/stewardship/index.htm> (last visited Apr. 15, 2015).

[8] Council Directive 94/62/EC, 1994, O.J. (L 365), 10 (EC).

- [9] See Inger Brisson, *Recycling Policies in Europe: Effective Responses to the Looming Waste Crisis?*, 4 *Env'tl. Pol'y & Gov.*, 3, 13-17 (1994).
- [10] Council Directive 85/339/EC, 1985.
- [11] Council Directive, 2013/56/EU, 2013, O.J. (L 329), 5-9 (EU).
- [12] Council Directive, 2012/19/EU, 2012, O.J. (L 197), 38-1 (EU). See also *Waste Electrical & Electronic Equipment (WEEE)*, Eur. Cmm'n (Mar. 26, 2015), available at http://ec.europa.eu/environment/waste/weee/index_en.htm.
- [13] See Eur. Cmm'n, RoHS 2 FAQ, 19-20 (Dec. 12, 2012), http://ec.europa.eu/environment/waste/rohs_eee/pdf/faq.pdf.
- [14] Noah Sachs, *Planning the Funeral at the Birth: Extended Producer Responsibility in the European Union and the United States*, 30 *Harv. Env'tl. L. Rev.* 51 (2006).
- [15] See Kibert, *supra* note 4, at 511.
- [16] Council Directive 2011/65/EU, 2011 O.J. (L 174) 88 (EU), available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:174:0088:0110:EN:PDF>.
- [17] Eur. Cmm'n, Memo/08/763, Questions and Answers on the Revised Directive on Restrictions of Certain Dangerous Substances in Electrical and Electronic Equipment (RoHS) (Dec. 3, 2008), available at http://europa.eu/rapid/press-release_MEMO-08-763_en.pdf (the scope of the EU RoHS regulation covers electrical and electronic equipment).
- [18] Sachs, *supra* note 14, at 82.
- [19] See, e.g., Farnell element14, RoHS / Legislation, available at <http://uk.farnell.com/help-rohs-legislation> (last visited Apr. 15, 2015).
- [20] See, e.g., *Data Exchange Standards*, IPC Ass'n Connecting Elecs. Indus., available at <http://www.ipc.org/ContentPage.aspx?pageid=Materials-Declaration> (last visited Apr. 15, 2015) (listing the IPC 1752A standard).
- [21] See, e.g., Walter Jager, *The Power of IEC 62474 for Product Compliance and Eco-design*, *Incompliance*, vol. 5, no. 4, at 38 (Apr. 2014), available at <http://www.incompliancemag.com/DigEd/icm1404/offline/download.pdf> (last visited Apr. 15, 2015).
- [22] *Id.*
- [23] Council Directive 2006/121/EC, 2006 O.J. (L 136) 281 (EC).
- [24] See *Candidate List of substances of very high concern for Authorisation*, Eur. Chems. Agency, available at <http://echa.europa.eu/candidate-list-table>, (last updated Dec. 17, 2014).
- [25] Marcos A. Orellana, *Europe's Reach: A New Chapter in International Chemicals Law*, 6 *Sust. Dev. L. & Pol.* 21, 21-28, 65 (2006).
- [26] Lawrence A. Kogan, *REACH Revisited: A Framework for Evaluating whether a Non-Tariff Measure has Matured into an Actionable Non-Tariff Barrier to Trade*, 28:2 *Am. U. Int'l L. Rev.* 489, 507 (2012).**
- [27] See Joanne Scott, *Environmental Protection, European Law and Governance* 84-90 (2009).
- [28] Kogan, *supra* note 26, at 515-17.**
- [29] Courtney Bjorlin, *Challenges Around REACH Compliance will Transform Supply Chains*, TechTarget (June 12, 2009), <http://searchmanufacturingerp.techtarget.com/news/1359117/Challenges-around-REACH-compliance-will-transform-supply-chains> (last visited Apr. 15, 2015) ("Because the regulations require extensive documentation, the overarching challenge for manufacturers will be

enabling better product traceability through the supply chain. . . . ‘You have to go through tangled webs of product information, manual systems,’ . . . ‘The data’s everywhere, and harnessing it is a real problem.’ . . . But companies will have to be able to track back the origins and content of all of the products. Supply chain visibility demands a look at the entire product supply network and understanding more than one step back and one step forward.”).

[30] *Id.*

[31] See Jean-Philippe Montfont, Mayer Brown, *REACH Consortia Without Breaching Competition Law*, (Feb. 2009), available at <http://www.mayerbrown.com/publications/article.asp?id=6221&nid=6> (last visited Apr. 15, 2015).

[32] See, e.g., *RoHS/REACH/WEEE Compliance Statement*, Honeywell Int’l (May 15, 2014), available at <https://www.honeywellaidc.com/Permanent/hsm-environmental-statement.pdf> (last visited Apr. 15, 2015).

[33] See, Corrigendum to Reg. 1907/2006, 2006 O.J. (L 136) 3, art. 5 (EC).

[34] George S. Geis, *Business Outsourcing and the Agency Cost Problem*, 82 Notre Dame L. Rev. 955, 973 (2013).

[35] *Id.* at 962.

[36] *Id.*

[37] See Nancy DeMarco, *REACH: A Non-Tariff Trade Barrier?*, 17 Lube Rep. 8, (2008).

[38] See generally RAPEX [Rapid Alert System for Non-Food Dangerous Products], Eur. Cmm’n, available at <http://ec.europa.eu/consumers/safety/rapex/alerts/main/index.cfm?event=main.search> (last reviewed April 1, 2015).

[39] *Id.*

[40] See Eur Cmm’n, *Product Safety in Europe: A Guide to corrective action including recalls* (June 2004), available at http://ec.europa.eu/consumers/archive/cons_safe/action_guide_en.pdf (last visited Apr. 15, 2015).

[41] *Id.*

[42] Joshua Klarfeld, *Implications of the New REACH Law*, Law360 (Nov. 10, 2008 12:00 AM), <http://www.law360.com/articles/76252/implications-of-the-new-reach-laws> (last visited Apr. 15, 2015).

[43] See DeMarco, *supra* note 37, at 5 (“‘REACH compliance is complex and expensive,’ Kraska concluded. ‘Will the value of your export business to the EU be worth the costs?’ Even if not, all industry players must at a minimum be REACH literate; at the very least, customers will require information from their lubricant suppliers for their own REACH compliance.”).

[44] Bjorlin, *supra* note 29. The Commission of the European Union published an extended impact assessment, which assessed the proposed regulation’s benefits for health as well as the costs for industry and the future Chemicals Agency. The total costs were estimated between € 2.8 and 5.2 billion over eleven and fifteen years, respectively. Eur. Cmm’n, *Extended Impact Assessment*, Commission Staff Working Paper, at 19 (Oct. 29, 2003), available at http://ec.europa.eu/environment/chemicals/reach/pdf/background/eia_se_2003_1171.pdf (last visited Apr. 23, 2015).

[45] Sarah Turner, *Protection of Trade Secrets Under REACH: Implications of the Information Sharing Requirements for Non-EU Companies Importing Substances into the EU*, available

[atwww.ipo.org/AM/Template.cfm?Section=Home&Template=/CM/](http://www.ipo.org/AM/Template.cfm?Section=Home&Template=/CM/). (last visited Apr. 15, 2015).

[46] See Case C-558/07, *The Queen v. Sec’y of State for the Env’t, Food and Rural Affairs*, 2009 E.C.R., at para. 74, (providing the Court of Justice of the European Union the opportunity to set precedent and provide guidance on the “no data, no market principal” as harmonized with the principle of equal treatment or non-discrimination that “requires that comparable situations must not be treated differently and that different situations must not be treated in the same way unless such treatment is objectively justified.”) (citing Case C-344/04, *IATA and ELFAA*, 2006 E.C.R. I-403, at para. 95).

[47] See *Check Conformity*, Eur. Cmm’n, http://ec.europa.eu/growth/single-market/ce-marking/manufacturers/conformity/index_en.htm (last updated Apr. 8, 2015).

[48] See Lucas Berkamp, *The European Union REACH Regulation for Chemicals: Law and Practice* 251-54 (2013).

[49] Lucia Ann Silecchia, *Ounces of Prevention and Pounds of Cure: Developing Sound Policies for Environmental Compliance Programs*, 7 *Fordham Envtl. L. Rev.* 583 (2011).

[50] See Paul Smith & Louise Howarth, *EU REACH Chemicals Law: Challenges for American General Counsel*, *Metro. Corp. Counsel*, 8 (Apr. 1, 2007).

[51] See Nathaniel O. Keohane, *Evaluating Instruments of Environmental Policy: A Comment on Professor Richards*, 10 *Duke Envtl. L. & Pol’y F.* 389, 389-414 (2000).

[52] Justin Holcombe, *Solutions for Regulating Offshore Outsourcing in the Service Sector: Using the Law, Market, International Mechanisms, and Collective Organization as Building Blocks*, 7 *J. Bus. L.* 539 (2013).

[53] See Bill Conerly, *Reshoring Or Offshoring: U.S. Manufacturing Forecast 2015-2016*, *Forbes* (Sept. 2, 2014 10:45 AM), available at <http://www.forbes.com/sites/billconerly/2014/09/02/reshoring-or-offshoring-u-s-manufacturing-forecast-2015-2016> (last visited Apr. 15, 2015).

[54] See Holcombe, *supra* note 52, 544-47.

[55] Michael R. Harris, *Environmental Deliberative Democracy and the Search for Administrative Legitimacy: A Legal, Positivism Approach*, 44 *U. Mich. J. L. Reform* 343, 343-82 (2011).

[56] See Brad Macdonald, *Bending the World to Its Rules, Europe’s Growing Ability to Dictate Global Regulations and Business Practices is Worth Watching*, *Trumpet* (Apr. 2008) (discussing Microsoft’s € 899 million settlement with antitrust regulators).

[57] Richard Macrory, *Reflections on 30 Years of EU Environmental Law: A High Level of Protection?* (2006).

[58] Paul E. Hagen, *Product-based Environmental Regulations: Europe Sets the Pace*, 6 *Sustainable Dev. L. & Pol’y* 63 (2006).

[59] Alan Hecht, *The Next Level of Environmental Protection: Business Strategies and Government Policies Converging on Sustainability*, 11 *Sustainable Dev. L. & Pol’y* 19 (2007).

[60] See Geis, *supra* note 34, at 977.

[61] See Joseph Fiksel, *Sustainability and Resilience: Toward a Systems Approach*, 2 *Sustainability: Sci., Practice, & Pol’y* 14 (2006).

[62] Jennifer Kutz, *You’ve Got Waste: The Exponentially Escalating Problem of Hazardous e-Waste*, 17 *Vill. Envtl. L.J.* 307 (2006). See also *Global Product Stewardship: EHS Policy and Regulation impacting Products from Nanomaterials to Aircraft*, *Global Product Stewardship Report*, vol. 2011-2 (2011), available

at http://c.ymcdn.com/sites/www.productstewardship.us/resource/resmgr/imported/Global_Product_Stewardship_Report_Feb_2011.pdf.

[63] *Id.*

[64] *See* Clean Air Act, 42 U.S.C. §§ 7401 *et seq* (2013).

[65] *See* Clean Water Act, amending 33 U.S.C. §§ 1251 *et seq* (2013).