


BOOK REVIEW

***Global Plastic Pollution and Its Regulation: History, Trends, Perspectives*, by Gerry Nagtzaam, Geert Van Calster, Steve Kourabas and Elena Karataeva**

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Global Plastic Pollution and its Regulation: History, Trends, Perspectives delves into the intricate and rapidly evolving challenge of regulating global plastics pollution. The book employs an interdisciplinary approach, investigating the regulatory mechanisms to address both primary (direct release) and secondary (indirect) forms of this transboundary pollutant. Nagtzaam, Van Calster, Kourabas and Karataeva provide a meticulously researched and comprehensive overview of four key jurisdictions – the United States (US), the People’s Republic of China, Australia, and the European Union (EU) – as well as key international legally binding mechanisms, including the forthcoming plastics treaty.¹ Moreover, their interdisciplinary overview includes technological and economic aspects, regulatory histories, and the roles of various stakeholders across the plastics lifecycle. In so doing, the book provides readers with a deep understanding of the institutional and sociological challenges in building effective regulation for plastics while highlighting the imperative for transnational solutions in addressing this global issue.

The book is composed of three parts, each addressing specific aspects of the global plastics pollution issue. The first part (Chapter 1) lays the groundwork for the volume by defining the problems, scope, and waste management alternatives for regulating plastics pollution. It emphasizes the inherently transnational nature of the plastics problem, setting the stage for a nuanced exploration of circular regulatory solutions across the entire plastics lifecycle that transcend national boundaries. The second part (Chapters 2–5) delves into detailed studies of national and regional regulatory approaches in the US, China, Australia, and the EU. These case studies highlight the unique regulatory contexts of each jurisdiction as well as enabling identification of common barriers to successful regulation across jurisdictions; these include the influence of the plastics sector, fragmented regulation, and forthcoming regulatory trajectories, thereby allowing for a transnational perspective within the analysis.

¹ Current progress of the Intergovernmental Negotiating Committee on Plastic Pollution is available at: <https://www.unep.org/inc-plastic-pollution>.

The third part (Chapters 6–8) critically discusses global approaches to address plastic pollution by detailing the existing fragmented approaches to pollution (Chapter 6), ongoing efforts to develop a global plastics treaty (Chapter 7), and the elements necessary for developing a successful treaty (Chapter 8).

Part I critically examines the transboundary impacts of plastics production, consumption, waste management, and pollution, emphasizing how small tweaks to the existing plastics economy will only be a drop in the ocean. Merely cleaning up marine plastics pollution, prohibiting disposable plastics, or promoting biodegradable plastics will not be enough to change the economic model that leads to ever more plastics pollution. The authors highlight links between the plastics and global fossil fuel industries, advocating a holistic approach and systemic change to the linear ‘take-make-throw’ economic model (pp. 14–5). Assessment of the scope of the transnational problem goes beyond marine pollution, encompassing terrestrial and atmospheric types of plastic pollution and framing pollution as a health issue (pp. 15–25). In addition, the book discusses concepts of a circular economy for plastics and the transformation of the plastics economy, highlighting the multi-dimensional elements in moving beyond commonly proposed regulatory solutions and developing effective transnational mitigation strategies. This includes issues of social justice, and human and environmental health (pp. 26–33).

Part II presents a detailed picture of contemporary regulation for plastics in the four case study jurisdictions. Each chapter provides detailed and recent quantitative data on the significant impacts of each jurisdiction as key producers, users, and generators of plastics and plastics pollution on the global stage. However, the value of these chapters lies primarily in their assessment of the different regulatory approaches to plastics in each jurisdiction, and forthcoming trajectories with regard to circularity. This allows the reader to reflect on the challenges and opportunities associated with building successful plastics regulation in these national and regional regimes: multi-level fragmentation, fragmentation across the plastics lifecycle, and the political dominance of the plastics (petrochemical) sector. This offers insights into the need for transnational cooperation to enhance the effectiveness of regulatory measures.

The multi-level regulatory fragmentation in the plastics field has resulted in piecemeal approaches and unsuccessful implementation at lower legislative levels, magnified by lacking transnational regulatory approaches. For the US and Australia (Chapters 2 and 4) multi-level fragmentation is caused by the absence of uniform regulatory agendas for plastics circularity at the federal level (US, pp. 41–2) and the state and territories level (Australia, pp. 117, 124). Meanwhile, in China and the EU (Chapters 3 and 5), higher-level agendas are described as ‘lagging behind’ and ‘lacking in ambition’ in terms of circularity, leading to diverse implementation and piecemeal approaches at lower legislative levels (China, p. 80; EU, p. 150). This is heightened by ‘opaque’ approaches and poor enforcement in China (pp. 79, 93, 98–100) and the ‘problematic’ diversity in EU Member State implementation (pp. 149–50).

Part II also identifies regulatory fragmentation across the plastics lifecycle as a barrier to holistic change in the global plastics economy. Systemic change across plastics

lifecycles is necessary to realize plastics circularity and regulate transnationally.² However, regulatory approaches in the studied jurisdictions have only recently started to address the production and consumption of plastics, and largely remain focused on end-of-pipe waste management; this is especially true for China (pp. 109–10). Moreover, even the lifecycle effects of more narrowly targeted end-of-life regulations are often overlooked, such as China's waste bans, which led to a shortage of plastics and increased the production of virgin plastic (p. 108). Meanwhile, regulatory prohibitions of certain single-use plastic products (such as straws, cutlery, and the like) led to the production of a plethora of alternative materials doing little to change disposable consumption practices (pp. 98–9). Though less common, the book does highlight some promising attempts to construct more holistic approaches. For example, South Australia's Waste Avoidance Act regulates oxo-degradable products by banning this type of plastic as well as prohibiting false information on its presence in products (p. 125).³ Other examples include 'localized programmes and industry-led efforts' in Australia to help businesses in going plastics-free and wean off disposable plastic products (p. 127), consumption reduction targets in the EU (p. 157), legislation in France to enhance the repair economy, and a proposal for extended producer responsibility requirements to target levels above recycling, such as reduction and reuse, enhancing circularity (p. 174). These examples provide important insights for developing effective transnational regulatory approaches that also span the lifecycle of plastics.

The final commonality concerns the political strength of the global plastics sector, as evidenced by continued government investment into petrochemicals and industry lobbying, which hinder the development of ambitious, uniform, and successful plastics regulation. The authors paint a worrying picture of a projected increase in investment into petrochemicals in years to come, particularly in the US and China (pp. 15, 76–7, 82). To counter this, the authors suggest eliminating or reducing fossil fuel subsidies, or increasing taxes on virgin plastics production (p. 77). In addition, industry lobbying has played a significant role in shaping plastics regulation (p. 14). For example, the banning of certain plastic products in US states has led to a lobbying war around 'preemption laws', which would prevent the adoption of laws that prohibit such products (pp. 55–6, 67–9).

Part III underlines that the 'ramshackle' regional or national approaches to plastics regulation are mirrored by international law. The international regime regarding plastics pollution is made up of several internationally legally binding agreements, each addressing certain aspects of international trade in plastics and marine pollution. Chapter 6 explains each agreement, paying particular attention to issues with and suggestions for improvements to the recent updates to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal⁴ to

² T.D. Nielsen et al., 'Politics and the Plastic Crisis: A Review Throughout the Plastic Life Cycle' (2020) 9(1) *WIREs Energy and Environment*, article e360.

³ Single Use and Other Plastic Products (Waste Avoidance) Act [2020].

⁴ Basel (Switzerland), 22 Mar. 1989, in force 5 May 1992, available at: <http://www.basel.int>.

extend its application to non-hazardous forms of plastics.⁵ Such issues include unclear language that hinders the effective implementation of prior consent procedures and a lack of ‘upstream’ solutions to reduce pollution (pp. 206–12). Building on this assessment, Chapter 7 provides detailed insights into the ongoing negotiations for a global plastics treaty. Chapter 8 provides welcome suggestions for specific components of a successful global treaty to address this transboundary pollutant. Key issues include the appropriate definition of plastic and plastic waste, whether binding or voluntary regulatory mechanisms should be adopted, the importance of strategic and ambitious circular goals, funds to assist in the transition to circularity in different jurisdictions, a penalty regime for ensuring effective implementation and compliance, and the importance of flexible regulatory approaches that are based on a sound knowledge base and advice from the right social actors.

While case studies in this book bring important and transferrable insights regarding the regulation of plastics pollution, the jurisdictions represent predominantly ‘Western’ and higher-income countries. To adequately inform the transnational plastics governance, future research is needed to map the contribution of middle- to lower-income countries, which in some situations have become the dominant actors, for example, with respect to the direct release of pollution into the marine environment. As a result of the 2018 Chinese import ban (pp. 104–8),⁶ countries such as Vietnam, Malaysia, and Thailand now contribute more to the direct release of marine plastic pollution than the case study jurisdictions,⁷ as a result primarily of their poor waste management infrastructure.⁸ While the book’s insights remain useful for regulators in lower- to middle-income contexts, detailed studies of up-and-coming players on the global stage would be a welcome addition in order to paint a complete picture, advancing the global regulation of plastics pollution.

The book also misses the opportunity to reflect on more systemic regulatory issues that hinder development of a circular economy for plastics. As mentioned, the book identifies regulatory fragmentation, strong industry lobbying, and predicted expansion of the petrochemical sector as causes for the piecemeal regulatory approaches and barriers to effective plastics regulation. The book’s conclusions highlight promising private regulation targeting plastics circularity in the form of the Ellen MacArthur Foundation’s Global Commitment (pp. 316–8), and discuss the need for a ‘smart’ and diverse mix of regulatory instruments, ranging from command-and-control regulation and economic instruments to eco-design and information strategies (pp. 321–34). However, without addressing the root causes of regulatory

⁵ See Decision BC-14/12 of the Basel Convention’s 14th Conference of the Parties, Basel (Switzerland), 29 Apr.–10 May 2019, in force 1 Jan. 2021, available at: <https://www.basel.int/TheConvention/ConferenceoftheParties/Meetings/COP14/tabid/7520/Default.aspx>.

⁶ Law of the People’s Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes, 中华人民共和国固体废物污染环境防治法 [adopted 1995, last revised in 2020]. See also A.L. Brooks, S. Wang & J.R. Jambeck, ‘The Chinese Import Ban and Its Impact on Global Plastic Waste Trade’ (2018) 4(6) *Science Advances*, article eaat0131.

⁷ J.R. Jambeck et al., ‘Plastic Waste Inputs from Land into the Ocean’ (2015) 347(6223) *Science*, pp. 768–71.

⁸ F. Alpizar et al., ‘A Framework for Selecting and Designing Policies to Reduce Marine Plastic Pollution in Developing Countries’ (2020) 109 *Environmental Science & Policy*, pp. 25–35.

ineffectiveness, plastics pollution will continue. Therefore, future research would benefit from a focused examination of regulatory solutions to address institutional issues within the broader regulatory field for plastics currently propping up the linear economy: for instance, understanding how existing institutions uphold the political strength of the transnational plastics industry and its circular economy agenda.⁹

Global Plastic Pollution and its Regulation stands as a meticulously researched and timely contribution, skilfully navigating the complexities of plastics regulation with an insightful comparative approach. It not only offers practical proposals for regulatory reform, but also serves as an exceptionally valuable resource for those actively shaping global regulatory efforts. The book is an essential guide, facilitating the analysis of the evolving landscape of plastics regulation and offering crucial insights into key regulatory challenges, key to understanding what effective transnational regulatory approaches should encompass.

⁹ A. Mah, 'Future-Proofing Capitalism: The Paradox of the Circular Economy for Plastics' (2021) 21(2) *Global Environmental Politics*, pp. 121–42.