

# Waste Away. Examining Systemic Drivers of Global Waste Trafficking Based on a Comparative Analysis of Two Dutch Cases

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## 1 Introduction: (Hazardous) Waste in Contemporary Society

Whenever something is discarded, waste is generated. This can be a result of everyday consumption in households as well as of production activities in agriculture, mining, energy, manufacturing and construction. As such, this makes waste a part of everyday life, a normal thing. Yet the increasing volume of waste generated globally is one of the most prominent environmental issues we face today. Global municipal waste generation is currently about 2.01 billion tonnes per year and expected to increase to 3.4 billion tonnes in 2050 because of population growth, industrialisation and urbanisation.<sup>1</sup> By 2050, the then approximately nine billion people on the planet will have generated an estimated thirteen billion tonnes of waste per year.<sup>2</sup> Next to the increasing volume of waste, there is also increased hazardousness, because society also increasingly relies on synthetic and chemical products.<sup>3</sup> Hazardous waste refers to waste with radioactive, explosive, corrosive or toxic characteristics and is likely to cause health or environmental harm when treated inadequately. An estimated 300 million tonnes of hazardous waste is produced each year by member countries of the Organisation for Economic Co-operation and Development (OECD), while no reliable estimate is available for non-OECD countries as there is virtually no reporting.<sup>4</sup> Despite the many conventions on waste that have been created since the 1970s,<sup>5</sup> the exact volumes, origins and handling of hazardous waste generation thus remain unclear. This chapter discusses two cases which concerned the trade in hazardous waste, but many dynamics and drivers we discuss are rooted in the overall – and thus also non-hazardous – trade in waste. Once generated, waste can be disposed of or treated. Waste disposal is the final phase and refers to landfill, incineration and illegal dumping. Waste treatment is the process that changes the characteristics of waste to facilitate its handling, to make the recovery of secondary raw materials possible or to reduce its quantity or hazardous nature.<sup>6</sup> The recovery phase in the waste cycle implies that waste is not just useless residue. What some call waste is a valuable secondary raw material for others, especially in times of increasing scarcity of raw materials. With the emergence of new recycling techniques and better efficiency rates of waste treatment and recycling, what was considered useless residue years ago has turned into something valuable today. In other words, waste has become a profitable commodity.<sup>7</sup>

The sustainable management of waste and (secondary) resources is key for the planet's future.<sup>8</sup> Companies responsible for the collection, transport, treatment, recovery or disposal of waste thus fulfil important public tasks related to hygiene, environmental protection and quality of life. Given these public interests, the waste market has traditionally been subject to a high degree of regulation and close involvement by governments. In the Netherlands, for instance, most waste facilities used to be owned and operated by municipalities.<sup>9</sup> However, the waste market has changed considerably over the past decades. Among its key

developments are privatisation, merger activity, expansions and internationalisation. As a result, the waste industry has become a highly competitive and capital-intensive industry. In other words, waste management has become 'big business', and the market is dominated by large and powerful commercial corporations that increasingly operate across national borders.<sup>10</sup> To recuperate the secondary raw materials or treat the waste, there is often international trade involved, because the waste treatment facilities for specific types of waste are available only in a limited number of countries. Sometimes the nearest treatment facility – or the one with sufficient capacity to process the specific type of waste – is simply located across a border.<sup>11</sup> However, one of the most important reasons for the trade in waste is the search for the most cost-effective way to treat the waste or dispose of it. Firms which operate in multiple parts of the world seek a home in jurisdictions that allow their activities under the best economic, legal, cultural or political circumstances. Previous research has shown how these structural inequalities between different parts of the world can be criminogenic.<sup>12</sup> Corporations exploit these inequalities by moving activities that are illegal in one jurisdiction to another where they are not (legal/enforcement asymmetries), externalise harms to countries that depend on foreign investments to foster economic growth (economic asymmetries), and engage in these harms, particularly when certain behaviours, such as bribery, are normalised to get business done (cultural/political asymmetries). In addition, awareness and knowledge about harms can be asymmetrical, as can the legal means to stand up against big business. In this way, globalisation facilitates 'crimes without lawbreaking' or 'legal corporate crimes': behaviours that are essentially lawful, but extremely harmful.<sup>13</sup> Waste traders use existing policy or enforcement loopholes and offer officials in developing regions attractive prices or bribes for accepting the (hazardous) waste into their countries. The trade flows that are most likely to result in inadequate – and often illegal – recycling or disposal are those from the Global North (Australia, the EU, Japan and the US) to the Global South (Africa, South-East Asia and South America).<sup>14</sup> These same powerful economic actors are also those most likely to influence international treaties and law enforcement in developing countries.<sup>15</sup>

Thus, while the international trade in waste material has undeniably enabled firms to expand their business, it has also created greater opportunities for corporate crimes; led to the transference of social, economic and environmental harms to other parts of the world; and increased problems for monitoring and enforcement.<sup>16</sup> Substandard waste treatment and disposal affects everyone but disproportionately impacts society's most vulnerable who work and live in unsafe conditions.

This chapter aims to demonstrate how companies operating in the global waste market exploit legal and enforcement asymmetries and market complexities to trade waste with parts of the world where the facilities to dispose of and to treat harmful substances are less developed or lacking entirely. Our analysis draws on two contemporary cases of corporate misconduct in the Global South by companies with operating headquarters in the Global North: the *Seatrade Spring Class* shipbreaking case and the *Probo Koala* case. We have chosen these cases because they are different in nature, involving different types of actors and different types of waste. Moreover, these cases differ with regard to the attention they have caught from the media and academia: the *Probo Koala* case has been widely covered in the international media and has been discussed extensively in previous academic publications, while the *Seatrade* case received less attention from media and academics. Yet both cases present processes not well known to the general public and are illustrative of the key drivers and conditions that enable illegal waste trafficking: the economic drivers and conditions of the global waste and shipping industries and the regulatory drivers and conditions with regard to waste management. Moreover, both cases have a connection to the Netherlands and the Dutch legal system. Both cases relate to companies (i.e. *Seatrade* and *Trafigura*) which are located – or at least have part of their business located – in the Netherlands and could therefore be prosecuted by Dutch authorities in relation to the harm caused by the transnational shipping or the waste disposal operations originating in Dutch harbours. We do not claim these issues are particular to the Netherlands, instead they are specific for dynamics between the Global North and South. Neither do we claim that these cases are representative of all types of waste trafficking. The aim of our analysis is not generalisation, but the comparative analysis of these cases does allow inferences to be made about the criminogenic conditions of the global waste trade.

Our analysis identifies the key drivers and dynamics of illegal waste dumping for both cases.

As both cases led to criminal convictions in the Netherlands, we also analyse the difficulties of curbing these issues through law enforcement and propose alternative ways to make the waste sector more environmentally responsible and prevent the externalisation of environmental harm.

In what follows, we first discuss the criminological roots of the concept of corporate environmental crime and discuss that these corporate (environmental) crimes can be characterised by different types of ambiguities that explain why responding to this misconduct is challenging. Second, we illustrate these ambiguities in relation to the waste market and to waste as a product. In sections 4 and 5, we discuss the drivers, dynamics and key players involved in each of the cases. Our final section builds on a comparison of the cases to explore innovative ways to make the waste sector more environmentally responsible and prevent the future externalisation of environmental harm.

## 2 Corporate Environmental Crime

Edwin Sutherland's 1939 presidential address to the American Society of Sociology<sup>17</sup> fundamentally impacted sociological and criminological thinking by focusing on crimes by elite offenders, including corporations. Up to that point, crimes by and within companies had barely received attention in criminal justice or academia, one noble exception was the work by Dutch criminologist Willem Bongers (1916) who focused on 'crimes in the suites'.<sup>18</sup> Sutherland labelled these crimes 'white-collar crimes', which he later defined as 'crimes committed by a person of respectability and high social status in the course of his occupation'.<sup>19</sup> Ever since, the concept of white-collar crime has been the subject of considerable debate, the key question being whether criminological inquiry should move beyond criminal law notions of crime. Sutherland believed that it should, because elite offenders' harmful acts are often treated as mere regulatory offences, which have no criminal stigma attached to it, despite the often enormous costs of corporate crimes in terms of health and safety, the environment and society.<sup>20</sup> Today, white-collar crime is generally thought of as an umbrella concept which includes, but is not limited to, corporate crime. However, the analysis in this article does have corporate crime as a focus, more specifically corporate environmental crime, which refers to those illegal or harmful behaviours that negatively affect the environment committed by corporations or their officials for the benefit of the corporation.<sup>21</sup>

In the following decades, scholars continued Sutherland's work by aiming to make transparent that major – environmental or other – harms are not always incorporated in criminal law, especially when these go against the interests of powerful actors in society, such as large corporations.<sup>22</sup> Corporate crimes, in general, and environmental crimes, more specifically, are often discussed in terms of various ambiguities that make responding to these types of offences and holding corporations accountable for environmentally and socially unsustainable business a very challenging task.<sup>23</sup> In many of these cases, conflicting ecological and economic interests obscure where responsibility for the harm lies. Rather than deliberately causing harm to the environment, corporations might have been careless or negligent. Those responsible are not always treated as perpetrators within the (criminal) justice system. This is especially true for cases of corporate environmental crime where there are aligned interests among corporations and government organisations.<sup>24</sup> And, as we will show in this article, this holds true for crimes in connection with international waste trade. Because the alignment of interests between political and economic elites contributes to the ambiguities surrounding corporate (and environmental) crimes, several critical criminologists who study corporate crime stress the importance of paying attention to both the general systemic causes of harm and the specific circumstances of harm or risk which allow the blame to be placed on specific persons or organisations. Combining the details of the case with a systems focused analysis avoids a preoccupation with a specific event which ignores the socio-economic, political or regulatory conditions in which that event is rooted.<sup>25</sup> This chapter sets out to combine a focus on the events (i.e. the *Probo Koala* and *Seatrade* case) with one on the systemic drivers and dynamics (i.e. economic and regulatory aspects of the waste and shipping industries). Before analysing the specifics of both cases, the next section discusses the ambiguities of waste as both a product and a market.

## 3 Ambiguities of the Waste Product and Market

Waste crime refers to the trade in, treatment of and disposal of waste in ways that breach international or national environmental laws, and which cause harm or risk to the environment and/or human health. This includes both administrative violations such as disposal of more waste than the licence allows for and criminal violations such as the dumping of hazardous waste. Waste crimes can happen both in the production and in the treatment of waste, but this chapter focuses on the treatment phase alone.<sup>26</sup>

Waste companies are often aware of the harms associated with substandard disposal of their (hazardous) waste.<sup>27</sup> Moreover, some of these companies refuse to change their business practices even when the disastrous consequences become clear and continue to lobby against more stringent regulation.<sup>28</sup> A considerable number of waste crimes thus occur exactly within the industry that was created to treat and dispose of the increasing amount and hazardous nature of waste and provide environmentally sound solutions for it.<sup>29</sup> Scholars have identified that the ambiguous nature of the product waste and of the criminogenic characteristics of the waste market play a role in these crimes.<sup>30</sup>

Waste is a product that has a negative value attached to it – i.e. it is something to get rid of. This implies that waste has an inverse incentive structure: rather than paying for it when you aim to obtain it (as with other ‘normal’ products), you pay for it when you want to get rid of it. Thus, waste companies already make money simply by collecting the waste before having to invest in expensive means of disposal. Although certain fractions of waste (i.e. metal) are valuable, generators of hazardous waste generally need to pay large sums to have it treated in environmentally sound ways. Illegal disposal can be 200 to 300 times cheaper than legal disposal.<sup>31</sup> This inverse incentive structure thus creates an incentive for firms to ‘shop’ for the best deal in waste disposal.

Furthermore, waste has been characterised as a product of low integrity. This implies that it is a product which is highly vulnerable to (criminal) manipulation by blending or mixing it with other products.<sup>32</sup> For example, many oil products have similar physical and chemical characteristics as those of waste products, making the blending of hazardous and non-hazardous wastes and the blending of waste and oil less visible and harder to detect.<sup>33</sup> Similarly, Van Daele, Vander Beken and Dorn emphasise the problem of so-called *mirror entries*.<sup>34</sup> These define waste as *hazardous* only when the concentration exceeds certain levels. By keeping the concentration under legal limits, the transportation, treatment and processing of these wastes remain largely under the regulatory radar. Its low integrity also makes assessment of the composition of the waste difficult, especially when blended with other products, and therefore also makes it hard to assess toxicity levels and causality between the waste and possible environmental and health consequences.

A final difficulty with the nature of the product lies with distinguishing between waste and reusable products.<sup>35</sup> The regulatory framework under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (adopted on 22 March 1989, entered into force on 5 May 1992) allows materials that can be reused to be transported transnationally. In other words, it is not the origin of the waste that determines its definition, but its use in practice. Yet, particularly with waste, this is often very difficult to assess because in different parts of the world different values are attached to the same materials or products. The global trade in e-waste demonstrates this.<sup>36</sup> This conceptual ambiguity allows waste to be transported under the disguise of reusable goods, often to countries that lack the waste treatment facilities to handle the numerous hazardous components like lead and arsenic in environmentally sound ways. Moreover, the extent to which products are (partly) reusable or recyclable also changes with the emergence of new techniques. Although both cases discussed in this article concerned hazardous waste because it had toxic characteristics, the ambiguity is about more than merely the question whether it concerned hazardous or non-hazardous waste but also concerns the question whether it is even waste at all.

Besides the product, the industry itself has also been characterised as criminogenic.<sup>37</sup> The rapid growth and internationalisation of the industry have created complex global supply chains in waste collection, transportation, treatment and processing with many different actors and activities in numerous countries.<sup>38</sup> Businesses are often connected through complex corporate deals, diverse legal structures in several countries and increasingly use brokers, subcontractors and intermediaries involved at different stages to take care of business.<sup>39</sup> Such interconnectedness makes it difficult for the actors involved to fully grasp the deals and activities in which they are involved: rule breaking by one actor might not get

noticed by others. Moreover, it creates opportunities to rationalise responsibility for harmful activities, because it creates the opportunity to shift the blame to other parties involved. Consequently, the transition from legal to illegal can occur at several stages of the waste process, including in national and cross-border transport and in collection and disposal. Because of these conceptual ambiguities with the product and the ambiguous nature of the industry itself, there are ample legal and prosecutorial problems in cases of illegal waste trade. It is often very difficult to assess the legal status (i.e. waste trade or trafficking) and to find sufficient evidence to convict companies. A conviction ultimately requires proof about the malfunctioning of certain products, about the exact composition of the materials, or about the causality between the waste and the health or environmental effects. This evidence is often retrievable only by investigations across state borders, which are often cumbersome.<sup>40</sup> Holding transnationally operating (multinational) corporations criminally liable for activities carried out and/or causing harm abroad is replete with issues of (extra)territoriality and challenges of cross-border environmental law enforcement.<sup>41</sup> Similarly, criminal prosecutors have difficulties holding 'big business' accountable. In many court cases, companies use these ambiguities to limit or exclude liability. The next two sections describe two cases that, although successfully prosecuted in the Netherlands, illustrate many of these ambiguities.

## 4 The Seatrade Spring Class Shipbreaking Case

### 4.1 Specific Circumstances of the Case

In 2012, four refrigerated vessels were shipped from the ports of Rotterdam and Hamburg to beaches in India, Bangladesh and Turkey. On these beaches these four ships were scrapped. These vessels contained several hazardous materials such as bunker oil, lubricating oil, polychlorinated biphenyls (PCBs) and asbestos. This practice is called *shipbreaking by beaching* and is a type of illegal waste disposal. Shipbreaking refers to the practice of discarding end-of-life vessels to reclaim valuable steel and other metals and is a legal recycling practice. The shipbreaking industry reclaims the valuable steel and other metals but also deals with highly toxic substances such as asbestos, lead, mercury, residual oil and PCBs. When handled in unsafe ways by beaching the ships, these toxins affect the health of the workers and leak into the coastal and marine environment.<sup>42</sup> The systemic drivers and dynamics of shipbreaking by beaching are discussed in more detail later in this section. Suffice it to say that there are many legal and regulatory loopholes that can be exploited to continue this practice. In the case of the four 'Spring' vessels, the intent to beach the vessels was proven in court<sup>43</sup> and constituted an infringement of the European Waste Shipment Regulation (EWSR).

*Spring Bear* departed from Rotterdam on 15 April 2012, travelled via Alexandria (Egypt), the Hormuz Street and Fujairah (United Arab Emirates) to arrive in Alang (India) on 6 June 2012. *Spring Bob* departed from Rotterdam on 19 April 2012 and travelled via the Suez Canal to Fujairah, Sharjah and Khor Fakkan (UAE), arriving in Chittagong Roads (Bangladesh). *Spring Deli* departed from Rotterdam on 1 May 2012, sailing via Hamburg (Germany), Antwerp (Belgium), Al Khums (Libya), Malta, to arrive at a beach in Aliaga (Turkey) on 3 June 2012. *Spring Panda* left Hamburg (Germany) on 9 May 2012, sailed via Antwerp (Belgium), Al Khums (Libya), Malta and arrived at the same Turkish beach on 9 June 2012.

The four ships each had different registered owners, beneficial owners and commercial operators, but all were tied to the Groningen-based shipping line *Seatrade* – world leader in refrigerated shipping – which is also named in the court case. Each ship was eventually sold with the contracts mentioning guaranteed scrapping and recycling.

Email communication between various employees of the ships, owners of the shipping company and of brokers discusses the best option for the phasing out or scrapping of the ships. The back and forth communication concerns the pricing, the location and whether to change 'to a flag state ... which has no inspections or anything else as requirements'.<sup>44</sup>

The decision to scrap the *Spring* class and beach them in India was considered to be proven for each of the ships, although not all ships ended up getting beached there in the end. The judgment refers to the cancellation of orders and maintenance for the ships and to emails which informed captains and chief engineers that the ships would be taken out of service and

which instructed them to keep the ships in service at low cost (i.e. low fuel levels). Later emails concerned the removal of items on the ships (e.g. navigation equipment, paintings, sextants, freon, etc.). Pilots and customs officials who assisted the departure from Rotterdam of *Spring Bob* (18 April) and *Spring Deli* (1 May) recalled the captain talking about the last voyage and the beaching of the ship in India. At the end of April, employee Z emailed the captain of *Spring Deli*, instructing him to ‘Really sail on the minimum, because every ton still in there on arrival at the beach is a waste of money’.<sup>45</sup> Bureau Veritas was also asked to postpone inspection of *Spring Bob* because the ship would be scrapped.

The discussion about the pricing makes it clear that profitability plays a role. In an e-mail dated 7 February, Baltic Union Shipbrokers refers to USD 40,000 to 80,000 per ship offered by cash buyers, and Global Management Systems (GMS) offers USD 100,000 to 150,000 for the set on top of the normal scrap price.<sup>46</sup> The broader financial situation of *Seatrade* was also documented in the case file, referring to the low cash flow for the first quarter owing to pressure on the reefer market and to the decision to recycle several ships, including the *Spring* class, to improve cash flow. Thus, the organisational conditions under which *Seatrade* decided to beach the ships are that the shipping line faced difficult financial circumstances and that there was virtually no demand for used refrigerated vessels on the second-hand market.

On 12 April 2012, employee S. emails that it is possible to deliver the ship in its current state to Fujairah, which would save five days of operational costs but would mean a lower net sale of USD 70,000 for each ship. S. writes: ‘Would it be worth  $5 \times 70k = 350k$  not to end up on the name and shame list?’<sup>47</sup> This quote indicates that they were aware of the ambiguity of beaching the vessels instead of dismantling them. Furthermore, one of the owners later denies the intent to scrap the ships in India and indicates being familiar with the EWSR when the Living Environment and Transport Directorate Inspectorate asks about this.<sup>48</sup> In a newspaper article, a representative of *Seatrade* stated that international legislation is required to address this issue of shipbreaking because the European Ship Recycling Regulation (EU SRR) is absolutely insufficient given that only 15% of vessels sail under EU flags. He added that the Netherlands was wrong in suing the company because the shipbreaking yards they were intended for had the necessary certification under the conditions of the Hong Kong Convention. Moreover, ship recycling facilities in Europe were supposedly insufficient to handle the demand. Finally, he referred to improvements made on those shipbreaking yards and the impact on local employment in case beaching would no longer be allowed.<sup>49</sup> This could be perceived as neutralising the responsibility for the environmental and human harm caused by shipbreaking.

#### 4.2 Dutch Case Against *Seatrade*

The Netherlands was the first country in Europe to bring criminal charges against a shipping line and its owners for illegally exporting a discarded vessel which contained hazardous substances. On 15 March 2018, the Criminal District Court of Rotterdam convicted *Seatrade* for knowingly selling four vessels to scrap yards in countries with poor working conditions and limited environmentally sound facilities to handle them.

In previous years, shipbreaking had been addressed by means of administrative trials such as that of the chemical tanker *Sandrien*, which intended to leave the port of Amsterdam to be beached in India but was stopped. After years of disputes between non-governmental organisations (NGOs) and the owner, the vessel was dismantled in Amsterdam and paid for by the Amsterdam municipality and the Dutch state.<sup>50</sup>

In the *Shipbreaking Spring class* case, the public prosecutor had initial proof of the intent to beach the ships based on sales agreements and e-mail conversations.

The Criminal District Court of Rotterdam argued that the accused’s considerations were merely financial and that a shipping line of this size – and its board member and CFO should have been aware of the global problem that is shipbreaking by beaching.<sup>51</sup> The Court did not follow the argument of the defendants that the ships were transported before the decision to discard them was made.<sup>52</sup> Two executives received 50,000-euro fines along with a prohibition on functioning as board member, CEO, commissioner, advisor or employee of a shipping line for one year. The Court argued that six month’s conditional imprisonment, which the Prosecutor requested, was not necessary because the offenders were first-time offenders. Next to the criminal charges for the executives, the shipping line *Seatrade* – or

rather six companies belonging to the broader *Seatrade* company – received fines ranging between 100,000 and 750,000 euro.<sup>53</sup>

In later communication, *Seatrade* expressed disappointment with the verdict,

disagree[ing] with the legal interpretation of the Court that a fully certified, seaworthy vessel should be considered waste.<sup>54</sup>

They also mentioned sharing concerns of NGOs about environmental and working conditions at the recycling yard, but said that addressing these issues requires the shipping industry, governments and regulators to create a global level-playing field.<sup>55</sup> As mentioned previously, this court case is unique in that no other European country has so far criminally charged or convicted a shipowner for shipbreaking by beaching. In personal communications with the authors, police and public prosecutors involved in tackling environmental crime in the Netherlands also stressed their willingness to focus on the topic of shipbreaking. Moreover, legal scholars wrote that ‘the *Rotterdam District Court* used the EWSR creatively to address past practices of shipbreaking’ because the Court cited case law of the European Court of Justice to define the verb ‘to discard’, which is central to the EWSR’s definition of waste.<sup>56</sup> The EWSR was not designed to deal with ship recycling but was the only legislation available to convict *Seatrade* because the newer international regulations which specifically deal with ships (Hong Kong Convention and European Ship Recycling Regulation (EU SRR)) had not entered into force yet. Because there was a paper trail – basically the defendants were sloppy – there was proof of intent and this allowed for a conviction of the company and its executives. In many other cases, obscuring the paper trail is exactly what the actors involved in shipbreaking do as the following discussion of systemic drivers will make clear.

#### **4.3 Systemic Economic and Regulatory Drivers of (Il)legal Shipbreaking by Beaching<sup>57</sup>**

Approximately 12,000 vessels become obsolete each year, because they are no longer seaworthy, no longer meet the requirements set by the International Maritime Organisation (IMO) or because the economic context makes it more profitable to dismantle the ships for parts and secondary raw materials than to keep them in business.<sup>58</sup> Part of those discarded vessels are dismantled in top-notch recycling facilities, but an important share also ends up being shipped to and dismantled in environmentally harmful, unhealthy and unsafe ways. By beaching these vessels in developing countries, the shipping industry which is often headquartered in the Global North flouts international regulations on hazardous waste. For a long time, the exporting port states – where the ships depart from – did not apply the regulatory framework on waste (i.e. Basel Convention on the Control of Transboundary Movements of Hazardous Waste or European Waste Shipment Regulation for EU Member States) to ships as such being hazardous waste and only to the content of ships. On the receiving end, an importing port state such as Bangladesh, although signatory to the Basel Convention, rarely used its procedure of prior authorization for the shipment. Also the 2018 Bangladesh Ship Recycling Act has been reported to be a paper tiger due to insufficient regulatory resources and lacking coordination between regulators.<sup>59</sup> Therefore, many of these ships that were stranded on shipbreaking beaches in South-East Asia technically arrived there ‘legally’ because the many legal loopholes were exploited.<sup>60</sup>

In recent years, the most important instrument to hold (former) European owners of vessels accountable was the EWSR (1013/2016). Applying the EWSR to shipbreaking cases implied that the vessels themselves were considered a hazardous waste which, according to the EWSR, requires treatment and disposal in ways that respect both the environmental and the health standards. Holding (former) owners to account under the EWSR, however, proved to be very challenging because it required evidence that the vessels were shipped to beaching yards with intent to discard them.<sup>61</sup> In the *Seatrade* case, case law of the Court of Justice was cited to interpret *discarding*. In other words, definitional ambiguities played a role in the case. As discussed in the previous section, one of the legal ambiguities regarding waste is that there is often a thin line between waste and second-hand resources. This conceptual ambiguity of waste as a product applies well to shipbreaking because ships are classified as waste only when there is intent to dismantle or discard them. Only when ships are considered end-of-life by their owners and shipped to shipbreaking yards with substandard

facilities is it an illegal practice. This implies that it is up to the authorities in the European port from which the ship is leaving to check whether it might be destined for a shipbreaking yard in South-East Asia. Shipping lines try to circumvent these rules and subsequently escape prosecution by sending their ships on a last commercial trade mission outside of Europe or by providing paperwork that their ship is being sent to a yard for maintenance work. As a result, the ship is still a commercial vessel when it leaves Europe, which means that the EWSR is inapplicable and the shipping line is not responsible for the eventual beaching.<sup>62</sup>

These disguises are facilitated by the use of intermediaries, who use flags of convenience before end-of-life vessels arrive at their final destinations (India, Pakistan, Bangladesh) or who change the name of the vessel, thereby disguising the original owners.<sup>63</sup> In most cases, European shipping companies are no longer the official owners of stranded ships because they sell them as second-hand ships to lesser-known shipping companies, which secretly sell them as scrap ships after a few operational months. This practice thus involves many different actors in a complex supply chain. This might result in some actors in the supply chain not knowing – or claiming not to know – what other actors do, effectively neutralising their responsibility.

The most important road to beaching is through so-called cash buyers, Wirana and GMS being the largest. These companies are the most important intermediaries on the journey to shipbreaking yards. Cash buyers purchase ships in cash regardless of the condition or location of the ship. They get their profit from speculation with the steel price and often have close ties with shipbreaking beaches.<sup>64</sup> On paper there is usually no link between the cash buyer and the substandard shipbreaking, nor is there a paper trail with the beneficial owner. This was different in the *Seatrade Spring class* case. In most cases, the ship is given a different name to protect the integrity of the original owner, the flag is changed to a typical end-of-life flag state that barely controls it, and the vessel eventually ends up stranded in Bangladesh or on another beach undisturbed. Cash buyers also hide behind letter box companies in tax havens, including the Mossack Fonseca law firm, thereby managing to remain largely anonymous themselves.<sup>65</sup> As such, their business is legal, despite the harmful consequences of it.

The IMO intended to strengthen requirements for ship recycling by means of its Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, adopted on 15 May 2009 (Hong Kong Convention). Lacking ratification, this has not entered into force yet, but, according to several experts, it is unlikely to make a real difference because it leaves ample loopholes unaddressed and actually creates new ones.<sup>66</sup> For instance, it describes how to dismantle ships and remove toxic material but is silent about what needs to happen with the toxic substances once removed. More importantly, it addresses the responsibility of flag states and not of possible other actors involved, such as previous owners before vessels change ownerships or flags. Reflagging of ships is common and happens with the object of avoiding stricter environmental provisions.

Applying the EWSR to end-of-life vessels proved possible in the *Seatrade* case, although ‘some boundary pushing’ was required (Ryngaert & Waardenburg 2018: 228). To address the uncertainties and loopholes of the EWSR for shipbreaking, the EU adopted the EU SRR in 2013 (which entered into force on 8 January 2019)<sup>67</sup>. The EU SRR stipulates the conditions that ships and recycling facilities have to fulfil to be considered environmentally sound and safe. The regulation also contains a list of approved recycling facilities. The EU SRR builds on the criteria set by the IMO’s Hong Kong Convention, but sets additional requirements. The use of cash buyers is, however, likely to continue in the EU, despite the newly implemented EU SRR (NGO Shipbreaking Platform, 2013). The EU SRR still allows owners to circumvent the law by changing the EU flag to so-called flags of convenience allowing the use of non-EU approved shipbreaking facilities. Without cash buyers, it would be much more difficult for shipping companies to relinquish responsibility for the stranded ships, but regulation of the waste/shipping business has not dealt with this topic.<sup>68</sup> Reflagging is allowed under the EU SRR, but these ships can then no longer visit EU ports because it also applies to non-EU flagged ships.<sup>69</sup>

Although the *Seatrade* case might be summarised as one where the company went in search of the cheapest solution to discard the vessels, the drivers of shipbreaking by beaching go beyond these profit motivations by shipowners alone. First, it is important to mention that the economic motivations go beyond those of the last-known owners of the vessels.



International shipping, shipbreaking and the steel industry are competitive sectors with varying financial interests depending on the countries of origin and destination.<sup>70</sup> In Germany, for instance, the unique German *Kommandit Gesellschaft* financing system for shipping companies means that they are actually owned by external financiers such as pension funds or investment funds that originally intended to achieve huge profits. Several of these funds invested in ever-bigger new vessels, because loan conditions were favorable and because the Panama Canal allowed for deeper drafts.<sup>71</sup> The bigger freight capacity combined with lower freight prices – sometimes even lower than the operational costs – resulted in an estimated one third of the world fleet becoming ‘obsolete’ in 2016.<sup>72</sup> This self-induced overcapacity in the shipping industry caused the investment bubble to burst and institutional investment funds tried to limit their losses by opting for shipbreaking, made attractive by a favourable steel price. In Greece, another major European flag state for ships beached in South-East Asia, the story is very different. Greek shipping dynasties opt for the biggest profits by choosing Bangladesh as the scrapping destination.<sup>73</sup> As a destination country, Bangladesh also benefits economically, as its economy needs the steel, the employment and the tax revenues that the shipbreaking activities generate. Here too the government plays a key role in maintaining the current situation, because politicians themselves are (in)directly involved in shipbreaking.

Second, although corporations as the beneficial owners of the ships are the ones deciding whether and where to beach, government actors in both the Global North and South help facilitate shipbreaking by lacking regulation or law enforcement. The global asymmetries in tax systems and the loopholes of the legislative framework continue to allow shipowners and cash buyers to hide behind cheap flag states and letter box companies in tax havens. As described previously, the current legislation still allows for changes of ownership, which are also easy to accomplish given the possibilities to use flags of convenience and letter box companies. As a consequence, the regulators also have difficulty tracking ownership and proving illegality when cash buyers are involved. As long as this situation prevails, legislation that is aimed to address shipbreaking by beaching risks remaining merely symbolic. Shipbreaking is thus inextricably tied into the political and economic context of trade, to what critical criminologists call ‘systemic’ causes of ‘crimes of the powerful’.<sup>74</sup> Thus, in shipbreaking by beaching, ecologically and economically irresponsible decisions are taken by both companies and governments. Those decisions are not criminal in the legal sense of the word because the loopholes of the law are used. They can, however, be labelled as criminal from the perspective of the harmful consequences for the environment and health of third parties that follow from these actions and decisions: the uncontrolled release of asbestos, carcinogenic PCBs and heavy metals such as lead and arsenic, pollution of the ocean water by oil and fuel leakage, and unfair competition for environmentally responsible demolition sites.

In sum, shipbreaking by beaching is the result of a complex criminogenic interplay of economic actors (shipping lines, financial institutions, cash buyers, classification companies, and shipping yards) and political actors (port states, flag states, tax havens) on the national as well as international level.<sup>75</sup> However, most of the ships that end up on beaches, dismantled while violating environmental and human rights, are the result of perfectly legal practices in waste or ship disposal. They end up on South-East Asian beaches because reclaimed steel is very valuable to the local steel industry, because environmental regulation is lacking and because working conditions are poor – and thus cheap.

## 5 The Probo Koala Waste Dumping Case

### 5.1 Specific Circumstances of the Probo Koala Case

Between the evening of 19 August 2006 and the morning of 20 August 2006, over 500 tonnes of hazardous waste was unloaded from the *Probo Koala* vessel and dumped in multiple sites throughout Abidjan, the capital of Ivory Coast.<sup>76</sup> Even though the direct causality is still contested, numerous deaths were reported, and over 100,000 people sought medical attention. The waste originated from a new industrial process the multinational firm Trafigura employed in an attempt to make money out of reselling dirty naphtha as a blendstock for fuels. The *Probo Koala* case can be considered unique in many respects. In that not only did it involve one of the world’s largest independent commodity trading

companies which created the waste as a result of a new procedure to upgrade low-quality oil into a tradable commodity, but it also took more than seven years before the case resulted in final criminal sentences, and it was not until 2018, more than ten years after the disaster, that an independent audit, by UN Environment, concluded that many of the environmental effects finally started to be mitigated.<sup>77</sup>

The case began in 2005, when Trafigura obtained approximately 28,000 tonnes of naphtha which it intended to resell as a blendstock for fuel. However, the naphtha contained high levels of sulphur, which produces a terrible smell and made it unsuited for direct use.<sup>78</sup> In order to sell it as a tradable commodity, Trafigura needed to ‘wash’ the naphtha with caustic soda. Attempts to perform these washings on land at suitable locations failed because, as became apparent in internal emails that were disclosed during criminal proceedings in the Netherlands,

caustic washings are banned by most countries due to the hazardous nature of the waste ... and suppliers of caustic are unwilling to dispose of the waste since there are not many facilities remaining in the market.<sup>79</sup>

Trafigura therefore decided to perform the washings at sea, on board the *Probo Koala*, which constituted a new industrial process that had never taken place before.<sup>80</sup> After the washings, approximately 554 tonnes of slops, a hazardous waste comprising a mixture of naphtha, water and caustic soda, remained (Hulsthof Committee 2006: 9-12). These were stored in the two slops tanks of the *Probo Koala*.

In June 2006, Trafigura contracted Amsterdam Port Services (APS) specialised in the collection and processing of ship-generated waste and licensed by the Dutch authorities to process waste from ships in line with the International Convention for the Prevention of Pollution from Ships (MARPOL convention) to handle the discharge and disposal of the slops. Trafigura described these slops as ‘gasoline slops (majority is water, gasoline, and caustic soda)’ and subsequently accepted an estimated cost of €27 per cubic metre.<sup>81</sup> In the Dutch court case, it became apparent that if APS had known the true origin of the slops it would have estimated a substantially higher price for their disposal.<sup>82</sup>

On 2 July 2006, the *Probo Koala* arrived at the port of Amsterdam. During the discharge of the waste, APS took samples and then discovered that the waste was not the normal slops that Trafigura had claimed it to be. The analysis showed a significantly higher chemical oxygen demand and higher levels of mercaptans than normal slops, which APS’s licence did not allow for.<sup>83</sup> Treatment of the waste required the use of a more specialised facility of another company close to Rotterdam and would cost approximately €1,000 per cubic metre. Trafigura, however, rejected this price and requested that the slops be pumped back into the *Probo Koala*.<sup>84</sup>

The vessel then sailed to Estonia, Nigeria and, finally, Ivory Coast, where Trafigura had contracted a local company that had only been licensed a month earlier to treat this type of waste to process the slops.<sup>85</sup> This company had agreed to process the waste for roughly the initial price that APS had offered Trafigura before becoming aware of the hazardous nature of the waste.<sup>86</sup> Yet, rather than processing the waste, the company dumped it on several locations throughout Abidjan.

## 5.2 Court Cases About the *Probo Koala* Case

Court cases were initiated in Ivory Coast, the UK and the Netherlands. In Ivory Coast, Trafigura agreed to pay a 152-million-euro settlement in 2007. In the UK, civil charges were brought against Trafigura by a group of 30,000 claimants in 2009, which resulted in a 30,000-pound settlement, 950 pounds per claimant. In the Netherlands criminal charges were brought against Trafigura, its president director Claude Dauphin and one of its employees leading the blending operations. In July 2010, the District Court of Amsterdam convicted Trafigura for the transportation of the waste in violation of the EU regulation on the shipment of waste, and for concealing the hazardous nature of the waste and imposed a fine of one million euro.<sup>87</sup> Its employee was sentenced to a conditional sentence of six months’ imprisonment and a fine of 25,000 euro for leading the operations and concealing the hazardous nature of the materials.<sup>88</sup> The decision against Trafigura was upheld in appeal in 2011.<sup>89</sup> In the case of the employee, the Court of Appeal decided that the District Court

did not have competence to decide on the matter.<sup>90</sup>

Both Trafigura and the Netherlands Public Prosecution Service (NPPS) filed appeals with the Dutch Supreme Court, but both agreed to withdraw the appeals after reaching a settlement. This settlement made the Court of Appeal's ruling final, obligating Trafigura to pay the one-million-euro fine. In addition, the company agreed to pay another 300,000-euro disgorgement. Furthermore, the settlement included an agreement with Trafigura's employee to withdraw appeal in cassation on payment of 25,000 euro and an agreement with Trafigura's president director to withdraw the case against him on payment of 67,000 euros.<sup>91</sup> Finally, at the time of writing, a civil case is pending at the Dutch Supreme Court against Trafigura by an NGO representing Ivorian victims. In April 2018, the District Court of Amsterdam ruled that the case against Trafigura was inadmissible because the NGO had insufficiently clarified how to safeguard the interests of the claimants and the Court had doubts as to whether the proceedings would result in effective legal protection.<sup>92</sup> In April 2020, the Court of Appeal in Amsterdam however overturned that judgment and ruled that the case is admissible and that the NGO had taken sufficient measures to ensure safeguarding the interests of the claimants.<sup>93</sup> Following that decision, Trafigura lodged an appeal to the Dutch Supreme Court in July 2020.

### 5.3 Systemic Economic and Regulatory Drivers

Although the *Probo Koala* case is one of the few successful criminal cases in the Netherlands against 'big business' for irresponsible environmental conduct elsewhere, it still exemplifies many of the ambiguities and complexities, described earlier, which make enforcement rather limited in addressing and enhancing responsible business.

Discussion in the *Probo Koala* case centred on the nature of the waste and its legal status. As mentioned previously, a key ambiguity in relation to waste is how to distinguish between waste and reusable products.<sup>94</sup> Owing to changes in treatment and disposal techniques and growing opportunities to recycle and reuse waste, waste can be transformed into something useful, into a tradable commodity.<sup>95</sup> In the *Probo Koala* case this issue became apparent with regard to the naphtha bought by Trafigura. Greenpeace and Amnesty International have always argued that state parties should ensure that naphtha is defined as a hazardous waste under the Basel Convention.<sup>96</sup> An investigation, in 2018, by the Dutch Human Environment and Transport Inspectorate showed that most producers of blend stocks (such as naphtha to create fuels used mainly in West Africa) are located in the Netherlands.<sup>97</sup> The Dutch government thus has the responsibility to ensure that no hazardous materials are being used. The Dutch government, however, stated that it is very difficult to define naphtha as a hazardous waste, because it can also be used as a fuel.<sup>98</sup> Its legal status is therefore determined by the value for the holder. Commodity traders such as Trafigura make money out of reselling relatively cheap naphtha as a blend stock for fuels.

Another ambiguity of the product waste is that it can be difficult to assess the composition of the waste, especially once blended with heavy oil products. During the court cases, various experts appointed to determine the nature of the waste came to very different conclusions about its toxicity and the causality between the waste and the health effects in Abidjan. For example, the Special Rapporteur for the United Nations came to the conclusion that there was 'strong *prima facie* evidence that the reported deaths and adverse health consequences are related to the dumping of the waste', yet 'a causal link between the deaths and health problems and the waste from the *Probo Koala* had not yet been fully established'.<sup>99</sup>

Trafigura has, on the basis of this ambiguity, always disputed and continues to contest the toxicity of the waste and the causality of the health problems of the people in Ivory Coast. In its reaction to the United Nations report, Trafigura contested the use of the word 'toxic' by claiming that 'any substance can be toxic in a given set of circumstances'.<sup>100</sup> In an interview with BBC journalist Jeremy Paxman in August 2007, Eric de Turckheim, founding partner of Trafigura, claimed that the waste was 'absolutely not dangerous to human beings, smelly but not dangerous'.<sup>101</sup>

Since the composition of the waste is already cause for discussion, it is often very difficult to assess who is ultimately culpable, which is another source of ambiguity. The fact that this case involved many different public and private actors in various countries and different legal jurisdictions allowed Trafigura to rationalise its own responsibility. For example, while still in Amsterdam, the environmental authorities were uncertain about returning the waste

to the *Probo Koala*. The key issue here was whether APS had already accepted the waste and, thus, had legal authority over it. The Dutch Environmental Management Act at the time prohibited the transfer of industrial or hazardous waste to anyone not authorised to receive such waste. Had APS acquired legal authority over the waste, reloading the waste onto the *Probo Koala* would mean a violation because the *Probo Koala* was not authorised to receive such waste.<sup>102</sup> APS argued that it had not acquired legal authority because the waste was never unloaded from the lighter (a smaller ship used to transfer goods to and from larger vessels) to APS's premises. Despite indications that the waste would be illegally dumped somewhere along the route of the vessel, the authorities decided that the waste could be reloaded onto the *Probo Koala*. The committee that investigated the events in Amsterdam later stated that this decision was dictated by financial considerations and pressure by the companies involved, which threatened to hold the municipality liable for the additional costs (port fees; demurrage) involved in keeping the *Probo Koala* in Amsterdam.<sup>103</sup> The *Probo Koala* case highlights how legal ambiguities combined with economic pressures enabled the transfer of hazardous substances to Ivory Coast where the possibilities for environmentally sound disposal of these substances were limited.

In the Dutch court case, Trafigura has always denied responsibility and shifted the blame to the Dutch authorities, who officially permitted the ship to leave Amsterdam; the local company for the waste dump, by saying that the company was fully informed about the nature of the waste and was fully licensed to properly handle the waste; and the local authorities in Ivory Coast, by saying that Abidjan is one of the most sophisticated ports in West Africa.<sup>104</sup>

As mentioned previously, many of these cases are remitted with issues of extraterritoriality which limits or excludes the possibilities of states of origin to enforce the case.<sup>105</sup> In the *Probo Koala* case, a so-called Art. 12 claim by Greenpeace seeking to compel the Netherlands Public Prosecutor to also prosecute Trafigura for the harm caused in Ivory Coast was denied by the Court of Appeal in Amsterdam.<sup>106</sup> This not only creates opportunities for multinational corporations to exploit this regulatory vacuum, but it also provides business with arguments to rationalise their own responsibility. For example, Trafigura was very successful in influencing public opinion by arguing that the court case in the Netherlands had nothing to do with the dumping of the waste in Abidjan, which essentially was true, because the case centred on the highly technical question as to which regulation was applicable to the discharging and reloading of the waste in Amsterdam and whether or not the waste was allowed to be transported out of the European Union.

The *Probo Koala* case not only highlights how firms use legal and enforcement asymmetries and complexities in markets to trade waste to other parts of the world where the facilities to dispose of and treat harmful substances are less developed, but it also illustrates how economic and power asymmetries hinder holding these corporations accountable for environmental crimes. Trafigura is one of the world's largest independent commodity trading companies. It has 80 offices in 41 countries across the globe, over 5,000 employees worldwide, and in 2019 it ranked 27th in the global Fortune 500 ranking with a net profit of almost 900 million dollars.<sup>107</sup> Its size and resources therefore allow it to fight allegations effectively and to easily overcome the financial consequences that official sanctions may have. Big business often does not passively receive negative attention in the media, but actively fights back and has the legal and financial power to influence the ways in which it is portrayed in the media.<sup>108</sup> Trafigura, for example, has made strenuous efforts to fight allegations of wrongdoing and paid lobbyists and a public relations firm to deflect unwanted media attention.

Moreover, legal sanctions often lack the power impact. Trafigura's total costs of the waste dump, including settlements, legal fees and public relations costs, were estimated to amount to 254 million euro.<sup>109</sup> Yet, in the same year, the firm was financially very successful, recording a turnover of over US\$120 billion and a net profit of close to US\$ 1 billion. Rather than enhancing responsible business, these sanctions may even foster existing inequalities between multinational corporations and the communities affected by their activities.

In sum, the *Probo Koala* disaster resulted from a combination of market dynamics, allowing Trafigura to employ a new industrial process to make money out of dirty naphtha, legal ambiguities and regulatory asymmetries enabling Trafigura to transfer the waste to Ivory Coast, and economic and power imbalances which hindered the company to be held accountable.

In the aftermath of the *Probo Koala* affair, the Dutch authorities took measures to ensure that ships would unload polluted substances at the nearest port after leaving Dutch waters.<sup>110</sup> One of the key questions after the *Probo Koala* incident was how the waste might have left European waters to be transported to and eventually dumped in Ivory Coast. These new measures prohibit ships from keeping the waste on board to offload it only where this is as cheap as possible and proper treatment is not guaranteed. However, such measures require cooperation and information exchange between various national and international authorities as well as clarity about what qualifies as waste, rather than ambiguity.<sup>111</sup>

## 6 Discussion

The increasing volume and toxicity of waste generated globally is one of the most significant environmental issues of our time. Businesses responsible for the production, collection, treatment, disposal of and trade in waste are key to addressing this challenge. This requires businesses to take into account the impact their activities have on the environment and health and safety of people, not only in the Global North, home to many of these companies, but especially in the Global South, which is often less able to deal with the ecological and environmental harms which the Global North externalises to them.<sup>112</sup> The two case studies presented in this chapter have, however, shown that making corporations accountable for environmental harms caused elsewhere is a very challenging task, because legal and enforcement asymmetries and complexities of the global market can be exploited.

Key drivers of illegal waste dumping are the conceptual ambiguities concerning the waste product and the complexity and interconnectedness of the waste market. First, both cases have illustrated the relative ease with which waste can be disguised as a tradable commodity or its qualification or composition can be disputed. This not only makes it very difficult to hold corporations accountable in a court of law for harmful consequences of waste trade, but also sends the message that the harms are ultimately debatable. This does not contribute to efforts to enhance responsible business in global supply chains but indeed may even undermine these efforts.

Second, our case studies have highlighted the complex and sometimes criminogenic interactions between various actors in the international trade in waste products, between various public and private interests and between the interests of countries of origin and countries of destination. In global supply chains, corporate decision making becomes increasingly more fragmented and often takes place at great distances from the locus of actual risks and harms. Consequently, potential harms and wrongs across the globe are easily overlooked or rationalised. While the harmful consequences of the international trade in waste are manifold and abundant, these are often the result of legitimate business practices. Therefore, the relevant actors in the complex global market are not only the supply chain partners, investors, brokers or intermediaries, but also the regulatory agencies and NGOs who choose (not) to invest in setting higher standards for waste treatment or disposal. In both cases, NGOs played a role in calling attention to these issues, sometimes even providing detailed documentation of harmful practices when regulators failed to do so. The role played by the regulatory context is especially relevant as asymmetries in environmental regulation and enforcement shaped both cases. The EU has chosen to set a 'golden' environmental, labour and health standard by requiring ships that visit EU ports to have detailed inventories of hazardous materials on board, thereby sealing further regulatory loopholes, although others still remain ingrained in the economic system.

This kind of transnational, harmful business activity challenges academics to think outside the box of nation-state frames of reference and look for the causes in the interplay of the economic and political spheres. This also points to the importance of a broader approach than a mere legal one. Although these companies work largely within the boundaries of the law, but their activities are harmful. Our cases have shown that the criminal law is limited in addressing transboundary corporate environmental crime.

Rather than relying on regulation and enforcement, we therefore argue for the need to design innovative strategies that prevent the externalization of environmental harms. For shipbreaking, the preliminary steps have been taken to this end with calls from several experts and NGOs for changing the legal responsibilities of port and flag states for shipbreaking. Because a majority of end-of-life vessels that end up on South-East Asian beaches use a flag of convenience, the jurisdiction over these vessels rests with lenient flag

states. Flag of convenience states have been shown to rarely ratify and barely enforce shipping legislation, environmental conventions and labour rights standards – a flag state is free to determine conditions for registration in the country's ship registry.<sup>113</sup> This allows for original owners to stay anonymous and makes it virtually impossible for port authorities in countries of origin or destination of the vessels to hold them to account for shipbreaking. Only if the current legislation would go beyond the current flag state jurisdiction to require genuine links between the shipowners and the flags they use would the enforcement of the EU SRR or other shipbreaking legislation by port state jurisdiction become more meaningful. This would allow for owners of ships leaving the EU for South-East Asian beaches to be held accountable for environmental and social protection – the 'polluter pays' principle. Requiring this genuine link, however, goes far beyond the drafting of legislation for shipbreaking or waste, requiring an overturn of something which has been common – and profitable – business practice in shipping for decades. In the aftermath of the *Probo Koala* case, Dutch authorities required polluted substances to be unloaded at the nearest port, thereby avoiding the shipment of hazardous substances to cheaper but lower-quality facilities in other ports. Given the economic importance of the trade in (hazardous) waste, this measure did not go unchallenged. It remains to be seen, however, to what extent it will be successful in actually avoiding the transference of harm. This requires information exchange and cooperation across borders and between different agencies about the (very lucrative) trade in (hazardous) waste. Moreover, this cross-border communication is likely to be difficult if it remains ambiguous what a polluted substance is. There is still a long way to go to effectively organise such prevention measures, especially in a global industry where political and economic interests are often aligned against limiting business. Nonetheless, the cases in this article have highlighted what governments, policymakers, firms and NGOs can do to prevent environmental harms abroad and make corporations more accountable for responsible business elsewhere.

## Noten

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