

# Chapter 10

## Legal and Extralegal Enforcement of Pollution by Seagoing Vessels

Judith van Erp, Toine Spapens, and Karin van Wingerde

### Introduction

Seagoing vessels contribute considerably to marine and air pollution. The first reason is the dumping of waste containing oil at sea, which harms the marine environment as well as seabirds. The second is the heavy fuel oil (HFO) used as a propellant in seagoing ships. Whereas HFO is far from a clean product to begin with, hazardous chemicals and untreated waste oil blended with this type of oil is an important additional source of pollution.

This chapter first discusses the scope and nature of both activities. The first part of this chapter focuses on the dumping of waste oil at sea as well as on a case in which chemical waste created on board of the ship *Probo Koala* was dumped on land. Next, we address the blending of hazardous waste with HFO. Pollution caused by accidents and other activities at sea, for example from drilling, is excluded here.

Part 2 discusses the reasons why curbing these problems through law enforcement is often problematic. To begin with, although the aforementioned problems create serious environmental hazards they are still very difficult to detect, regulate, and monitor. In addition, polluters are often able to cleverly and creatively utilise regulatory loopholes in the grey zone between legal and harmful behaviour. This raises the question whether and how extralegal interventions, particularly social pressure, negative publicity, and ‘naming and shaming’, may contribute to the prevention of harms to the environment. Part 3 of this chapter addresses this question in more detail. The final part summarises and discusses the implications of the key findings.

---

J. van Erp (✉)  
Utrecht University, Utrecht, The Netherlands  
e-mail: j.g.vanerp@uu.nl

K. van Wingerde  
Erasmus University Rotterdam, Rotterdam, The Netherlands

T. Spapens  
Tilburg University, Tilburg, The Netherlands

## Dumping of Waste Oil

The normal operating process of (seagoing) ships produces several types of waste containing oil. To begin with, ships running on HFO produce fuel oil sludge that cannot be used in the ship's engines. Sludge typically comprises 1.5–2% of the fuel oil volume. Second, oil often leaks from engine and machinery spaces or from engine maintenance activities and mixes with water in the bilge, the lowest part of the hull of the ship. This so-called bilge water consists of a mixture of water, fuel, lubricating oil, solvents, and chemical waste. Finally, washing out the residue from the tanks of an oil tanker (crude oil washing) creates 'oily slops'. Ships are obliged to discharge the aforementioned types of waste in a port reception facility or treat it on board (e.g. burn it in an incinerator). However, dumping it at sea remains a cheaper method (Crist 2003).

Such dumpings have substantial effects on the environment. One reason is that they usually concentrate in shipping lanes, and the cumulative effect of dumpings, which itself may be relatively small, is substantial (National Research Council 2003, p. 28). Another is that a single dumping may accidentally hit a concentration of wildlife, such as birds, which happen to be in the wrong place at the wrong time (Camphuysen 2010; National Research Council 2003). Dumping of waste oil affects both birds and marine life and also pollutes the sediment threatening flora and fauna living on the sea floor (cf. Grontmij 2010, p. 38).

Ships for a longtime disposed of waste oil at sea. However, after the Second World War this increasingly polluted the coasts and already in 1954 countries convened in London and drew up the 'International Convention for the Prevention of Pollution of the Sea by Oil'. This treaty aimed primarily at better regulating the dumping of waste oil, but also obliged the governments to organise facilities for the reception of residues from oily ballast water and tank washings. Ships, however, were not yet obliged to dispose of these substances in ports. Reception facilities operated on a commercial basis and paid the ships for the waste oil that could be treated and reused.

A few years earlier in 1948, the United Nations had decided to establish an international organisation for marine safety. This body, the Inter-Governmental Maritime Consultative Organisation (IMCO), became operational in 1959 and pollution caused by ships was one of its priorities.<sup>1</sup> A conference organised in 1962 resulted in a number of amendments to the 1954 convention. Ships of over 20,000 gross register tonnage were no longer allowed to dispose of waste oil and oily substances at sea. These ships had to be fitted out with slop tanks in which the waste could be stored until it could be discharged at a port reception facility. In addition, dumping was no longer allowed in the entire North Sea and Baltic Sea. The amended convention entered into force in 1967, but soon afterwards several states urged to draw up an entirely new and more rigorous convention. In 1973, these efforts resulted in the 'International Convention for the Prevention of Pollution from Ships', better known

---

<sup>1</sup> In 1982, the name of IMCO was changed to International Maritime Organization (IMO).

as the MARPOL Convention. Its aim is to minimise marine pollution resulting from oil and all other hazardous substances as much as possible. Central to these efforts is a total ban on the dumping of waste at sea and the provision of harbour reception facilities where ships could dispose of it. The new convention entered into force in October 1983.

Despite the convention, ships still dump oily substances at sea (Vollaard 2013). One of the reasons is the fact that delivery at a harbour reception facility costs money. In a sector that suffers from cut-throat competition, any opportunity to save money presents an attractive proposition. One indicator for the dumping of oil is the percentage of common murre that die of oil pollution, because this bird is extremely vulnerable to oil. In the 1960s and 1970s, almost all of the dead common murre that washed up onto the Dutch North Sea coast were smeared with oil. Although the figure was greatly reduced in the years to follow, in the winter of 2011/2012, still about one third of the common murre found on the Dutch beaches had died of oil pollution (Camphuysen 2012). These findings show that the dumping of waste oil is an ongoing problem.

## **A Notorious Example: The Probo Koala Case**

One notorious example where the illegal dumping of waste oil from a ship resulted in disaster is the Probo Koala case, although it is to a certain extent atypical. On the one hand, the waste was not the result of the ship's normal operations, but produced during an industrial process to upgrade low-quality oil which was carried out on board. On the other hand, the waste was not dumped at sea, but on land. In total, an estimated 450 tons of waste ended up in the countryside near Abidjan in the Ivory Coast (Amnesty International and Greenpeace Netherlands 2012).

The case had started in July 2006, when the Probo Koala arrived in the harbour of Amsterdam to dispose of the waste. The vessel was chartered by Trafigura, according to its website 'one of the world's leading independent commodity trading and logistics houses'.<sup>2</sup> Trafigura informed the harbour reception facility operated by Amsterdam Port Services (APS) that these were normal slops. When the Probo Koala arrived in the port, APS took samples of the waste and quickly discovered that it was not the 'mixture of gasoil, water, and caustic soda' that Trafigura had claimed it to be. APS notified the company that it could still accept the waste and take care of its treatment but that the costs would be € 900m, instead of € 20 that applied to normal slops (Amnesty International and Greenpeace Netherlands 2012; Spapens et al. 2013; van Wingerde 2015). Trafigura refused to accept this higher price, which amounted to an extra cost of several hundreds of thousands of Euros, and ordered APS to stop off-loading the waste and return it to the ship. Trafigura then found a local company in Ivory Coast, Compagnie Tommy, which agreed to the reception of the waste carried in the Probo Koala. Shortly afterwards the waste

---

<sup>2</sup> See: (Accessed 20 December 2014). [www.trafigura.com](http://www.trafigura.com).

dumped in the countryside, where the local community claimed that the waste caused injuries and even deaths to people who came into contact with it.

In March 2007, a similar problem manifested itself with the vessel *Torm Thyra*. Once again the waste was far more dangerous than normal slops and the fact that *Trafigura* had chartered the ship for this journey set off all alarms with the Dutch authorities.<sup>3</sup> In this case, all of the waste was discharged at the port of Amsterdam. Whether it was also treated correctly, however, was questioned in a Dutch documentary broadcast in October 2009.<sup>4</sup> Allegations were that the waste had been shipped to a Dutch company called North Refinery. This company was accused of being unable to treat the waste and that had mixed it with other chemical waste and sold it as a blend product for the production of HFO. This brings us to the second problem addressed in this chapter: ‘dirty oil’.

## ‘Dirty Oil’

Although various pollutant aspects of the oil industry related to the marine environment, such as oil drilling and oil spills, have received ample societal and scholarly attention (Jernelöv 2010),<sup>5</sup> the harmful effects related to HFO used by seagoing ship’s engines have not been discussed widely. To begin with, seagoing vessels contribute substantially to air pollution because the burning of HFO releases sulphur dioxide and other pollutants into the air. In 2009, media reported that just 15 of the world’s biggest ships may now emit as much pollution as all the 760 million cars in the world (Vidal 2009). Low-grade HFO has up to 2000 times the sulphur content of diesel fuel used in cars. Shipping is responsible for an estimated 18–30% of the world’s nitrogen oxide (NOx) pollution and 9% of the global sulphur oxide (SOx) pollution. Furthermore, 70% of all ship emissions are within 400 km of land (Vidal 2009). According to simulations, about 19% of particulate matter emissions in Europe can be attributed to seagoing vessels (Andersson et al. 2009). The blending of untreated waste oil and chemical waste in HFO further contributes to the problem (Spapens et al. 2013).

The basis of HFO is residual oil, a rest product of refineries. This rest product as such is unfit for use in ship’s engines unless it is blended with lighter fuels. Once, the manufacturers used diesel fuel for this purpose, but over the years, this became too expensive. An alternative were rest products of refineries, so-called cutter stocks. However, as refineries became more efficient there were less of these avail-

<sup>3</sup> Parliamentary proceedings, TK 2006–2007, 22 343, no. 178, p. 4.

<sup>4</sup> *Zembla*, ‘De smerige olieroute’, 11 October 2009, Available online at: <http://tvblik.nl/zembla/de-smerige-olieroute> (Accessed 5 February 2015).

<sup>5</sup> National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling (2011). *Deep Water The Gulf Oil Disaster and the Future of Offshore Drilling. Report to the President*. <http://www.gpo.gov/fdsys/pkg/GPO-OILCOMMISSION/pdf/GPO-OILCOMMISSION.pdf> (Accessed 7 February 2015).

able. Fuel producers then turned to use light, flammable chemical waste as a blend product. There is basically nothing wrong with that as long as the chemical waste is properly treated before being reused. However, if this is omitted, this causes a number of problems.

To begin with, pollutants burn incompletely in ships' engines because the temperatures are not high enough and thus they end up in the atmosphere as particulate matter. Second, polluted HFO damages the ships engines and may even cause a shutdown. Ships not under control may cause serious problems when they run aground or collide with other ships or objects at sea. Third, the fuel can cause serious health problems for the crew. Stories can be heard of crewmembers that walk across the engine room vomiting or suffering burns from coming into contact with fuel.<sup>6</sup>

Inspections carried out from the 1980s onwards by Dutch authorities reveal that mixing untreated waste oil and chemical waste in HFO is common practice. From 2011 to 2013, the Dutch water police, the Human Environment and Transport Inspectorate, and the Netherlands Forensic Institute initiated operation 'Watchful'. During the first inspections, 21 of 28 ships required further investigation because of irregularities concerning bunker fuel ranging from environmental violations to tax evasion. Follow-up inspections rendered fewer results, not in the least because the ship's captains responded immediately when they received the word of police activity. Ships were observed to postpone entering the Dutch territorial waters until the inspections were concluded, for example. Criminal investigations revealed that because of the large quantities of fuel, profits easily amounted to millions of Euros in single cases.

In the port of Rotterdam, the trade in HFO is an important economic activity. Annually, over 20,000 ships refuel in Rotterdam, and the trade in HFO constitutes about one third of the trade in 'wet' products in the harbour (de Buck et al. 2011). In 2007, total deliveries amounted to about 13.4 million tons. In the same year, Fujirah in the United Arab Emirates handled a similar amount and only Singapore (31.4 million tons) surpassed Rotterdam.<sup>7</sup> In the same year, the European ports of Antwerp (6 million tons), Gibraltar (4 million tons), and Piraeus (3 million tons) also appeared in the global top ten of bunker harbours.

There exist no international regulations for the blend components used to produce HFO. Only the end product must meet with certain qualifications. Annex VI of the MARPOL Convention sets limits to the sulphur oxide content of HFO and Regulation 18 specifically requires that fuel oil supplied to ships is to be free from inorganic acids or chemical wastes that could jeopardise the safety of the ship, be harmful to ships' personnel, or which would contribute overall to additional air pollution. These general requirements, however, left considerable room for legal discussion.

Theoretically, the Dutch legislation also allowed preventing the application of (chemical) waste as a blend component. However, these regulations only applied to 'waste' whereas suppliers consequently defined blend components as 'product', not

---

<sup>6</sup> *Zembla*, 'De smerige olieroute', 11 October 2009, Available online at: <http://tvblik.nl/zembla/de-smerige-olieroute> (Accessed 5 February 2015).

<sup>7</sup> See <[www.bunkerworld.com](http://www.bunkerworld.com)>.

in the least because the producers of HFO did not have a license to process waste. National legislation about what is to be defined as waste differs widely between countries. This problem could only be solved by adopting a well-defined list of products that were allowed to be used as blend products.

Operation Watchful underlined that administrative bodies could not prevent fuel producers from using potentially harmful blend products. Furthermore, law enforcement agencies had great difficulty in finding the culprit when the end product violated existing regulations because the contamination could have occurred anywhere between the production of the fuel and the delivery to a ship's bunkers. The Dutch government responded to the questions of members of parliament that given the 'highly international nature of the market for HFO and the potential economic consequences for the Dutch traders' the International Maritime Organization (IMO) should decide upon additional regulations.

## **Legal Enforcement Problems**

Traditionally, governments have sought to deal with the issues described earlier by increasing environmental regulation and enforcement. For instance, in the aftermath of the Probo Koala case, the European Union adopted a new directive, urging the member states to protect the environment through criminal law.<sup>8</sup> The main reason underlying this new directive was the belief that criminalisation and law enforcement are crucial to ensure compliance with environmental regulations. However, the strategy to influence the behaviour of firms using regulation and enforcement is filled with difficulty. Environmental regulation is often criticised for being inflexible, expensive for both firms and governments, and ineffective in shaping compliance behaviour of firms. This section discusses several ambiguities and legal complexities related to the pollution of seagoing vessels that create problems for detection and enforcement.

### ***The Problem of Detection***

As described earlier, one major factor contributing to the pollution by seagoing vessels is the economic incentive for dumping or blending waste containing oil at sea. Disposal of these wastes at specialised facilities is often time-consuming and expensive. Dumping waste at open sea or mixing it with HFO is simply cheaper. Apart from this cheaper method of disposal, blending waste products with HFO creates an extra incentive, because it also saves the costs of cleaner—and more

---

<sup>8</sup> Directive 2008/99/EC of 19 November 2008 on the protection of the environment through criminal law, official journal L328/28 of 6 December 2008.

expensive—fuel. In a recent study, Spapens et al. (2013, p. 187) estimated that this might result in an additional US \$ 200–500 save per ton fuel oil.

While these economic incentives are significant, the dumping and blending of chemical waste products and residual oil are very difficult to detect for a number of reasons. One of the most widely used methods for monitoring pollution at sea is aerial surveillance (Lagring et al. 2012; Vollaard 2013). In the Netherlands, and in many other countries, the Coast Guard is responsible for monitoring and surveillance and makes surveillance flights approximately 7–8 times per week (Vollaard 2013, p. 16). The probability that oil spills are observed from the air is, however, small. Even though there are regular surveillance flights, Vollaard (2013, p. 18) shows that for most of the time (approximately 85%) there is no aerial surveillance whatsoever. Moreover, the detection probability is even more limited because the aerial surveillance is difficult at night and during mist or fog. About 70% of the surveillance flights, therefore, happen during the day, while most illegal activity occurs after sunset. As a result, the detection probability of an illegal dumping in the part of the North Sea monitored by the Dutch Coast Guard is estimated at roughly 1% (Vollaard 2013, p. 19).

Another problem that limits the possibilities for detection revolves around the nature of the products involved. Waste oil and other hazardous waste materials are generally considered to be products that are highly vulnerable to manipulation and create opportunities for various forms of criminal manipulation (de Buck et al. 2011; Spapens et al. 2013; van Daele et al. 2007; White and Heckenberg 2011). For instance, most oil or waste spills at sea are undetectable within a few hours, because the products dissolve into the seawater rather quickly (Helmers 2002). Moreover, many oil products inhibit some of the same physical and chemical characteristics as many waste products, which makes blending of hazardous and nonhazardous wastes and blending of waste and oil less visible and harder to detect (Spapens et al. 2013, p. 115). Similarly, van Daele et al. (2007, pp. 35–36) emphasise the problem of so-called mirror entries. These define waste only as ‘hazardous’ 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.

However, even if the dumping and blending operations would be more visible and easier to detect, other complexities make it difficult to establish whether an actual violation has occurred, and subsequently to find the responsible actors and sufficient evidence to prosecute and convict them. A key issue in relation to the blending of waste and oil is how to distinguish between waste and reusable products (Gibbs et al. 2010; Spapens et al. 2013; van Daele et al. 2007; van Erp and Huisman 2010; White 2008). Blending residual oil with waste products creates a new lighter oil that can be used as a fuel for ships. The regulatory framework under the Basel Convention, however, allows for the possibility that waste materials that can be reused are not illegal by definition. In other words, the origin of the waste no longer determines its definition, but its use in practice. Nonetheless, this is often very difficult to assess because in different parts of the world, there are different values attached to products. It has been suggested to create a black list for products that are prohibited from blending into oil. However, the Dutch government has—rightfully—indicated that such a black list is

merely symbolic in a sector in which purposeful law evasion is common practice, when it is not backed up by stringent enforcement.<sup>9</sup>

As with many other forms of environmental crime, the production processes of blending waste and oil are another source of complexity. There are often many steps and many different actors involved in this process, which makes it difficult to distinguish who is responsible and to establish a causal link between the producer of the chemical waste and the end product (Spapens et al. 2013, p. 115). Also, traditionally the blending of chemical products happened on land at a specialised refinery. Increasingly, however, firms find new locations to carry out these processes, including tanker terminals, but also at sea on board of a ship (Spapens et al. 2013, p. 181; van Wingerde 2015). This creates serious problems for oversight and makes it difficult to decide which country and authority has jurisdiction for enforcement. For instance, in the Probo Koala case, the ship was owned by a Greek firm; it was registered in Panama; it was chartered by a Dutch-based firm with its operating headquarters in London; and the ship sailed from Amsterdam to Estonia, Nigeria, and Ivory Coast (van Wingerde 2015). These difficulties also further impact the possibilities to prosecute, convict, and sentence offenders. Even when a violation is discovered, it is often very difficult to find sufficient evidence to bring the case before the court and to attribute the violations to the responsible actors.

### *The Problem of Enforcement: Too Big to Deter?*

As the Probo Koala incident illustrates, the most prevalent response to many of the problems described here is to increase supervision and to impose harsher, more deterrent sanctions for violations. However, the deterrent effect of formal legal sanctions is often limited (Kagan et al. 2011; Thornton et al. 2005; van Wingerde 2012). Especially for large multinational business firms that are often involved in the trading and blending of oil products, penalties for environmental violations are insignificant compared to the profits of most of those firms. In the Probo Koala case, for example, Trafigura was sentenced in the Netherlands to pay a fine of 1 million € in 2011 while the company had its best year ever, with a turnover of US \$ 1216 billion and a net profit close to US \$ 1 billion.<sup>10</sup>

Power asymmetries and economic dependences between these large firms on the one hand, and governments and regulatory bodies, on the other, are often said to explain why dealing with corporate environmental crime is difficult (Hertz 2003; Snider 2010). Firms involved in the trading of commodities such as oil are among

<sup>9</sup> Dutch ministry of Safety and Justice, Letter to Parliament of 13 October 2013, reference number 434925, <http://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=9&ved=0CFkQFjAI&url=http%3A%2F%2Fwww.rijksoverheid.nl%2Fbestanden%2Fdocumenten-en-publicaties%2Fkamerstukken%2F2013%2F10%2F08%2Fstudie-vuile-olie%2F1p-v-j-0000004163.pdf&ei=jtDQVNqSCoKzUbWrg8AK&usg=AFQjCNHvWonNLieGVp4QWmkiFq-RljdMeQ&bvm=bv.85076809>, (Accessed 6 February 2015).

<sup>10</sup> Trafigura (n.d.). *Corporate brochure*, [http://www.trafigura.com/useful\\_links/corporate\\_brochure.aspx](http://www.trafigura.com/useful_links/corporate_brochure.aspx) (Accessed 24 May 2013), also <http://www.ft.com/cms/s/0/99241c2c-2998-11e1-8b1a-00144feabdc0.html#axzz2UCITheoY> (Accessed 24 May 2013).

the world's largest and most powerful firms. Oil is the biggest commodity market in the world (CEPS-ECMI Taskforce 2013, p. 74). The combined turnover of the ten largest commodity traders amounts to US \$ 885 billion (Blas 2013). The four largest commodity traders, each have annual revenues of more than US \$ 100 billion placing them in the same ranks as more familiar companies such as Apple (Shumsky and Kent 2014). The sales and profits of some of these firms are greater than the gross national product of many countries. For instance, the sales from the ten largest commodity traders are almost the same as the gross domestic product of Spain and South Korea. Moreover, the Dutch-based firm Vitol had revenues of US \$ 303 billion, which is only marginally less than the gross domestic product (GDP) of Denmark (Blas 2013). The size of these companies makes it difficult to effectively influence these firms. Even if financial penalties would be much higher than they are, these types of firms could easily overcome the financial damage. However, as these firms continue to grow the risks of economic or market failure the moment their profitability dries up, are increasing. These firms might literally have become 'too big to deter' (Blas 2013; CEPS-ECMI Taskforce 2013; Martijn 2013).

## **Extralegal Enforcement as a Solution? Naming and Shaming and the Threat of Reputational Damage**

In situations in which formal legal enforcement is lacking impact, 'naming and shaming', either by public authorities or by nongovernmental organization (NGOs) or the media, is often suggested as an alternative. Adverse publicity is often expected to reinforce public enforcement by inducing extra reputational sanctions on top of formal sanctions. The consequences of reputational damage in terms of financial harm due to loss of clients and stakeholders, and in terms of loss of personal status and prestige on the part of members of the business elite through shame and stigma, often exceed the damage resulting from formal sanctions. Therefore, the threat of adverse publicity may also deter firms from offending, and thus prevent corporate offenses. The wish to maintain a good reputation with clients, local communities, NGOs, and the media is a major motive for compliance and even for beyond-compliance investments by firms that depend on their reputation.

Public supervising agencies increasingly attempt to make use of the power of publicity by issuing press releases when a firm is prosecuted or by publishing sanctions naming the offender. Also, NGOs attempt to generate public condemnation of damaging corporate behaviour. The oil industry has been a frequent target. Greenpeace, for example, has repeatedly campaigned against oil drilling in the Arctic and oil spills in Nigeria. A recent, very powerful media campaign targets Lego for collaborating with Shell by using the popular 'everything is awesome' tune from the Lego movie as a background for Lego figures slowly drowning in oil.<sup>11</sup> It caused Lego to terminate the marketing contract with Shell, although Lego stated that it was unfair to involve the company in a conflict between Greenpeace and Shell. But

---

<sup>11</sup> <https://www.youtube.com/watch?v=Ci4I-VK9jew>.

it was no coincidence that Greenpeace targeted Lego, and not Shell. NGOs have to carefully select those targets that will create maximum public impact. Campaigns against firms with a close relation to end consumers and a 'feel good' factor, such as Lego, attract more media attention than campaigns against the firms that are unknown to the general public. This implies that the shipping industry is not the most likely target to attract media attention. Although some firms in the shipping industry are among the world's largest firms, they are often largely unknown to the general public and not as engaging as firms with direct end consumer contact. This goes for oil-producing companies, but even more so for the trading and shipping industry. The Dutch-based firms Vitol and Trafigura are the world's largest independent oil trading companies. Even though their operations and profits largely exceed those of more familiar Dutch companies such as Heineken and Philips, most people have never heard of them (Martijn 2013; Vink 2011). Only 9 of the 20 largest traders are listed (Blas 2013). These commodity traders have been characterised as 'the biggest companies you have never heard of' (Reuters 2011). This is one of the reasons why the threat of negative publicity and naming and shaming have less potential as a compliance-enhancing mechanism in the international shipping industry than in other, more consumer-oriented business sectors.

Not only does the character of the businesses in the shipping industry contribute to a low level of public condemnation of the dirty oil business, another relevant factor is that media coverage of environmental crime is often limited (Kraft et al. 2011; Lynch et al. 2000), particularly when it concerns environmental damage that is difficult to visualise, such as long-term damage to the ecosystem. Media coverage also depends on the availability of images, a condition that is often hard to realise in the case of oil spills at sea. Read (2011) reports how the Deepwater Horizon oil Spill allowed 24 h of live coverage of oil spewing out of a pipe into the Gulf of Mexico. When BP capped the well, the images stopped, and media coverage, which had risen to 40% of news time, quickly declined (Read 2011).

The limited media coverage (and resulting lack of public condemnation) of the blending and dumping of dirty oil substances is also a result of active publicity management by the shipping companies. Corporate public relations (PR) strategies are often directed towards neutralising the harm of and denying responsibility for what they frame as 'accidents'. Media accounts of chemical spills as 'accidents' rather than as 'chemical crimes', which not only makes these spills appear less serious but also leaves the question of responsibility untouched (Lynch et al. 2000). In the Probo Koala case, for example, Trafigura Chairman Eric de Turckheim was interviewed on BBC Newsnight. With a charming French accent, De Turckheim stated that the Probo Koala carried 'a mixture of water and soda' blended in 'a routine operation'. He also stated that the incident was an accident for which not Trafigura, but the small Ivorian waste processor Tommy Company was to blame.<sup>12</sup> The civil damages that Trafigura paid to the inhabitants of Ivory Coast were not to be seen as compensation or an act recognising responsibility, but as an act of corporate charity. Another illustration of corporate PR strategies attempting to minimise reputational damage can be found in the way oil corporation Exxon prepares for an oil spill in its 'crisis preparation plan', as documented by Coll (2013) in his corporate biography of Exxon, 'Private Empire'.

<sup>12</sup> <http://www.youtube.com/watch?v=tQBS82kFQjE&app=desktop> (Accessed 30 June 2014).

Ten pages of this plan are devoted to the physical recovery of the spill, five pages to environmental protection, and forty pages to media strategies. The plan contains 13 standard press releases, in which the blanks can be filled in with the information about the event. For example, Exxon's standard press release in case of 'Public fatality':

We are greatly saddened by this tragic event and express our deepest sympathy to the families of those affected. We are working with [APPROPRIATE AUTHORITIES] at the site (.)(Coll 2013)

In the case of criminal charges, Exxon's standard reaction is:

We believe there are no grounds for such charges. This was clearly an accident.(Coll 2013).

In addition to attempts to avoid blame in the media, firms have been known to actively resist negative publicity by employing legal means. In the Probo Koala case, Trafigura employed the legal firm Carter-Ruck, specialised in reputation management. In 2009, the British newspaper, *The Guardian*, obtained a confidential document—later known as the Minton report—that contained information on the harmful nature of the waste as well as the relationship between the waste and the health problems of people living near the dumpsites in Ivory Coast. Subsequently, Carter-Ruck issued an injunction against *The Guardian* that prevented the paper from publishing the report. Moreover, *The Guardian* was issued a so-called super-injunction banning all mention of the injunction. About a month later, however, a member of parliament scheduled a parliamentary question revealing the existence of the injunction. *The Guardian* informed Trafigura's lawyers that it intended to report about this parliamentary question. Immediately thereafter, Carter-Ruck warned the newspaper that if they would report about the parliamentary proceedings, they would breach the injunction and would be held liable. *The Guardian*, therefore, decided to publish a front-page story saying that—a first in British history—a newspaper was prevented from reporting about parliamentary proceedings. This story was picked up by the Internet community and within a matter of hours details about the injunction and the Minton report were spread around the Internet, urging Trafigura to lift the injunction (van Wingerde 2015).

Even though the resistance to negative publicity could be interpreted as an indicator of the value that firms attach to their reputation, there are also authors who question the importance of a good reputation in contemporary corporate circles, and claim that corporate offenders are less and less sensitive to the threat of reputational damage. In his book, 'The Death of Corporate Reputation', Jonathan Macey (2013) distinguishes between corporate reputations—the public image of companies—and personal reputations carried by individuals in business communities. Although scandals may harm corporate reputations, these may be less damaging for the reputations of the responsible individuals. A person, who is labelled a corporate criminal in the outside world, may be regarded as a moneymaker or a problem solver in the inner business circle. As for legal sanctions, although a criminal conviction may still carry a stigma, this is no longer the case for civil or administrative enforcement or settlements, as these have been imposed so often that people have become used to those and they no longer form a blow to one's reputation. An illustration of this is that the executives of Trafigura, Claude Dauphin, who spent five months in an Ivory Coast jail, and Eric de Turkheim, are still primarily associated with wealth

and power in the business press, and have remained in leading positions within Trafigura for years after the Probo Koala affair (Hoffman 2014).

## Final Remarks

One of the most significant concerns of our time is how to avoid irreversible damage to our natural environment and how to ensure sustainability for future generations. This chapter focused on oil-related pollution by seagoing vessels as one of the issues that is extremely harmful to the environment, yet for a longtime lacked political and public awareness. Not only do marine fuels contribute significantly to the levels of particulate matter in the atmosphere, a problem that increases when the fuel is blended with waste, but also the illegal dumping of waste oil at sea is an ongoing problem.

In the first part of this chapter, we described the scope and nature of the dumping of oil at sea and the mixing of waste with HFO. This description showed that while these activities may seriously affect flora and fauna at sea and threaten our air quality, they are extremely lucrative as well. The high costs of legal waste management and the relative ease and impunity with which waste materials can be mixed with HFO or dumped represents a significant criminal opportunity structure (van Daele et al. 2007; White and Heckenberg 2011). Consequently, oil is frequently blended with harmful waste and waste oil is dumped in the sea.

We then highlighted several complexities that make detection and enforcement of the pollution by seagoing vessels extremely difficult. Due to the nature of the products involved, inspection authorities face serious difficulties in detecting the dumping of oil in sea and the blending of waste with HFO. Moreover, sanctions are often limited to financial penalties, which lack impact because the firms involved in the oil and shipping industry are among the world's largest and financially powerful.

Although naming and shaming is often presented as an alternative when enforcement is lacking impact, we argued that in the oil and shipping industry it might lack effectiveness because of the limited media coverage of oil-related environmental incidents, the lack of 'end consumer' contact, and the fact that the companies involved may be able to effectively neutralise negative publicity.

We, therefore, conclude that the need to design innovative prevention strategies is increasingly apparent. Rather than relying on detection and enforcement at full sea or in countries in the Global South, where enforcement capacity is often lacking, a more fruitful approach is to prevent the export of hazardous substances from the Global North in the first place. First steps have been taken: for example, in the aftermath of the Probo Koala affair, the Dutch authorities took measures to ensure that ships unloaded polluted substances at the nearest port. This prohibits ships from keeping the waste on board to off-load it only where this is as cheap as possible and proper treatment is not guaranteed.<sup>13</sup> However, in order to be successful, such

---

<sup>13</sup> Letter to Parliament, Dutch Minister of Environmental Affairs, 15 January 2015, IENM/BSK-2014/264196.

a strategy requires cooperation and information exchange between various national and international enforcement authorities as well as clear rules with regard to the substances that qualify as waste or recyclables. This ideal is still far from the reality in most countries, in which the economic benefits of the global oil trade often result in a lack of political will and power to act against its damaging side effects.

## References

- Amnesty International and Greenpeace Netherlands. (2012). *The toxic truth: About a company called Trafigura, a ship called the Probo Koala, and the dumping of toxic waste in Côte d'Ivoire*. London: Amnesty International and Greenpeace Netherlands.
- Andersson, C., Bergström, R., & Johansson, C. (2009). Population exposure and mortality due to regional background PM in Europe—Longterm simulations of source region and shipping contributions. *Atmospheric Environment*, 43, 3614–3620.
- Blas, J. (14 April, 2013). Commodities: tougher times for trading titans. Financial Times. <http://www.ft.com/cms/s/0/250af818-a1c1-11e2-8971-00144feabdc0.html#axzz3PF3jAsEa>. Accessed 23 Jan 2015.
- Camphuysen, C. J. (2010). Declines in oil-rates of stranded birds in the North Sea highlight spatial patterns in reduction of chronic oil pollution. *Marine Pollution Bulletin*, 60(8), 1299–1306.
- Camphuysen, C. J. (2012). *Olieschichtoffers op de Nederlandse kust 2011/2012*. Texel: Koninklijk Nederlands Instituut voor Zeeonderzoek.
- CEPS-ECMI Task Force. (2013). *Price formation in commodity markets: Financialisation and beyond*. Brussels: Center for European Policy Studies.
- Coll, S. (2013). *Private empire: ExxonMobile and American power*. New York: Penguin Books.
- Crist, P. (2003). *Cost savings stemming from non-compliance with international environmental regulations in the maritime sector*. Paris: OECD/Maritime Transport Committee.
- de Buck, A., Smit, M. E., Faber, J., & van Grinsven, A. (2011). *Blends in beeld. Een analyse van de bunkerolieketen*. Delft: CE Delft.
- Gibbs, C., McGarrell, E. F., & Axelrod, M. (2010). Transnational white-collar crime and risk: Lessons from the global trade in electronic waste. *Criminology & Public Policy*, 9(3), 543–560.
- Grontmij. (2010). *Trends in lozingen op de Noordzee. Evaluatie VluVerO dataset 1992–2008, onderzoek in opdracht van Rijkswaterstaat*. Rijswijk: Dienst Noordzee.
- Helmers, R. (2002). *Statistical analysis of oil pollution data (1992–2000) from the Dutch part of the North Sea*. Amsterdam: Centre for Mathematics and Computer Science.
- Hertz, N. (2003). *The silent takeover—Global capitalism and the death of democracy*. Amsterdam: Pandora Pockets.
- Hoffman, A. (24 March, 2014). Trafigura Founder Dauphin Exits as CEO for Medical Treatment. <http://www.bloomberg.com/news/articles/2014-03-24/trafigura-co-founder-dauphin-exits-as-ceo-for-medical-treatment>. Accessed 30 May 2015.
- Jernelöv, A. (2010). The threats from oil spills: Now, then, and in the future. *AMBIO*, 39(5–6), 353–366.
- Kagan, R. A., Gunningham, N., & Thornton, D. (2011). Fear, duty and regulatory compliance: Lessons from three research projects. In C. Parker & V. Lehmann Nielsen (Eds.), *Explaining regulatory compliance: Business responses to regulation* (pp. 37–58). Cheltenham: Edward Elgar.
- Kraft, M.E., Stephan, M., & Abel, T. (2011). *Coming clean, information disclosure and environmental performance*. Cambridge: MIT Press.
- Lagrang, R., Degraer, S., de Montpellier, G., Jacques, T., van Roy, W., & Schallier, R. (2012). Twenty years of Belgian North Sea aerial surveillance: a quantitative analysis of results confirms effectiveness of international oil pollution legislation. *Marine Pollution Bulletin*, 64, 644–652.
- Lynch, M. J., Stretetsky, P., & Hammond, P. (2000). Media coverage of chemical crimes, Hillsborough County, Florida, 1987–1997. *British Journal of Criminology*, 40, 112–126

- Macey, J.R. (2013). *The death of corporate reputation. How integrity is being destroyed on Wall Street*. New Jersey: Pearson Education Inc.
- Martijn, M. (2013). Over deze Nederlandse oliereus is nog nooit een Kamervraag gesteld. *De Correspondent*, 3 December 2013. <https://decorrespondent.nl/438/Over-deze-Nederlandse-oliereus-is-nog-nooit-een-Kamervraag-gesteld/13471128-bc330511>. Accessed 27 Jan 2015.
- National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling. (2011). Deep water the Gulf oil disaster and the future of offshore drilling. Report to the president. <http://www.gpo.gov/fdsys/pkg/GPO-OILCOMMISSION/pdf/GPO-OILCOMMISSION.pdf>. Accessed 7 Feb 2015.
- National Research Council. (2003). *Oil in the sea III: Inputs, fates and effects, committee on oil in the Sea, U.S. National Academy of Sciences*. Washington DC: The National Academies Press.
- Read, C. (2011). *BP and the Macondo Spill, the complete story*. Houndsmills: Palgrave MacMillan.
- Reuters. (2011). The biggest company you never heard of. Special report. <http://www.reuters.com/article/2011/02/25/us-glencore-idUSTRE71O1DC20110225>. Accessed 27 Jan 2015.
- Shumsky, T., & Kent, S. (2014). Big commodity traders gain clout. *Trafigura*, Vitol among a handful of firms shaking up markets. *The Wall Street Journal*, <http://www.wsj.com/articles/big-commodity-traders-gain-clout-1404933074>. Accessed 27 Jan 2015.
- Snider, L. (2010). Framing e-waste regulation: The obfuscating role of power. *Criminology & Public Policy*, 9(3), 569–577.
- Spapens, T., Bruinsma, M., van Hout, L., & de Jong, J. (2013). *Vuile olie. Onrechtmatig verwerken en mengen van olieproducten als vormen van milieucriminaliteit. (Dirty oil. Blending of dirty oil products as a form of environmental crime)*. The Hague: Boom Lemma Publishers.
- Thornton, D., Gunningham, N. A., & Kagan, R. A. (2005). General deterrence and corporate environmental behavior. *Law & Policy*, 27(2), 262–287.
- van Daele, S., Vander Beken, T., & Dorn, N. (2007). Waste management and crime: Regulatory, business, and product vulnerabilities. *Environmental Policy and Law*, 37(1), 34–38.
- van Erp, J., & Huisman, W. (2010). Smart regulation and enforcement of illegal disposal of electronic waste. *Criminology & Public Policy*, 9(3), 579–590.
- van Wingerde, C. G. (2012). *De afschrikking voorbij: Een empirische studie naar afschrikking, generale preventie en regelnaleving in de Nederlandse afvalbranche. (Beyond deterrence: Deterrence, prevention, and compliance in the Dutch waste industry)*. Nijmegen: Wolf Legal Publishers.
- van Wingerde, C. G. (2015). The limits of environmental regulation in a globalized economy. Lessons from the Probo Koala case. In J.G. van Erp, W. Huisman, & G. Vande Walle (Eds.), *The routledge handbook of white-collar and corporate crime in Europe* (pp. 260–275). Oxford: Routledge.
- Vidal, J. (2009). Health risks of shipping pollution have been ‘underestimated’. *The Guardian*. <http://www.theguardian.com/environment/2009/apr/09/shipping-pollution>. Accessed 6 Feb 2015.
- Vink, J. (2011). *Het gifschip. Verslag van een journalistiek schandaal.* (The Toxic Ship. Report of a Media Scandal). Amsterdam: Prometheus.
- Vollaard, B. (2013). *Preventie van illegale olielozingen op de Noordzee. Een onderzoek naar strategisch gedrag van scheepvaartverkeer*. Tilburg: Universiteit van Tilburg.
- White, R. (2008). Toxic cities: Globalizing the problem of waste. *Social Justice*, 35(3), 107–119.
- White, R., & Heckenberg, D. (2011). Key vulnerabilities and limitations in the management of hazardous waste and its disposal: A checklist assessment tool. *Journal of Environmental Protection*, 2(9), 1257–1263.

**Prof. Judith van Erp** is a professor of public institutions at Utrecht University, The Netherlands.

**Prof. Toine Spapens** is a professor of criminology at Tilburg University in Tilburg, The Netherlands.

**Dr. Karin van Wingerde** is an assistant professor of criminology at Erasmus University Rotterdam, The Netherlands.