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# SMOKE ON THE WATER

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Incineration at Sea and the Birth of a  
Transatlantic Environmental Movement

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## INTRODUCTION

**O**n a wintry morning in early December 1983, while at her home in Harlingen, Texas, Sue Ann Fruge received an unexpected phone call. The voice on the line invited her to Washington, DC, to testify before the House Committee on Merchant Marine and Fisheries. Surprised and excited, Fruge packed her bags with scientific reports, medical records, pictures, and dozens of letters from fellow citizens of the Lower Rio Grande Valley—just a tiny portion of the material she had collected as coordinator of the Gulf Coast Coalition for Public Health (GCCPH). Fruge’s goal was to challenge the U.S. Environmental Protection Agency’s (EPA) support for and investments in a new method for the disposal of toxic industrial wastes: ocean incineration.<sup>1</sup> Ocean or at-sea incineration meant the offshore destruction of the chemical by-products of industry aboard ships equipped with burning chambers and smokestacks. In theory, this process was safe, disposing of tons of poisonous waste at sea, far from inhabited land. In practice, it released tons of dangerous compounds directly into the sea, contaminating the seawaters’ biochemical structure and jeopardizing entire coastal communities.

It was Fruge’s first time in such a high-profile setting as a congressional hearing. She had joined the fight over environmental issues only two years

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earlier, having led her life as a homemaker with no experience in social activism. By the time she went to Washington, however, Fruge had become a different person. She was well versed, informed, and prepared. She had interviewed people and listened to experts. She had noted down personal stories and concerns. She had collected and analyzed data. Months of campaigning had helped her interiorize why ocean incineration represented such an urgent threat to her family and community. When she embarked on her trip to DC, she had a zeal for social justice and a feeling of responsibility for thousands of fellow coastal residents. Fruge hoped that the politicians could grasp how vital the ocean—a healthy ocean—was for thousands of families who depended on fisheries, shrimping, and seasonal tourism. She wanted them to understand the beauty and abundance of the surrounding marine environment. Above all, knowing that the actions mushrooming around the country against waste facilities were being characterized as “hysterical cries,” she wanted her community’s concerns taken seriously.<sup>2</sup>

The main object of Fruge’s criticism was ocean incineration, but through it she wanted to denounce the highly discriminatory nature of America’s hazardous-waste policy. The ways in which the U.S. government managed the disposal of toxic industrial by-products systematically endangered the health of the most disadvantaged people in the country. Fruge saw, in other words, a consistency in how marginalized communities such as Native Americans, African Americans, Latinos, and poor people like the ones living in the Lower Rio Grande Valley were sacrificed on the altar of American industrial capitalism, and she thought that “enough was enough.” In fact, she was determined to use her testimony as a clarion call to say that modern industrialism, in complicity with inattentive public regulatory bodies, was inextricably bound to the use and production of deadly substances. Without intervention, these deadly substances would cause irreversible degradation to both human and environmental health, especially in those places that seemingly lay outside of national elites’ main concerns.<sup>3</sup> Perhaps even more importantly, she thought that U.S. citizens had to step in, play their role in environmental policy making, and prevent the interests of

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**FIGURE 0.1** Sue Ann Fruge sporting a T-shirt that shows her opposition to the burning of hazardous waste in the Gulf of Mexico, 1985.

Source: © *Houston Chronicle*, April 26, 1985. Courtesy of the Houston Chronicle Library.

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private businesses and industrial conglomerates from prevailing over the needs of the people.

Frugé's indignation and the story behind it—the rise and fall of ocean incineration—are treated here as emblematic of the constraints that the U.S. government faced from the second half of the 1970s onward. In those years, the consistent application of deregulation measures, which affected crucial economic, financial, and industrial sectors, was central to the transformation of America's capitalism and the reaffirmation of Washington's worldwide ascendancy. As Gary Gerstle has recently shown, these neoliberal efforts were instrumental in laying the foundations of a new global order in which U.S. economic and industrial power could still be pivotal after the decline of the previous Keynesian, state-centered model.<sup>4</sup> Such a design, however, as the experience of ocean incineration proves and this book argues, found some of its main limits *translocally*—that is, in a system of interdependent interests, shared governance, grassroots initiatives, widespread pressures, and multichannel advocacy that was able to affect the outcomes of U.S. (environmental) policies at both the domestic and the international levels.<sup>5</sup>

An interpretation of this sort, centered on the role that bottom-up pressures played in limiting the actions of the U.S. government both at home and abroad, allows this book to contribute to a growing scholarship that conjoins social history with international relations, diplomatic history, and the history of the United States in the world.<sup>6</sup> Furthermore, the nature of the topic places it in the field of international environmental history, which has blossomed in the past few decades with studies on multilateral environmental politics and policies, global ecologies, transnational networks, and the relationship between state and nonstate actors.<sup>7</sup> This book adds to this conversation not only by providing the first comprehensive historical account of ocean incineration and its reverberations on U.S. political, military, and economic power but also by juxtaposing ocean incineration with the rise of global interdependence and a critical approach toward America's international leadership, the establishment and expansion of a system of multilateral environmental governance, and the growth of a varied and transboundary environmental constituency.<sup>8</sup> These developments concurrently

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contributed to thwarting the U.S. government's ambitions of furthering ocean incineration and eventually prompted it to renounce such a controversial practice mainly on socioecological grounds.

Ocean incineration thus represented one of those environmental processes that throughout the second half of the twentieth century tested the efficacy of America's influence on a global stage.<sup>9</sup> Given Washington's vested economic and security interests in the management of hazardous waste, the international discussions on at-sea incineration fully exposed the contradictions between the theory and the practice of U.S. environmental policy.<sup>10</sup> Washington's idealistic rhetoric of environmental engagement hid an underbelly of practical decisions based on (industrial and military) self-interest. As Paul Harris argues, safeguarding U.S. national interests, "particularly the most vital ones," often translated into unilateral actions that compromised multilateral environmental protection.<sup>11</sup> This was exactly the case of at-sea incineration, an instance in which the U.S. government proved relentlessly committed to the defense of its own military and commercial priorities even when these priorities clashed with rising concerns over human and environmental health. For this reason, the practice came to be seen as the latest manifestation of one of Washington's oldest imperial practices, the unrestrained use of natural resources to its own aggrandizement.<sup>12</sup> The U.S. government was blamed for looking at the oceans simply as an immense frontier to be colonized by its ever-growing petrochemical industry.<sup>13</sup> Ocean incineration became a symbol of exploitation, an attempt by the U.S. government to impose its own national agendas, priorities, and exigencies on the vastness of the oceans.<sup>14</sup>

The responsibility of managing and regulating ocean incineration put the spotlight on the EPA and slowly transformed the agency into a booster for U.S. imperial entanglements. This practice, indeed, progressively projected EPA's mission onto the globe, as had previously happened to the U.S. Department of the Interior.<sup>15</sup> The EPA supported the acquisition of at-sea incineration technology by heavily subsidized U.S. companies and defended the technology's worldwide commercialization and loose regulation. In so doing, the agency favored the creation of patterns of neocolonial dependency on U.S.-owned know-how and capabilities and contributed to

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reinforcing a system of “hierarchy, discipline, dispossession, extraction, and exploitation” that, as Paul Kramer has argued, was at the core of U.S. imperial endeavors.<sup>16</sup> In truth, the EPA was just following a pattern that from 1945 had been applied successfully by several other U.S. governmental agencies and institutions in such varied fields as civil aviation, economic development, finance, and trade.<sup>17</sup> The agency sought, almost obsessively, to align the international regulation of the marine environment to U.S. domestic legislation. But the obstacles it encountered in eliciting the necessary domestic and international support for this practice eventually testified to the definitive transformation of America’s leadership in the era of global interdependence.<sup>18</sup>

Ocean incineration was also being negotiated and regulated internationally within a growing system of multilateral environmental governance, which further constrained the U.S. government’s actions and policies. Whereas Washington initially maintained a highly discretionary power and could impose its will against international control of the practice, its main Western allies progressively isolated it and looked for their own path. This was possible because of the rapid institutionalization of international environmental law from the early 1970s onward. The protection of the natural environment—and especially of watery ecosystems—against exploitative national policies and private interests became one of the main goals of the United Nations (UN) Environmental Program, which was established in the aftermath of the UN Conference on the Human Environment in Stockholm in 1972. At the same time, widespread concern over the health of the seas resulted in the adoption of the first-ever binding international treaties on marine pollution: the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Dumping Convention) and the International Convention for the Prevention of Pollution from Ships, more familiarly known as MARPOL. The UN conference in Stockholm also served as a springboard for a moratorium on whaling, the launch of the Ramsar Convention on Wetlands, and the establishment of different regional frameworks, such as the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft (Oslo Convention) and the Convention for the Prevention of Marine Pollution from

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Land-Based Sources (Paris Convention).<sup>19</sup> Hence, when confronted with America's obstinate defense of ocean incineration, those who criticized and opposed it could resort to a series of international organizations and set up stricter procedures, guidelines, and systems of control that de facto prevented the U.S. government from further interfering with the regulation of this practice beyond its own territorial waters.<sup>20</sup>

The trajectory of ocean incineration further invites political and diplomatic historians to reckon with the transformative potency of an environmentally aware public opinion, which affected U.S. domestic and foreign policies.<sup>21</sup> As a U.S. Information Agency report stated in 1977, by the mid-1970s people's engagement with ecological issues represented an insurmountable constraint on the management of environmental policies. The report, emblematically titled *The Rising Significance of World Opinion*, noted that "the worldwide explosion of communication facilities" had contributed to an unprecedented "tide of public awareness [of] and involvement" in both local and global environmental issues and that people fully understood the various implications of governmental policy in this field.<sup>22</sup> Environmental concerns magnified the growing influence of world public opinion on both global and national governance. U.S. policy makers had to negotiate between, on the one hand, a public opinion that was "strikingly committed" to the protection of the environment and, on the other hand, industrial and financial leaders who "consistently under-estimate[d] the strength of the public's sense of urgency about environmental issues," as a follow-up report explained.<sup>23</sup> No longer capable of dismissing people's growing environmental consciousness, the U.S. government began requiring private companies "to set out their plans and discuss the reasons for their mode of operations at public hearings to determine the effect on the environment of their activity."<sup>24</sup> In the case of ocean incineration, this change of approach empowered critics of the U.S. government even more. Ironically, it also limited U.S. federal agencies' room to maneuver everywhere around the globe, including at home.

What makes the outcry over ocean incineration particularly noteworthy and historically relevant is its translocal nature. In this movement, transnational activism and the nongovernmental organization (NGO) lobby

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combined with grassroots mobilization and bottom-up protests.<sup>25</sup> The campaign against ocean incineration saw the involvement of a plethora of transnational environmentalist groups and organizations. These groups were financially, structurally, and organizationally able to mobilize communities across multiple national contexts. They served as clearinghouses for information and commissioned, distributed, and popularized studies on the technical flaws and health hazards of the practice. With their global reach, they helped debunk the myths surrounding ocean incineration, effectively countering industry's overly optimistic narrative.<sup>26</sup> Furthermore, and perhaps even more important, the transnational organizations that sustained the effort against ocean incineration were able to bridge the gap between local and global governance. These groups helped the communities on the front lines of the struggle gather the evidence and support they needed to influence local and national policy makers. At the same time, these transnational organizations used their leverage in the supranational regulatory bodies to which vulnerable groups had no direct access. Their active and influential participation in those settings was fundamental to the success of the whole anti-incineration campaign.

At the local level in the United States, the struggle against ocean incineration intersected with the emergence of a popular antitoxics and environmental-justice movement, which provided this new campaign with arguments, slogans, leadership, membership, and protests methods and repertoires. To many U.S. environmentalists, the wreckage of America's hazardous-waste policies was just one of the manifestations of a broader "toxicity crisis," as Sarah Vogel puts it, which went hand-in-hand with the consolidation of neoliberal practices driving both petrochemical and plastic production.<sup>27</sup> For decades, the unaccountable overproduction of hazardous waste had been a structural reality of the U.S.-driven affluent society. By the late 1970s, a radical critique of both modern industrial processes and regulatory practices had gained ground and become mainstream.<sup>28</sup> Scandals and accidents had exposed the industry's lack of compliance with environmental regulation, and its widespread disregard for the consequences of toxic contamination had spurred anger. The glaring failure of public systems of prevention and control had become unmistakable.<sup>29</sup> Hazardous

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waste became a matter of domestic public concern and climbed to the top of the U.S. environmentalist agenda.<sup>30</sup>

The campaign against ocean incineration, thus, was translocal not only because it was carried out simultaneously by transnational and local groups but also because it was characterized by a series of exchanges of roles, information, networks, and resources and by a close cooperation between local and transnational actors that further complicated U.S. environmental policy both at home and abroad. Anti-ocean-incineration campaigners set up a common strategy that worked efficiently across different levels of socio-political action and governance. This strategy constituted a new challenge to the U.S. government, which up to that point had to balance its own strategic and economic priorities with demands for environmental-policy changes coming from either domestic or transnational nonstate actors.<sup>31</sup> The regulatory approach that U.S. policy makers had been devising and embracing from the early 1970s as an attempt to cope with these pressures did not work in the case of ocean incineration.<sup>32</sup> The translocal commitment to the protection of coastal and marine environments could not be easily reconciled with the interests of a seemingly omnipresent military-industrial complex, and U.S. environmental diplomacy short-circuited. In fact, the U.S. government tried to salvage ocean incineration, though unsuccessfully, even when the practice’s environmental unviability became apparent.

**THE HAZARDOUS-WASTE CRISIS  
AND ITS DISCONTENTS**

Fruge’s testimony and the campaign it represented hit a raw nerve in America’s modern industrialism. America’s industrial production, indeed, was bound to grow in order to keep high standards of living, yet in doing so it was also doomed to generate an exorbitant amount of toxic waste, which ended up exacerbating environmental risk, alienating popular support, and isolating Washington internationally.<sup>33</sup> What the historian Alfred Chandler Jr. has defined as the “polymer/petrochemical revolution” had a dark

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side that from the late 1960s onward started confronting the United States—and other industrialized democracies of the world—with an out-of-control hazardous-waste crisis.<sup>34</sup> In those years, the United States was the world's main generator of hazardous wastes, and finding a method for the safe disposal of such toxic substances had become one of the most urgent domestic and international priorities. Ultimately, the decade-long struggle over the fate of ocean incineration revolved around how the main protagonists of this story—several U.S. governmental agencies and different private companies, on the one hand, as well as several international agencies, grassroots movements, and environmental organizations, on the other—sought to balance all the factors in the complex equation of hazardous-waste management.

To the EPA and to several U.S. waste generators and waste-management companies, ocean incineration offered a beacon of hope. Hazardous waste—a broad legal category codified by the U.S. Congress in 1976 as all those ignitable, corrosive, reactive, or toxic by-products of industrial processes able to jeopardize human health—was easy to generate but extremely difficult to dispose of.<sup>35</sup> Every year, the U.S. petrochemical industry alone was spawning roughly 60 million tons of toxic waste, disposing of it substantially in two ways: ocean dumping and landfilling. Ocean dumping had been by far the most common method for the disposal of a variety of hazardous materials, including dredge spoil, sewage sludge, solid and industrial wastes, construction and demolition debris, radioactive wastes, and an unspecified amount of obsolete munitions.<sup>36</sup> Landfilling, too, had been widely employed for decades. In 1980, the EPA revealed that there were more than 27,000 landfill sites scattered across the country.<sup>37</sup> Both of these practices, however, had dire environmental consequences, and from the early 1970s onward they came under public scrutiny. With the rise of environmental concerns and the implementation of both national and international regulations meant to safeguard the marine environment, ocean dumping's viability and popularity faded away.<sup>38</sup> The practice was eventually outlawed both domestically and internationally in 1972.<sup>39</sup> Landfilling, too, was fueling widespread concerns. Burying toxic waste underground entailed the risk of seepage into water sources and the subsequent

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contamination of the surrounding areas. These risks, especially after tragic events such as the one that occurred at Love Canal, New York, hit the headlines throughout the country and ignited local protests and widespread discontent.<sup>40</sup>

Though environmentally legitimate and understandable, the decline of ocean dumping and landfilling further aggravated the hazardous-waste crisis insofar as waste generators were left with few alternatives for the disposal of ever-growing amounts of toxic waste.<sup>41</sup> The treatment of chemical waste, in particular, had become extremely expensive—up to \$260 per ton when the safest available options were used, which would be multiplied by millions of tons.<sup>42</sup> Public management of such waste was so engulfed that even the EPA came to recognize in the early 1970s that the way in which the nation was grappling with the hazardous-waste crisis was largely inconsistent and “inadequate.”<sup>43</sup> For all these reasons, Washington’s policy makers fostered research on alternative methods for the disposal of hazardous waste in the hope of perfecting new technologies that could be simultaneously environmentally safe, economically affordable, and socially acceptable. Between 1972 and 1975, while passing a flurry of legislation that was meant to regulate the management of hazardous wastes throughout their life cycle (“from cradle to grave”), Congress and the EPA commissioned a series of studies aiming to identify and recommend promising hazardous-waste-treatment technologies that could minimize the threats that these substances were posing to both public health and the environment. As a U.S. interagency report bluntly stated in 1980, “The accumulation of uncontrolled, ever-increasing volumes of hazardous wastes” threatened “the public health and the nation’s environment” and had made it extremely urgent to invest in safe and environmentally acceptable technologies.<sup>44</sup> Possible alternative methods included such physical processes as sedimentation and filtration, chemical neutralization, and thermal destruction. The most promising of these technological breakthroughs seemed to be the practice at the center of this story: ocean incineration.<sup>45</sup>

At-sea incineration—that is, the destruction of toxic and chemical waste offshore—was first developed and tested in Europe and then adopted and commercialized in the United States—and to a lesser extent in Japan and

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Australia—from the first half of the 1970s. The nature of the practice required not only special domestic regulation but also a series of international negotiations. In fact, the designation of oceanic-incineration zones, the definition of incinerable wastes, and the rules concerning both transboundary transportation and port-loading operations overlapped with the ongoing negotiations over the law of the sea and brought ocean incineration to the center of several international debates. Whereas in the United States the task of regulating ocean incineration fell on the EPA, the international discussions and confrontations over it occurred mainly within such intergovernmental settings as the International Maritime Organization, the London Dumping Convention, and the Oslo Commission (OSCOM), which was set up to oversee compliance to the Oslo Dumping Convention.<sup>46</sup>

However, ocean incineration jeopardized entire coastal communities insofar as it took a heavy toll on the quality of ocean waters. The practice entailed the long-term biochemical modification of marine ecosystems and represented therefore a direct threat to the well-being of people relying on sea-related activities, such as fishery and seasonal tourism. For this reason, spontaneous, grassroots protests against ocean incineration proliferated, mirroring to a large extent the rise of a contemporary, broader antitoxics campaign. In those years, people across the United States were denouncing the dangers of several chemical compounds, such as diethylstilbestrol (DES), bisphenol A (BPA), and organochlorines. Above them all, though, were polychlorinated biphenyls, the infamous PCBs—the ubiquitous by-products not only of the petrochemical, pharmaceutical, and agricultural industries but also of the military.<sup>47</sup> Antitoxics campaigners were using scientific evidence to show the substantial link between chemical pollution and public and environmental health. They advocated for an absolute ban on dangerous chemical derivatives; they did not toy with the mere regulation of their use. In the end, they criticized the very legitimacy and sustainability of modern industrial processes, which could not seem to forgo the use of poisonous chemical compounds.<sup>48</sup> The antitoxics movement's approach was novel. It decried the petrochemical contamination of the biosphere as the most urgent environmental threat. It laid bare the

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dysfunctional public regulatory agencies. It forced a reconsideration of the idea that a safe threshold for the use of toxic substances existed.<sup>49</sup> Most important, it subverted modern environmentalism's gender and racial dynamics. Women, indeed, inspired and led the antitoxics campaign.<sup>50</sup> They focused on the long-term and intergenerational public-health hazards posed by toxic contamination.<sup>51</sup> Their emphasis on reproductive rights and on the harm that could result from chemical pollution as well as their insistence on the need to safeguard their families' health and on expanding the concept of citizenship to encompass environmental rights allowed women to transform local demands into broader policy goals.<sup>52</sup>

At the same time, the antitoxics campaigners contributed to introducing the idea of environmental justice, blaming the "modern imperatives of technological progress and economic growth" for disproportionately harming the poor and people of color.<sup>53</sup> U.S. antitoxics activists saw that the pattern of environmental degradation simply repeated the deliberate and systematic exclusion of ethnic minorities and the poor from environmental discussions and decision making.<sup>54</sup> Such an antitoxics movement worked to prove the linear relation between the environmental threat and structural racism. Scholars and activists alike characterize the Warren County controversy of 1982 as the starting point of the modern environmental-justice movement.<sup>55</sup> It was in Warren County, North Carolina, that residents—69 percent of whom were African American—filed a complaint against the EPA's authorization to build a landfill site for the disposal of PCBs in the county. Their action became the clarion call for social and racial justice. Civil rights organizations joined forces with local citizens, bringing new protest tactics, funds, expertise, networks, and organizational capabilities to the campaign. Soon, the Warren County protests outgrew the boundaries of the local community and put social, economic, and racial justice at the center of the national environmental debate. A series of cross-sectional studies established a direct link between racial and economic marginalization and environmental exploitation. The well-known report *Toxic Wastes and Race in the United States*, a nationwide analysis compiled by the United Church of Christ in 1987, ultimately found that the race of a community was the decisive factor in where toxins were dumped.

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Communities “beset by poverty, unemployment, and problems related to poor housing, education, and health” were thought to be incapable of concerning themselves with the quality of their surrounding environment.<sup>56</sup> As a result, politicians disregarded them as an irrelevant sociopolitical constituency. Forgotten as well by the mainstream (majority-white) environmentalist groups, racial-minority and poor communities saw their localities progressively transformed into gigantic dumping sites. Vulnerable people as diverse as Navajo uranium miners and Latino workers of the Mexican American maquiladoras came to be the new sacrificial victims of industrial capitalism.<sup>57</sup>

The campaign against ocean incineration contributed to broadening the agency of the antitoxics and environmental-justice movement. The women engaged in the struggle against ocean incineration moved beyond such pre- or profeminist tropes as the archetypal figure of the concerned mother and started criticizing U.S. waste policies as a toxic outcome of male-dominated systems of political and industrial control. Furthermore, the female protagonists of this story contributed to advancing forms of environmental democracy. In fact, they strategically politicized the marine environment as a way to place themselves at the center of environmental decision-making processes and gain control over the management of the complex socioeconomic structures of their own communities.<sup>58</sup> Foregrounding many of the stances of modern hydrofeminism, these women transformed the oceans into a sociopolitical battlefield. On that battlefield, they challenged the U.S. military-industrial complex, which they deemed incapable of conferring a nonmonetary value on the sea and its composite ecosystems.<sup>59</sup> Along the way, these women denounced the shortsightedness of public regulatory agencies and private waste companies and disseminated a holistic approach to environmental policy. At the center of their concerns stood the safeguarding of the entire biosphere.

Similarly, the campaign against ocean incineration questioned the form of justice that many earlier U.S. environmentalists and antitoxics campaigners sought to obtain. The first calls for environmental justice came from farmers and oil and nuclear industry workers, who, effectively organized and mobilized by unions, were able to achieve some important goals,

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such as the early drafts of the Radiation Exposure Compensation Act in the late 1970s (although this act wasn't passed until 1990).<sup>60</sup> The lives of these workers were both threatened by and dependent on the industrial processes they denounced. Thus, rather than advocating for the complete abandonment of dangerous practices, these workers often pressured for forms of distributive justice that included reparations, cleanups, and occupational safety.<sup>61</sup> In contrast, the fishermen and seasonal workers who drove the struggle against ocean incineration were scarcely unionized and had no networks of solidarity that could sustain their plea. They had to create their own alliances from scratch to protect their economic interests against the big conglomerates.<sup>62</sup> Moreover, the subsistence of these economically vulnerable groups was not bound to the technology against which they were protesting. Ocean incineration did not promise to spread wealth or strengthen job security. It only threatened. Thus, their struggle could adopt a much more uncompromising tone and more radical demands.

**THE TRAJECTORY OF OCEAN INCINERATION**

The story that follows, grounded in an interdisciplinary approach and informed by deep archival research, contends that translocal protests represented one of the main constraints on U.S. domestic and international environmental policy making. The book begins with a description of the historical roots of the hazardous-waste crisis that came to haunt the United States—and indeed the West—from the late 1960s onward. Chapter 1 reconstructs the unrestrained production, the difficult management, and the unsafe disposal of organochlorine wastes. It explains how toxic waste and its disposal soon became, as the EPA put it, “everybody’s problem.”<sup>63</sup> The chapter shows how a series of national regulations and international agreements, driven by a rise in environmental concern, either drastically modified or categorically outlawed common practices such as landfilling and ocean dumping. This trend ironically led to the alternative that emerged as the most promising technological breakthrough: ocean incineration. The

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chapter concludes by analyzing how the United States influenced early multilateral discussions around at-sea incineration and how it established a faulty international system of control meant to preserve its own national and private interests and to sideline issues of environmental safety.

Chapter 2 looks at ocean incineration as emblematic of the modern military-industrial complex. U.S. military elites wanted their government to think of at-sea incineration as the safest way to dispose of a strategically untenable and politically embarrassing chemical arsenal. Their participation meant that offshore incineration operations were suffused with secrecy. This, in turn, spread distrust in any U.S. plan and militated against scientific transparency. Notably, wariness of the U.S. government's intentions affected national regulations, hindered multilateral negotiations, and isolated Washington internationally. As with any component of the U.S. military-industrial complex, ocean incineration also gave rise to a damaged relationship between public and private interests. In fact, along with the pressures coming from the military sector, the EPA had to deal with the growing influence and insistence of a series of private companies looking both for cost-effective solutions to the problem of hazardous-waste disposal and for high-yield investments in the promising waste-management business. These companies lobbied the EPA and induced the agency to make a series of rushed and faulty decisions. By the early 1980s, the lure of ocean incineration, with its out-of-sight, out-of-mind character and its promises of incremental profits, had become stronger than ever.

Chapter 3 explains how the environmentalist movement, which in the meantime had gained a global constituency, challenged the status quo concerning ocean incineration. When people raised their voices against the dangers of such a technology, U.S. policy makers found themselves stuck between mounting demands to protect the environment and the pressures applied by the business community. U.S. governmental authorities proved incapable of dismissing people's anxiety out of hand. This chapter argues that early calls for environmental safeguards were most effective at the local level. Later on, community activists, together with the coordinated efforts of transnational NGOs, were able to propel their local demands onto the global stage. Ultimately, this partnership between local and transnational

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groups provided greater agency and voice to anti-ocean-incineration activists and boosted their power. The translocal activism mounted by organizations such as Greenpeace and the GCCPH coincided with a series of consultative public hearings on ocean incineration organized by the EPA in late 1983. Those hearings and the unexpected, massive participation they attracted further spotlighted critics of at-sea incineration at the national level, and a public debate ensued.

The clash between people's interests and the government's plans developed locally, nationally, and globally. As chapter 4 describes, ocean incineration became a sociopolitical battleground that intersected with other environmental concerns and mobilized several constituencies in the United States. Women denounced ocean incineration's intergenerational risks and coordinated successful campaigns involving schools, churches, and local political committees. Migrant workers and fishers denounced the broad economic repercussions that ocean incineration had on fragile ecosystems and exposed the racist nature of a practice that endangered ethnic minorities and low-income groups. Soon the concern over incineration outgrew the boundaries of the United States, and coastal communities on both sides of the Atlantic mobilized to safeguard the global marine biota, pointing to its role in the protection of human health. Above all, transnational groups translated bottom-up demands into effective political pressure through their active participation in international and multilateral forums. When U.S. government officials and private entrepreneurs pushed back, their attempts were stymied by increased pressure from the translocal coalition against ocean incineration. The critics of ocean incineration progressively isolated their opponents.

Chapter 5 starts with a description of the infamous accident in Bhopal, India, in December 1984, when a Union Carbide pesticide plant leaked forty tons of methyl isocyanate, exposing half a million people to toxic emissions and sending shockwaves throughout the world. For many, this kind of accident laid bare the urgency of finding adequate methods for the disposal of deadly chemical substances, which included using ocean incineration. For others, environmental safety could not be compromised, not even in the management of hazardous waste. A coalition made up of environmental

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organizations and citizen groups mounted the Ban the Burn campaign to defend the no-compromise point of view. Within a few months, Ban the Burn succeeded in stopping at-sea incineration in the United States. When the proponents of ocean incineration turned their attention to Europe in the attempt to salvage this high-yield technology and its commercial value, Ban the Burn campaigners dogged their trail, staging a multipronged protest that involved lobbying, international reporting, and direct actions. Ban the Burn centered on the flaws of the technology and vociferously demanded the protection of the global marine environment.

Chapter 6 highlights how some governments and private companies, well into the mid-1980s and supported by commissioned studies, insisted that ocean incineration was a safe method for the disposal of deadly chemical substances. Their insistence only served to invigorate the campaign against the practice. Two forms of protest came to the fore from 1986 onward. On the one hand, the movement, led by Greenpeace and the Oceanic Society, produced independent reports that refuted ocean incineration's environmental sustainability. These studies, in fact, proved once and for all that the practice magnified the environmental disaster of toxic waste and put human health in imminent danger. On the other hand, activists and common people alike started organizing a series of often spectacular and dramatic direct actions with the intent to disrupt and stop offshore operations. The global Ban the Burn campaign thus became immensely popular and in the end proved to be the coup de grâce to ocean incineration.

The book ends by assessing the strengths and weaknesses of the translocal campaign against ocean incineration and by underlining its most important and far-reaching legacies. The offshore burning of toxic waste transformed the oceans into a new frontier where promises of technological progress were tested.<sup>64</sup> Such an optimistic *envirotech* twist, though, did not ease public anxiety. On the contrary, it ignited claims for broader political representation, for more equitable engagement, and for inclusion. The translocal struggle against ocean incineration, situated at the intersection of coastal communities' demands for social equity and the climate fight, paved the way for "ocean justice," a formulation coined by the marine biologist Ayana Elizabeth Johnson.<sup>65</sup> The urgency of such themes persists to

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this day. Soon after his inauguration in January 2021, President Joseph Biden of the United States issued an executive order and a presidential memo meant to tackle the climate crisis through actions centered around social justice. His programs acknowledged the fragility of coastal areas and the need for federal investments to benefit traditionally marginalized coastal communities.<sup>66</sup> One could argue that ocean incineration ended up an ephemeral technological gamble. Nevertheless, its trajectory resonates today, warning against the toxicity of the unseen and its unfair toll on humans and the environment.

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