

Routledge International Studies in Business History

ENVIRONMENTAL REGULATION AND THE HISTORY OF CAPITALISM

**THE ROLE OF BUSINESS FROM STOCKHOLM 1972
TO THE CLIMATE CRISIS**

Edited by
Sandra Bott, Sabine Pitteloud,
and Janick Marina Schaufelbuehl



“This collection will contribute extensively to both our understanding of corporate responses to environmental regulation and the ways in which future debates ought to be fashioned. All of the [chapters] are well researched and the editors provide an extensive synthesis that summarizes the key issues.”

John Wilson, *Northumbria University, UK*

“[This is] an innovative book which explores the crux between capitalism and environmental protection, with new empirical evidence on how companies not only thwarted, but also shaped and largely co-created certain environmental legislation.”

Laurent Warlouzet, *Sorbonne University, France*



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Environmental Regulation and the History of Capitalism

This edited collection examines the historical role of business actors in climate and environmental governance since the 1970s. Through a compilation of recent, evidence-based historical research, this book unveils the origins of contemporary challenges in regulating environmental pollution. With original case studies, it offers a nuanced understanding of the environmental counter-offensive orchestrated by business leaders, associations, and think tanks post-1972, following the United Nations' pivotal Stockholm Conference on the Human Environment. Readers are presented with insights into the historical maneuvers of business entities aimed at mitigating regulatory risks, co-creating expertise, and framing the environmental debate. From revealing the tactics employed by various business actors to exploring the emergence of market-driven environmentalism, this volume offers a comprehensive exploration of the intricate dynamics shaping environmental policy. By contextualizing specificities and complexities, it enriches contemporary narratives on business influence and power dynamics within global capitalism. This book primarily caters to scholars across diverse historical disciplines, including business history, international relations, environmental history, and the history of capitalism. Additionally, it holds relevance for social scientists studying contemporary issues, policymakers grappling with environmental challenges, and those seeking a deeper understanding of the historical dimensions of climate governance.

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**Edited by
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Tracking Business Involvement in Environmental Policies since the 1970s

Resistance, Issue-Framing, and Corporate Sustainability

*Sandra Bott, Sabine Pitteloud,
and Janick Marina Schaufelbuehl*

In 1972, the United Nations Environment Programme (UNEP) stated in its very first declaration:

A point has been reached in history when we must shape our actions throughout the world with a more prudent care for their environmental consequences. Through ignorance or indifference we can do massive and irreversible harm to the earthly environment on which our life and well-being depend.¹

More than fifty years after what was supposed to be a global wake-up call, a new UNEP publication entitled “Broken Record” sounded the alarm bell: it noted a “disturbing acceleration in the number, speed and scale of broken climate records.”² There is indeed no doubt today that environmental degradation and climate change are among the most pressing issues humanity is facing. As a matter of fact, and with a very high degree of confidence, the 2023 Intergovernmental Panel on Climate Change (IPCC) report affirmed that global warming represents a threat to human health and planetary ecosystems and that “there is a rapidly closing window of opportunity to secure a livable and sustainable future for all.”³ In addition, several of the so-called “planet boundaries,” which were defined by environmental scientists in 2009 as limits beyond which the earth system could not any longer self-regulate, have been exceeded.⁴ Even with such repeated statements of urgency, and despite some past progress in diminishing human impacts on the environment in certain areas, mitigation efforts—be they carried out by governments, international organizations, businesses, or consumers—never reached the required scale and scope. Donald Trump’s promise to “drill, baby, drill” during his 2025–2029 presidency further strengthens the idea that global climate diplomacy is going to be at best in a state of paralysis, if not moving backwards.⁵ No wonder that the UNEP speaks of a “broken record,” implying with this play on words that besides the many set limits that have been

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exceeded, it is also the multiple warnings repeated over and over again during the last five decades that have produced little tangible results.

What UNEP does not delve into in its various statements, however, is why this is and what responsibility industry, private corporations, and the capitalistic mode of production carry in this outcome. The organization's current position is to consider business and industry actors as part of the solution, rather than part of the problem, expressing hope that "by collaborating with these private sector entities, the UN Environment Programme can create larger positive impacts and contribute to the transformation of industries and sectors."⁶ In its rhetoric, UNEP therefore does not question the merits of relying on business expertise and goodwill to produce sound environmental policy. Moreover, by advocating "stakeholder engagement," the organization perpetuates the idea that everyone should have a seat at the table and overlooks the power asymmetries related to the position that different social groups occupy in today's global capitalism. This book questions such assumptions by looking at the historical trajectory that led us to this situation of "broken record" and by focusing on corporations as primary units of capitalist societies.

Environmental Regulation and the History of Capitalism brings together recent, evidence-based historical research on the role business actors played in climate and environmental policies during the period that runs from the United Nation's Conference on the Human Environment (UNCHE) that took place in Stockholm in 1972, until today. The various contributions direct attention to the practices of individual corporations, CEOs, business organizations or federations, consultants, experts, and others, to understand how they reacted to growing public attention and regulatory pressure, and in what way they positioned themselves toward scientific evidence on global warming and pollution. The chapters thereby decipher the part played by businesspeople and their networks in the powerplay that shaped and hindered the policies meant to put a halt to the harm caused to the earth's biodiversity, rivers, air, and atmosphere.

As different authors have argued, environmental pollution and climate change are deeply intertwined with the history of capitalism understood as a social system and form of economic production.⁷ In the context of the industrial revolution of the late eighteenth and nineteenth centuries, the capitalist class made the burning of fossil fuels—coal, oil, and gas—the world's main source of energy, thereby accelerating the emission of carbon dioxide (CO₂) into the atmosphere.⁸ Some historians have used the expression "Anthropocene" to characterize the systemic changes that have since occurred for the planet on a bio-geophysical level due to human action.⁹ Others have been critical of this concept and some have brought to the fore the notion of "Capitalocene" to emphasize that the responsibility for the global environmental transformations we are witnessing is far from equally distributed amongst humanity and that so-called early industrialized countries and the capitalist class have disproportionately contributed to it.¹⁰ Further studies have stressed that the exploitation of resources was still close to sustainability during the nineteenth and early twentieth centuries, but that

the post-1945 period gave rise to a phase of “great acceleration,” characterized by high growth and mass consumption in Western economies, which had been stimulated by historically cheap oil prices.¹¹ Here again, authors have emphasized that an alternative history to the economic miracle should be told, focusing on the environmental damages made in the name of economic progress and in which government leaders and businesspeople featured prominently.¹²

Given this responsibility in environmental degradation that can be attributed to capitalist modes of production, it is hardly surprising that in the 1970s, private industry was both the target of the environmental movement and at the heart of the new regulatory regime introduced by different Western states and encouraged by international organizations. This regime was based on so-called command-and-control legislation—such as environmental standards and limits on emission levels of different pollutants—generally imposed by governmental environmental agencies.¹³ The way business actors dealt with these regulations is a critical question at the heart of this book. As historian Hugh S. Gorman puts it:

producers and consumers operating in a market cannot, by themselves, alter the rules that govern their practices. Such changes, at their root, are political choices—and the role of business interests in embracing, resisting, or otherwise influencing those choices is important to understand.¹⁴

Moreover, in addition to their involvement in these political battles, corporate players also provided expertise regarding technical solutions, contributed to shaping the way environmental issues were framed, and ultimately took charge of ensuring compliance with newly established standards and pollution thresholds. There is therefore a need for historians to shed light on the different positions business actors have endorsed and how these relate to the political inertia in the area of environmental protection.

Calls to engage with the theme of business and environmental regulation have come from various historical traditions. Several important publications have already revealed crucial aspects of the role business actors played in global environmental policies,¹⁵ or have expanded the boundaries of research in business history, from its traditional focus on corporate strategies and organizational structure to consider the political agency of firms,¹⁶ including with respect to environmental and climate policies.¹⁷ Nevertheless, historians of international relations and global governance have recently insisted on the need to further uncover the role of societal actors, such as businesspeople and their interest associations.¹⁸ Some environmental historians have also made the case that the field has, with some notable exceptions, been mostly interested in documenting the heroic role of environmental movements and that it was time to consider the part played by businesses and institutional dynamics.¹⁹ Finally, historians of capitalism are also calling for new work on the interrelations between the

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capitalistic mode of production and environmental change.²⁰ This volume is the result of the convergence of the research agenda of these various historical sub-fields. In putting it together our aim is to build on and extend existing scholarship that has studied how, and with what purpose, business actors reacted to the strengthening of environmental regulation at the turn of the 1970s and to the accelerating climate crisis that followed.²¹

Beyond addressing a historiographical void, *Environmental Regulation and the History of Capitalism* also ambitions to feed current debates. Acknowledging past responsibilities and how business actors and others contributed to missed opportunities in the area of environmental protection is relevant to inform policymaking and empower those who are eager to challenge the status quo.²² Bringing more historical depth to this issue seems particularly relevant given how antagonistically it is debated in current global politics. Moreover, the role of some companies, especially oil majors, in engaging in denialism and delaying climate action has also been at the center of recent legal battles for which historical records have been used as evidence.²³ Last but not least, the predicted multiplication of extreme weather events such as tornados, floodings, droughts, and the like will certainly increase the demand of the public for studies that explain the historical trajectory that led us here.

How Business Reacted to the Politicization of the Environment in the 1970s

By the early 1970s, the rise of a strong global environmental movement and the political mobilization of scientists had drawn new attention to pollution, waste, and resource depletion.²⁴ This development led to the organization of the UNCHE in Stockholm in 1972, which can be considered a milestone in this environmentalist turn. That same year, a report commissioned by the nonprofit think tank Club of Rome warned that they were “limits to economic growth,” hugely impacting the political and business debates on the future availability of natural resources.²⁵ The growing environmental awareness brought a spread of “planetary thinking”²⁶ and it became widely assumed that strong and concerted responses were necessary to deal with the depletion of ecosystems, which historian Patrick Kupper coined to be the “1970s diagnose.”²⁷ With respect to environmental degradation, these changes were embedded in much wider contestation of capitalism and imperialism. In the 1960s, “new social movements,” often inspired by neo-Marxist theories, and sparked by anti-Vietnam War protests, spread across the globe. The recently independent countries in Asia, Africa, and the Middle East, now a majority in the UN, collectively advocated for a restructuring of international economic relations to reduce inequality and dependency on former colonial powers.²⁸ The New International Economic Order (NIEO), promulgated as a UN declaration in 1974, was the centerpiece of this campaign.²⁹ It called for economic reforms aimed at

redistributing wealth, ensuring fair trade terms, and increasing sovereign control over natural resources.

The strategies of how business leaders responded to rising regulatory pressure should thus not be considered in isolation but contextualized within the broader legitimization crisis facing global capitalism. The UNCHE in Stockholm highlights this connection. The increased international demands from countries in the Global South created a tension between “environment” and “development.”³⁰ At the conference itself, faced with critical positions and proposals from the North to focus the talks on demographics and pollution, several policymakers of Asian, African, or Latin American countries denounced any “green imperialism” that would hamper their development through the imposition of international environmental and health standards.³¹ The question of responsibilities with respect to environmental degradation was therefore already at the center of UNCHE controversies and the accountability of industrialized states and businesses was singled out.

Business actors did not passively witness these heated political debates. Thanks to a renewed focus on the 1970s “Shock of the Global,”³² substantial historical evidence has uncovered how the CEOs of large multinational companies and their umbrella associations engaged in multilevel lobbying to resist what was considered to be adverse regulations and to re-legitimize their role in the international world order.³³ Regarding environmental regulation, authors do not always agree on when exactly corporate actors started to play a more central role in the global arena. The international relations scholar *Robert Falkner*, in his earlier work as well as in the chapter he contributes to this volume, argues that business leaders were to some extent marginalized in the 1972 Stockholm Conference, due to the might of environmental movements that incentivized policymakers to take action.³⁴ What is certain is that the heads of multinational companies did not stand idly by when their interests were threatened. In an important contribution, historians Ann-Kristin Bergquist and Thomas David have shown business efforts to influence global environmental governance in the 1970s, with the International Chamber of Commerce (ICC) managing to position itself strategically toward the UN in order to promote its vision of corporate self-regulation in environmental matters.³⁵ For instance, the ICC launched the International Center for Industry and the Environment (ICIE) in 1973 to connect corporate actors to UNEP.

It is also noteworthy that the boundaries between the worlds of business and those of policymaking were far from clear-cut. Ben Huf, Glenda Sluga, and Sabine Selchow point out that private corporate actors already had considerable clout in the 1970s, since executives, such as the former oil man and chair of the Stockholm conference Maurice Strong and the Italian industrialist Aurelio Peccei, helped establish early frameworks for global environmental policies promoting a vision of environmental responsibility that incorporated economic development goals.³⁶ *Odinn Melsted*’s chapter emphasizes the ambiguous

role of business actors during this period by showing how various prominent oil executives took the warning about resource depletion and environmental problems seriously. As a result, they contributed to gather scientific evidence, engaged in environmental policymaking, and shifted part of their operations to renewable energies. Through groups such as the Aspen Institute, a global non-profit organization based in the United States, and the ICC, oil leaders like Robert O. Anderson advocated for a model of environmental policies that did not threaten their operational flexibility and that required both business and governmental collaboration. As *Melsted* maintains, the counteroffensive of the oil industry to environmental challenges was therefore relatively moderate during the 1970s and only picked up speed in the following decade. This is in line with the findings of a recent paper by Matthias Schmelzer that brings to light the entanglements between the Organisation of Economic Co-operation and Development (OECD) technocrats and the Club of Rome, which included scientists, engineers, and business executives. Schmelzer highlights that the business community, at least a fraction of it, expressed worries about the shortcomings of the infinite growth model.³⁷ However, the OECD, which had been a forerunner in establishing a directorate for environmental policies, ultimately reoriented its work to integrate the environment within the growth paradigm, while internal critical stances were sidelined.

National dynamics paralleled international trends, albeit with some institutional specificities. While national, sectoral, and regional trade associations had established working groups on air, water, waste, and soil in the 1950s and 1960s to respond to the first environmental regulations, the wave of politicization of the environment that took off in the 1970s and the establishment of environmental agencies and ministries triggered a renewed business counteroffensive. For instance, both the main Swiss and German business associations established dedicated environmental working groups to coordinate the views of various polluting sectors, and to develop general stances regarding the political economy of the environment. These groups also monitored regulatory efforts at national and international levels and worked to improve public communication on behalf of the business community.³⁸ The historian Daniel Boulet for his part documents that the first reaction of the French industry, when criticized for its impacts on pollution levels, was denial and a lack of understanding. The central French business association also established its own environmental commission in 1971, a working party aimed at dealing with the solicitations of the government in environmental matters.³⁹

This volume complements existing studies by demonstrating that the business counteroffensive in the 1970s was far from an epiphenomenon limited to certain countries and was carried out by vast and diverse parts of the corporate community. *Benjamin C. Waterhouse*, for instance, shows that the influence of the business world on government environmental policies was not confined to the big industry lobbies. His contribution examines the ideological and political forces

that led small businesses, especially in the United States, to oppose environmental regulations, an aspect that has received scant attention in historiography. The chapter highlights how the National Federation of Independent Business (NFIB) emerged as a leading voice against environmental regulations, positioning itself within the broader conservative movement. Small business advocacy played a significant role in framing environmental regulation as economically detrimental and ideologically opposed to entrepreneurial freedoms, thereby linking the “small is beautiful” ethic with anti-regulatory sentiment. Further contributions in this volume also reveal that the business counteroffensive occurred in very diverse political and institutional contexts. The chapters of *Kristoffer Ekberg* and *Tero Toivanen* show that even in countries with strong environmental records and high business compliance, such as Sweden and Finland, business actors continuously worked to reshape the terms of the environmental debate.

Nathalia Capellini’s contribution also emphasizes that military regimes and state-owned enterprises in the Global South were far from immune from environmental contestation in the 1970s, for instance when carrying out huge infrastructure projects.⁴⁰ The Brazilian military regime and the company Eletronorte, a branch of the powerful electric company Eletrobrás, had to navigate criticism regarding the building of a first dam in the Amazon from 1974 on. They developed different strategies to try to steer the scientific and technical assessments of the environmental impact of dam construction and also engaged in various public relations efforts to legitimize the project.

Capellini’s chapter is also an invitation to challenge the idea of unilateral transfers from the North to the South when it comes to environmental policy tools, as it shows that the Brazilian company was actually a forerunner in this respect. Overall, the historiography on business influence regarding environmental regulation in the countries of the Global South has received far too little attention. This volume is regrettably no exception, with a major focus on multinationals, business associations, and think tanks primarily based in Europe and the United States. When it comes to the Global South, a large part of existing scholarship has centered on extractive industries, due to their significant environmental impact, and several authors explore how companies in this sector often resist environmental regulations by forming alliances with local governments, claiming that these regulations threaten economic growth and job creation in these countries.⁴¹ Another area of research in this field concerns the export of toxic products by Western companies to countries in Africa or Asia where environmental regulations were generally more flexible.⁴² One study worth highlighting is Simone M. Müller’s article, which explores the complex dynamics of hazardous waste exports from industrialized nations—especially the United States—to countries in the Global South. Müller argues that chemical traders such as Charles and Jack Colbert leveraged US environmental regulations as an opportunity to dump hazardous waste in less-regulated regions, a practice that exemplifies “toxic colonialism,” where environmental harm is outsourced

to poorer nations.⁴³ Since various scholars have documented that development assistance was perceived as a stepping stone for Western companies to perpetuate their business operations after decolonization,⁴⁴ it would be worth investigating to which extent environmental concerns were taken into account or ignored. All in all, how companies navigated the demands for environmental justice that were formulated during the 1970s by the representatives of poorer countries is a blind spot, which, given current discussion about climate equity and ecological debt, certainly deserves more research.

Broadening the geographical scope of investigation would contribute to further highlight common patterns and, at the other end of the spectrum, to better assess what is singular to capitalist dynamics and private companies. Some scholars have for instance argued that the actions of extractive industries were particularly problematic from an environmental perspective. This was the case for mines exploited by publicly or privately owned enterprises, no matter if they did business in a state-controlled economy, in a colonial context, or in a context of capitalist modes of production.⁴⁵ Several authors have also emphasized that policymakers in Soviet planned economies and those in market economies shared many developmental concerns during the post-war period, that the Iron Curtain did not stop cross-border pollution, and that the Cold War context was an opportunity to further develop stimulating comparisons and transnational histories.⁴⁶ It is striking that the Soviet Union and its allies boycotted the 1972 Stockholm Conference, and this raises the question whether such absence helped Western business leaders to impose their views on the future of global environmental policy frameworks.

In addition to bringing nuances regarding the sectoral and geographical scope of business counteroffensives in the 1970s, this volume also shows the relevance of disaggregating the 1970s decade and of considering changing economic circumstances. The 1973 oil embargo of the Organization of Arab Petroleum Exporting Countries (OAPEC) and the surge in oil prices that followed had ambiguous consequences on the business stance toward environmental concerns. On the one hand, these events seemed to substantiate the hypothesis of resource finitude and the limits to growth that had been brought to the fore by the 1972 Club of Rome report. On the other hand, they contributed to divert the attention of policymakers and citizens and shift the public debate back to the merits of economic development to ensure jobs and welfare. Many countries were also plagued by increased budget deficits. This was regularly used as an argument to restrict the funding and development of public expertise in the environmental domain.⁴⁷ Finally, the economic crisis that hit Western countries contributed to change the perception of business actors and their level of acceptance of regulation.

Mattias Näsman's chapter provides a deeper understanding of how the car industry, represented by its international federation, perceived and navigated UNEP's ambition to establish the UNEP Motor Vehicle Seminar in 1976 in

relation to the energy crisis, economic stagnation, environmental concerns, and trade imbalances. His contribution uses the concept of polycrisis to describe this confluence of interconnected crises affecting politics and business in the 1970s. In the automotive sector, these overlapping crises required companies to balance fuel efficiency, emission reductions, and safety regulations, all of which often led to conflicting technical demands. By framing their position as a response to the polycrisis, industry leaders justified a preference for market-based solutions and selective regulatory compliance, which influenced the shift in global environmental policies toward accommodating industry demands. Other scholars have also emphasized how business leaders from the car industry and policymakers—nationally and at the European Economic Community (EEC) level—envisioned technical environmental standards in relation to the competitive advantage it provided to national champions versus their competitors, especially when facing adverse economic circumstances and Japanese competition.⁴⁸ It is therefore clear that the reactions of corporate actors toward regulatory constraints gain to be understood in conjunction with structural economic constraints. Moreover, while existing scholarship has started to assess the effects of business strategies of resistance worldwide, in particular in establishing the idea that growth could be sustainable, further studies are needed to understand their impacts on specific pollution thresholds and sectoral regulations during the decade of the 1970s and the dependencies that resulted from this.

Establishing the New Normal: How Business Went from Being the Target of Regulation to Becoming a Partner of Government

The 1980s opened a new area for the public debate about environmental policies. Fresh issues gained political saliency such as the forest dieback (*Waldsterben*), especially in Northern European countries and Germany, as well as the rapid depletion of the ozone layer, which threatened to drastically increase the occurrence of skin cancer. The visible effects of the *Waldsterben* led to further regulation through more stringent vehicle emissions standards in Sweden, Switzerland, and later in the EEC under pressure from the German government, as well as to the progressive marketing of unleaded gasoline.⁴⁹ The ozone layer issue was tackled by the Montreal Protocol, an international treaty signed in 1985 and which is remembered as one of the main successes of global environmental policy. As shown in *Lola Wilhelm*'s chapter, which focuses on the chemical spill that took place in 1986 in the *Schweizerhalle* warehouse of the Swiss multinational Sandoz (which became Novartis after a merger with Ciba Geigy in 1996), industrial accidents and pollution scandals were also moments of renewed politicization of the environment. The *Schweizerhalle* environmental catastrophe highlights how sudden ecological disasters—unlike more gradual issues like atmospheric pollution—can trigger immediate and intense regulatory and public reactions. The industry's ability to reshape the public discourse on the accident proved

key in reducing its political significance. Sandoz's proactive, albeit reluctant, financial compensation and cleanup efforts were framed within a corporate strategy to maintain credibility and control over the environmental narrative, which ultimately prevented further regulation.

Despite the heated ozone and *Waldsterben* debates and episodic moments of politicization due to ecological scandals in the 1980s–1990s, such as the Chernobyl nuclear accident of 1986, the policies of environmental regulation had passed their climax. As a matter of fact, the global political mood was turning toward deregulation, especially with the arrival of neoliberal governments, such as those of Margaret Thatcher in the United Kingdom in May 1979 and Ronald Reagan in the United States nearly two years later. The 1980s also witnessed the weakening of climate justice demands from the Global South. Many countries in Latin America, Africa, and Asia were facing debt crises and seeking assistance from the International Monetary Fund or the World Bank. They were under pressure to comply with the free-market reforms of the so-called “Washington Consensus.”⁵⁰ The result was a focus on export-led economic growth and on decreasing state expenditures, while attempting to attract investments from multinational companies without much regard for their social or environmental consequences.⁵¹ During this period, there was also an important shift in the environmental stance of oil industry leaders. As a matter of fact, it was the 1986 oil price crash that marked a significant turning point, again demonstrating the importance of considering structural constraints in explaining business actors' economic and political strategies. Lower oil prices reduced the incentive for alternative energy investments, and the industry's commitment to renewable energy largely diminished.

The concept of “sustainable development” arrived on the global stage during this same period and soon became the conceptual basis for most international environmental action.⁵² As John Vogler explains, the concept marked “a shift from a near exclusive concern with the environmental predicament, to an integrated conception of environmental, economic and social determinants of the human future.”⁵³ In the UN context in which it was developed this came with the idea that environmental actions could not be taken without considering the economic and political situation of poorer countries. Nonetheless, it was largely Northern policymakers and their interests that shaped the sustainable development agenda.⁵⁴ The notion of sustainable development was cemented in 1987 by the UN's World Commission on Environment and Development, later called the Brundtland Commission because of its Norwegian chairwoman Gro Harlem Brundtland. According to Bergquist and David, the definition of sustainable development in the Commission's report, *Our Common Future*, to meet the needs of the present without compromising future generations, aligned with the ICC's goals of integrating environmental concerns with economic growth.⁵⁵

By the time of the Rio Earth Summit in 1992, international executives, leaning on the ICC and other business associations, had managed to position themselves as

essential partners in the “sustainability” agenda, leading to a regulatory framework favoring voluntary self-regulation over regulations imposed by national governments or international organizations. This is well illustrated by the Agenda 21 Plan of Action adopted at the Rio summit to promote a new global partnership “to meet the challenges of environment and development.”⁵⁶ It forcefully advocated for the effectiveness of voluntary approaches to achieving environmental objectives and repeatedly called for collaboration with the private business sector. In parallel to the preparation of the Rio Conference, Stephan Schmidheiny, CEO of Eternit Switzerland and adviser of Maurice Strong, set up a group of international executives that led to the founding of the World Business Council for Sustainable Development (WBCSD) in 1995. It epitomized the regulatory logic’s demise and the rise of business actors as key partners in establishing environmental policies. Rami Kaplan argues that environmental corporate social responsibility and private governance as developed by the WBCSD have to be understood as part of an anti-regulatory strategy rather than of a process in which businesspeople step up to fill the gaps left by ineffective governments.⁵⁷ This view is in line with the overall findings of this volume, which demonstrate that corporate activities in the environmental domain were deeply rooted in the intense regulatory phase of the 1970s, marked by command-and-control approaches from which business actors generally wanted to depart.

In 2002, at the Johannesburg Summit, business actors had attained a central role, with their influence enshrined in the summit’s public-private partnership framework, thus cementing business-friendly governance structures into global environmental policy. According to *Falkner’s* analysis, each of the three UN summits—Stockholm, Rio, and Johannesburg—represented a turning point in the gradual centralization of corporate influence, illustrating how businesses adapted their strategies over time to secure a place at the decision-making table. This evolution reflects broader patterns in the integration of corporate influence within international governance, where business-friendly and market-based solutions to environmental challenges gained precedence over regulatory or state-led approaches, as Ann-Kristin Bergquist and Geoffrey Jones have recently pointed out.⁵⁸ While it can therefore be argued that there was a somewhat consistent timeline that led from the regulatory turn in the 1970s to the reign of corporate sustainability in the twenty-first century, it is important to discuss more specifically the specific strategies that business actors engaged in regarding expertise, science, and issue-framing.

From Corporate Expertise to Climate Change Denialism

A question that is at the center of the relation between business, state, and civil society actors in the area of environmental and climate protection is that of scientific and technical expertise. There were three main ways in which corporate actors engaged in scientific expertise regarding environmental policies: they

participated in the development of technical solutions and policy tools to protect the environment, they positioned themselves as experts that needed to be considered in the formation of international environmental policy, and they tried to influence the science on pollution or global warming, as well as its public reception.

In the 1970s, the regulatory solutions to pollution proposed by public institutions were based on scientific and technological criteria. Some authors, such as Frank Fischer, have called this the rise of “technocratic environmentalism,” in which governmental agencies were given the task to determine the maximum levels of pollution or toxic hazards that were acceptable or make other relevant technical determinations.⁵⁹ In this context, mechanisms for “generating scientific information” were developed, based on technical expertise and involving the participation of various specialists and scientists. One especially representative example is the Environmental Impact Assessment (EIA). In the United States, a legal framework was set up with the National Environmental Policy Act (NEPA) of 1969 and the creation of the Environmental Protection Agency (EPA) a year later. It was in this framework that EIA was developed. EIAs were supposed to evaluate what kind of effects a certain development or infrastructure project had on the human environment, and to try to limit negative consequences.⁶⁰ After the United States, this policy tool was quickly introduced in highly developed states such as Canada, Australia, Germany, or New Zealand. One of the first countries in the Global South to turn to this instrument of environmental management was Brazil. As *Capellini* shows in her chapter, during the 1970s, the heads of Brazilian hydroelectric companies in charge of dam building were pressured—notably by civil society—into developing EIA-type procedures before a formal legal structure had been established. She demonstrates how the leaders of the state-owned Eletronorte company strategically used scientific expertise in their communication in order to gain legitimacy, hiring the Canadian-trained ecologist Robert Goodland before he went on to work at full-time at the World Bank, and collaborating with different universities and research institutions.

Corporate actors also succeeded in gaining legitimacy as experts in the formation of international environmental policy. As historians Huf, Sluga, and Selchow have argued, business actors were active starting in the early 1970s in establishing themselves as experts in the sector-specific aspects of environmental protection, often defending conflicting viewpoints and interests.⁶¹ One important platform for this was the UNEP Industry Programme. It was set up by UNEP director Maurice Strong in 1973 and organized several industry sector seminars from 1975 to 1979, starting with the pulp and paper sector and ending with the chemical industry. They brought together delegates from national governments, from intergovernmental organizations, and representatives of corporations and business associations, coordinated by the ICIE. These corporate actors were thus included in the consultative process as experts on their industries with the aim of reconciling economic development and environmental protection. In his chapter,

Näslman shows that car manufacturers were far from pleased that UNEP started to tackle the issue of regulatory standards. Nevertheless, by participating in the UNEP Motor Vehicle Seminar of 1976, industry representatives gained legitimacy as experts at the heart of the regulatory development. Although the Seminar did not result in any concrete results in international environmental governance of cars and motoring (such as establishing maximum noise emission standards or fuel efficiency goals), it allowed the industry leaders to mobilize the materials produced by the discussions with different government and UNEP delegates in their campaign to organize internationally. Ultimately the UNEP Industry Programme—and other similar endeavors in the 1970s—contributed to the idea that business actors could not be circumvented in the process of establishing environmental legislation, as their know-how and technological experience needed to be considered. This development led up to the first World Industry Conference on Environmental Management in Versailles a few years later, in 1984, convened by UNEP, together with the ICC. At this occasion, business actors were officially called upon to contribute to finding solutions for environmental problems, thus granting them a position of expertise in environmental policymaking.⁶²

Business actors have furthermore forcefully engaged with climate science. Climate change made its appearance in scientific studies at the end of the 1950s, and by the beginning of the 1980s, a large scientific consensus had emerged about the threat posed by increased concentrations of CO₂ in the atmosphere.⁶³ It became clear that the use of fossil fuels needed to be reconsidered and there was hope that this new evidence would lead to a major policy change in industrialized nations.⁶⁴ At this point, scientific research on climate change became a fiercely contested domain. Business actors, especially those tied to oil companies, needed to position themselves in regard to scientific findings. As mentioned above, *Melsted's* chapter uncovers that in the 1970s, some of the oil industry's most powerful businessmen organized encounters with scientists at the Aspen Institute to discuss policies on climate change and other environmental issues. It thereby emphasizes the early potential for collaboration that would shift to entrenched opposition a decade later. In fact, in the 1980s there was growing resistance within the oil industry to climate science, setting the stage for the climate denial and greenwashing practices of the 1990s that are the subject of Naomi Oreskes and Erik Conway's important book *Merchants of Doubt*.⁶⁵

One of the main companies engaged in the climate debate was the hugely influential oil giant Exxon, which in 1999 would merge with Mobil to become today's ExxonMobil. While Exxon's counteroffensive against climate science is usually understood to have peaked during this last decade of the twentieth century, *Audrey Loetscher's* contribution provides a different timeline. Although the company leaders' first move was to conduct their own scientific program on global warming, attempting to position themselves as experts in this area, they changed course in the context of the early Reagan administration and started to downplay worrisome findings in an effort to delay negative consequences for

their own business. Resources were reallocated away from fundamental research toward reevaluations of climate models to emphasis uncertainty in the predictions. This strategy evolved into a concerted denial campaign by the late 1980s, exemplifying how Exxon's counteroffensive became narrower in scope but highly effective in obstructing potential climate legislation and fostering public skepticism about climate science.⁶⁶ This is in line with Benjamin Franta's work on the trade organization of the US oil and gas industry, the American Petroleum Institute (API), in which he establishes that oil executives engaged in active climate denial already in the early 1980s.⁶⁷ Following in the footsteps of Oreskes and Conway, several other researchers have investigated the powerful campaign organized by Big Oil in the late 1980s and through the 1990s to sow doubt on scientific findings and develop counter-scientific expertise. A key moment in this battle was the founding of the Global Climate Coalition (GCC) in 1989 through which industry leaders coordinated their efforts to counter climate science.⁶⁸ Bonneuil, Choquet, and Franta for their part demonstrate how another major oil corporation, Total, participated in this counterfactual crusade starting in the late 1980s.⁶⁹ They go on to show how by the end of the 1990s, Total company leaders changed position and publicly accepted climate science, while still trying to avoid any groundbreaking regulations on fossil fuel emissions.

Other companies and business associations progressively engaged in climate change politics, albeit never with the same intensity than oil majors. While the ICC did not pay very much attention to climate change, since it was focused on corporate sustainability as the prime concern for business, this was not the case of its Energy Committee. The latter actually served as a lobbying platform for oil companies and developed close ties to the GCC.⁷⁰ Overall, the disavowal of climate science took many forms, with the same corporate actors sometimes adopting obstructionist positions in certain contexts while acknowledging the science of climate change in others. Furthermore, climate denialism was not limited to large multinational companies. The NFIB, which represented small businesses, became an active proponent of climate skepticism, effectively mobilizing companies around the perceived economic risks of climate regulation. *Waterhouse's* chapter connects this shift to a broader cultural veneration of small business, showing how anti-environmental rhetoric was shaped by and, in turn, reinforced the values of entrepreneurial independence and resistance to perceived government overreach.⁷¹ This analysis reveals how these business ideologies translated into a powerful political stance, significantly influencing the evolution of climate denialism, and hindering the adoption of effective policy measures.

The Battle of Ideas: Issue-Framing, Degrowth, and the Neoliberal Turn

With the rise of the environmental movement, there also came an intense battle of ideas about how best to protect the environment and the climate. The stage was set with the publication, in 1962, of *Silent Spring* by former marine

biologist Rachel Carson, which had a tremendous impact and quickly became a bestseller.⁷² The book, popularizing recent scientific research, denounced the disastrous effects of the pesticide DDT on humans and wildlife and argued that it was necessary to regulate the chemical industry in order to protect nature. *Silent Spring* was a lightning rod in the take-off of environmentalist activism, and, according to David Rosner and Gerald Markowitz, “In the short span of a decade, ... the chemical industry, which had become the leading symbol of the country’s industrial and technological progress, was the subject of considerable suspicion.”⁷³ It was thus the idea itself that technological innovation and economic growth was always positive that had begun to be questioned by a growing part of the population worldwide. This reassessment was further fueled by the publication in 1972 of the aforementioned Club of Rome report, which claimed that the continuing economic growth of industrial economies could not be endlessly maintained as it was responsible for huge harm to the environment and resource depletion.⁷⁴ When the oil crisis followed only a year later, this seemed to confirm the argument that natural resources were limited and needed to be preserved. The idea that technological innovations were not necessarily equivalent to progress for humanity and nature was further fueled by the anti-nuclear movement of the 1970s.⁷⁵

Faced with this new discourse, corporate actors reacted in different ways. One of the most common strategies of dealing with the potential threat that attempts to lower pollution levels could have on the conduct of business was that of issue-framing: presenting environmental problems in a way that made them more consistent with corporate interests and thereby try to sway public opinion.⁷⁶ The corporate response to environmentalism must further be put into relation with the neoliberal turn, which gripped most industrial countries after the economic crisis of 1973–1975 and was at its height until the mid-1990s.⁷⁷ Anders Fremstad and Mark Paul have made the case that neoliberal ideology, through its emphasis on decentralizing democracy, defunding public investment, and deregulating the economy, has contributed to weakening collective action to address climate change.⁷⁸ All in all, the environment became one of the laboratories of neoliberalism.⁷⁹

In the 1980s and 1990s, corporations and business organizations lobbied—with growing success—for market-friendly, purely voluntary environmental measures as alternatives to mandatory regulations at the national and global levels. As discussed above, business jumped on board of the sustainable development wagon, contributing to promoting a market-centered understanding of this concept. Green certifications, awards, and labels mushroomed.⁸⁰ Many businesses embraced corporate environmentalism and some of them even moved beyond compliance. Most of the time, however, companies did not fundamentally change their business model.⁸¹ The corporate campaign of climate change denial must also be read in the light of this neoliberal context. Some authors have argued that the neoliberal Atlas Network, founded in 1981, played an important role in undermining policy measures meant to fight climate change.⁸² The

role of think tanks can be considered as one part of a larger puzzle of what amounts to a “propaganda system,” as Kristoffer Ekberg and colleagues argue in their book: “An influential fossil-fueled denial machine assembled from 1988 onwards, mainly funded by extractive companies and consisting of (neo) conservative and neoliberal think tanks, coalitions of large scale industries, right-wing legacy and digital media....”⁸³

This propaganda machine was in full swing in the late 1980s when dealing with the scientific evidence of climate change. However, already in the 1970s, there was a concerted business effort as a reaction to the environmental movement and to the challenge of the idea of unlimited growth that heavily leaned on a neoliberal framing of environmental issues. As the chapters of *Ekberg* and *Toivanen* reveal, this was also the case in the Nordic countries, despite the widely held assumption that these Welfare states were environmental forerunners and that their business circles generally complied with regulations in this area.⁸⁴ Both contributions analyze how corporate actors in this part of Europe reacted to the environmental challenge of the 1970s by endorsing a neoliberal revision of the issues of pollution and climate change. *Ekberg* studies how key business players—a PR firm, a think tank, and the country’s two leading trade associations—set up an educational campaign that had the ambition to reframe the ideas of resource scarcity, environmental harms, and limits to growth. This campaign, which reached its height during the 1970s and early 1980s, promoted a narrative of uncertainty regarding the future, but also of optimism. Through different publications, school educational material, and exhibitions, these businesspeople put much effort into shaping public opinion to consider nuclear power as positive and less precarious than coal and oil and to view economic growth as a prerequisite for successful environmental policies. The chapter breaks new ground by uncovering the importance of environmental questions in the neoliberal turn in Sweden and by demonstrating that anti-environmentalism emerged within the local corporate networks rather than being imported from the United States as sometimes assumed. *Toivanen* focuses his contribution on a business-run free-market think tank in Finland, EVA, and shows how in the early 1970s, faced with the empowered Left, it first opted for a moderate approach of assessing the consequences of depleting natural resources for the Finnish industry. By the end of that decade, however, it began to systematically construct and foster a discourse in line with “neoliberal environmentalism,” prioritizing the tools of market competition and voluntary action over any state regulation. It argued against command-and-control environmental regulation by emphasizing that industry was competent to protect the environment by relying on its own expertise and engaging in voluntary actions. In the early 1980s, it went on to vigorously oppose the “anti-growth camp,” framing its positions on nuclear power as a threat to the future existence of the Finnish industry and even of Western civilization. However, it did

not attack the environmental movement as a whole or support the cornucopian ideas of leading neoliberal environmental theorists.⁸⁵ Rather, the think tank helped spread a rhetoric in which economic growth and market competition constituted the necessary prerequisites for environmental action. *Toivanen* argues that it was successful in this endeavor, even contributing to the fact that the environmental movement and the green party adopted positions integrating a similar outlook.

Taken together, the contributions in this volume reveal that there was a general evolution from more diverse engagement with environmental policies in the 1970s toward increasing authority of corporate sustainability after the 1990s. They show that there was nothing ineluctable about this course. On the contrary, this shift was the result of both structural changes in the global economy and of intense political efforts achieved by corporations and their associations and think tanks. As archives from the 1990s and beyond become available to research, business involvement is likely to become even more evident. This would in particular allow a better understanding of the more recent history of the business influence in the global environmental policies of the Conference of the Parties (COP). Established as the supreme decision-making body of the United Nations Framework Convention on Climate Change (UNFCCC)—a treaty adopted by nearly 200 countries at the 1992 Rio Earth Summit—COP oversees the implementation of the treaty's objectives.⁸⁶ Arguably the most significant achievement in COP's history is the Paris Agreement adopted in 2015, the first legally binding international agreement involving 196 countries and marking a landmark global commitment to address climate change by setting a unified goal: limiting global warming to well below 2°C above pre-industrial levels, with efforts to limit it to 1.5°C. Business lobbying has undoubtedly grown within this UN structure since the first COP held in Berlin in March 1995.⁸⁷ In November 2023, it reached unprecedented levels at the COP28 in Dubai, a petro-monarchy, where nearly 2,500 fossil fuel lobbyists were accredited.⁸⁸ As *Glenda Sluga* discusses in the epilogue of this volume, the fact that COP28 as well as COP29 the following year were chaired by men with close ties to the oil industry highlights the increasing contradictions of the COP framework allegedly devoted to bringing about the “beginning of the end of the fossil fuel era.”⁸⁹ The return to the White House of Trump, who has proclaimed the United States' withdrawal from the COP21 Paris Agreement, will doubtlessly contribute to further weaken any climate optimism that the multilateral environmental instruments developed under the auspices of the UN might have still carried for some.⁹⁰

Still, notwithstanding the many research questions that remain open, the chapters in this volume enhance our understanding of the various roles business actors played in the historical trajectory and the power dynamics at play, which have led humanity to the “broken record” situation it currently faces in environmental and climate policies.

Notes

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Part 1

After 1970

The Business Counteroffensive



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1 From the Margins to the Center of Global Environmental Governance

International Business at the Stockholm (1972), Rio (1992), and Johannesburg (2002) Conferences

Robert Falkner

Introduction: International Business in Global Environmental Politics

The United Nations Conference on the Human Environment (UNCHE), held in 1972 in Stockholm, is widely regarded as a pivotal moment in the history of global environmental politics. It is at this point that international society came to accept a responsibility for protecting the global environment and began to establish international environmental institutions. Business actors were ill-prepared for the new era of global environmental governance. The few business representatives that were present in Stockholm had little impact on the inter-governmental deliberations and conference outcomes. Fast forward thirty years to the World Summit on Sustainable Development (WSSD), held in 2002 in Johannesburg, and the picture that emerges is profoundly different. Large numbers of industry representatives took part in the Johannesburg conference as well as in its preparatory process. States publicly recognized the corporate sector's central role in the sustainable development agenda and courted individual business leaders to join collaborative sustainability initiatives. NGO calls for stricter regulation of international business went unheeded, while voluntary public-private partnerships gained prominence as the main model for engaging with the private sector. "Business was a clear winner at the summit" is how the *International Herald Tribune* summed up the main results of the 2002 Johannesburg Conference.¹

How did it come to this reversal of fortune for the private sector? How was it possible for international business actors—usually depicted by environmental activists as the main culprits behind environmental degradation—to move center stage in international discussions and be recognized as a critical partner in global environmental governance? And how did business leaders and lobbyists manage to shape the emerging international environmental agenda to make it more business-friendly? This chapter seeks answers to these questions by exploring

the rise of corporate engagement in international environmental politics from the 1970s to the 2000s, with a specific focus on the changing nature of business engagement in the main United Nations (UN) environmental summits.

The three UN conferences that are at the center of the analysis represent important “temporal focal points”² in the evolution of international environmental politics. The 1972 Stockholm Conference was the first high-level UN conference on environmental matters. It is widely seen as marking the transition from early *ad hoc* efforts of dealing with transboundary environmental problems to a more systematic form of international environmental policymaking. Indeed, Stockholm can be considered as the “constitutional moment” in the history of global environmental politics in that it was at this point that leading states for the first time accepted a general responsibility for protecting the global environment.³ Stockholm also led to the creation of the United Nations Environment Programme (UNEP), the first permanent inter-governmental environmental body. The United Nations Conference on Environment and Development (UNCED), held in 1992 in Rio de Janeiro, was the then largest gathering of world leaders in the UN’s history and succeeded in establishing sustainable development as the conceptual basis for international environmental action. The Rio conference, also known as the “Earth Summit,” signifies the globalization of the fundamental environmental norm that was established two decades earlier in Stockholm, with the large majority of developing and former Communist countries accepting a global environmental responsibility. Rio led to the adoption of two major global conventions (on climate change and biodiversity) and the creation of the Commission on Sustainable Development. It also turned the World Bank’s Global Environment Facility into the lead organization for international environmental aid. By contrast, the 2002 UN Summit in Johannesburg was less successful in inaugurating new international treaties or institutions. Johannesburg was of greater significance for the relationship between states and businesses, however, in that it established the principle of voluntary public-private partnerships as a central tool for delivering sustainable development on a global scale. To be sure, these three UN summits were not the only sites of decision-making on major environmental issues, but they provide analytically useful focal points for establishing shifts and continuities in business engagement with the international environmental agenda. They also serve as indicators of the status that business was accorded in the evolution of global environmental governance.

In recent years, the role of business in global environmental politics has received growing attention in several disciplines, from international relations (IR) to business history, geography, sociology, and environmental studies. IR scholars are mostly concerned with the power and influence of business actors in international environmental policymaking.⁴ Historians have focused on the environmental practices and approaches of individual companies and sectors,⁵ though business involvement in the international politics of the environment

is beginning to attract more attention in historical research.⁶ Pioneering work by Ann-Kristin Bergquist and Thomas David has shone a light on the role that international business associations, most notably the International Chamber of Commerce (ICC), have played in UN environmental efforts from the 1970s to the early 1990s.⁷

Unfortunately, cross-fertilization across disciplinary boundaries is still in its infancy, and important research gaps persist in the various research literatures. These gaps concern, *inter alia*, the long-term patterns of business engagement and influence-seeking in environmental diplomacy; the question of how business actors have organized themselves in the field of global environmental politics, and how successfully they have overcome internal divisions along sectoral or national lines; and the question of the role that international business associations played in aggregating, but also shaping, the political preferences of their members.

It is beyond the scope of this chapter to attempt to answer all these questions. Its main intention is to develop a periodization of business engagement in global environmental politics that can provide a framework for future research in this area. The analysis builds on existing historical research, especially by Bergquist and David, but extends the narrative and analytical arc to the early 2000s, the critical point at which business voluntarism and public-private partnerships came to be fully recognized as an integral part of global environmental governance. It draws on existing scholarship in IR and history, as well as archival records of the ICC and gray literature from UN conferences.

This chapter is structured in the following way: after this introductory section, the subsequent sections examine business engagement with the three UN environmental summits at the center of the analysis: the 1972 Stockholm Conference, the 1992 Rio Conference, and the 2002 Johannesburg Conference. The final section summarizes the main findings.

Business Marginalized: Stockholm, 1972

While the first inter-governmental efforts to deal with transboundary environmental issues can be traced back to the late nineteenth century, it was the Stockholm conference of 1972 that marks the beginning of modern environmental policymaking at the international level. Before the 1970s, various North American and European states had tried but failed to establish environmental protection as a concern for international diplomacy. Such initiatives include US President Theodore Roosevelt's proposal for a world conservation conference in 1909, the Berne international conservation conference of 1913, proposals for an environmental mandate for the League of Nations, and the first UN technical conferences on conservation and natural resources in the late 1940s. It was only at the Stockholm conference in 1972 that international society collectively accepted a responsibility for protecting the global environment.⁸ Stockholm also

led to the creation of the first inter-governmental organization tasked with global environmental protection. Established in 1973, UNEP took up the important role of promoting scientific information exchange and facilitating the negotiation of new international environmental treaties.⁹

Business actors played a marginal role in the Stockholm conference, in sharp contrast to their prominent involvement in later UN environmental summits. One reason for this was the speed with which the “environmental revolution”¹⁰ of the late 1960s arrived on the international scene, which created unexpected political momentum behind the Stockholm conference. Not only business leaders but also representatives of more traditional conservation groups (e.g., Sierra Club) were wrongfooted by the sudden translation of surging environmental concern into a broader mass movement with electoral consequences for governments in North America and Europe.¹¹

At the time, the private sector’s response to the new environmental agenda was mostly reactive, and frequently hostile. In public debates, business representatives cautioned against hasty environmental action. They tended to frame environmental issues in terms of an “economy vs. ecology” conflict, a zero-sum game that pitted economic growth and business profits against the demands of nature protection. Environmentalists themselves promoted such a framing by highlighting the “limits to growth” and demanding constraints on global industrial production, resource extraction, and energy consumption.¹² Many business leaders also challenged the scientific validity of environmentalists’ concerns when rejecting demands for stronger environmental regulation. The American chemical industry, for example, fought efforts by environmental and occupational health authorities to regulate an ever larger number of chemicals, questioning claims that vinyl chloride had carcinogenic effects and chlorofluorocarbons were harming the stratospheric ozone layer.¹³ Management scholars Hoffman and Bansal argue that “regulatory compliance” characterized business responses during the 1960s and 1970s, but this characterization fails to acknowledge that environmental regulations, especially at the international level, were still limited and flexible.¹⁴ As governments began to turn the regulatory screw, however, they met with far greater resistance from industry. Indeed, the situation looked different from the vantage point of environmentalists, who accused “much of corporate America” to have been “in the van of the anti-environmental counter-revolution from the beginning.”¹⁵

At the international level, business actors were slow to engage with the preparatory process for the 1972 Stockholm Conference. It largely fell to the ICC to organize an international business response to the first-ever UN environment conference. In June 1971, the ICC held its 23rd Congress in Vienna, with a focus on “Technology and Society: A Challenge to Private Enterprise.” Topics under discussion included the use of natural resources, the social costs of economic growth, and the respective responsibilities of government and business. US business leaders emphasized the need to develop international environmental

standards in order to create a global level playing field. They also expressed concerns about new environmental regulations creating barriers to trade and investment. In its conclusions, the ICC Congress accepted that industry had a responsibility in global environmental matters and recommended the creation of a special committee within the ICC that would develop common positions and prepare inputs into the Stockholm conference preparations.¹⁶

The ICC followed up this recommendation by establishing a Special Committee on Environment. At its first meeting in February 1972—only four months before the opening of the UN conference—the Committee noted the need to concentrate “its attention upon the urgent action that would have to be taken within the ICC if the private sector of industry and business is to participate effectively in international efforts to protect and improve the human environment.”¹⁷ The Committee members were fully aware that there was little time left to make business voices heard in the Stockholm preparatory process. Part of the problem was that many multinational corporations and national business associations were ill-informed about the intentions behind the Stockholm conference.¹⁸ To create greater awareness of the international environmental agenda among business leaders and give business perspectives a more prominent platform, the ICC held a World Industry Conference on the Human Environment in Gothenburg, just two weeks before the UN environment summit opened. Business leaders from seventeen countries came to Gothenburg and agreed a concluding statement that was eventually passed on to Maurice Strong, a former business leader and now the chair of the Stockholm conference. Strong assured the ICC that its views would be heard in the conference.¹⁹

The ICC prepared seven reports on the main agenda items for the Stockholm conference and sent eleven delegates to the UN gathering, including its Secretary General, Walter Hill. Other industry representatives attended in their own right, and some were included as formal members of country delegations, as was the case with the thirty-five-strong US delegation. The few business representatives that had made their way to Stockholm were able to address delegates during the plenary sessions, give press conferences, and distribute large numbers of leaflets and brochures. However, there is little evidence to suggest that business interventions in Stockholm had a significant influence on the conference outcomes. The head of a US metals company, who was present at the Stockholm conference, spoke for many business leaders when he told a *New York Times* reporter: “They’re deciding all these things about the environment, and industry is the one that’s going to have to implement the decisions. But we haven’t had any say in them.”²⁰

Business leaders’ frustration with the Stockholm conference needs to be seen in the wider context of a generally frosty relationship between the global business community and the UN during the 1970s. Much of this was down to UN efforts to create a legally binding framework for foreign direct investment and multinational corporations. In the wake of decolonization, developing countries

had gained a majority in the UN General Assembly and began to demand fundamental reforms of the global economy. The campaign for a New International Economic Order sought to rebalance the global economy in the Global South's favor by establishing, *inter alia*, international cartels on commodities trade and new restrictions on international business operations. Global business leaders were therefore deeply suspicious of any new UN initiative to give it international regulatory authority, including in the environmental field.²¹

The only consolation for the business sector was the fact that the main outcomes of the Stockholm conference—a political declaration and an action plan—did not directly address international business operations. Like many other UN declarations, the Stockholm Declaration was adopted as a legally non-binding political statement. The goal of the conference was to establish a broad consensus on the importance of addressing environmental problems, in the hope that this would lay the groundwork for stronger international agreements in future years. Significantly, however, the Stockholm Declaration established, for the first time, the duty of all states to protect the environment, while UNCHE's Action Plan for the Human Environment listed 109 recommendations for promoting global scientific cooperation and environmental impact assessment.²² Both documents were primarily aimed at states, not the private sector. They were devoid of legally binding targets or measures and therefore did not pose an immediate threat to international business interests. However, the marginalization of business voices during the preparatory and negotiation process set a problematic precedent for the ICC and other business lobbying organizations, which were used to having greater access to, and influence on, international processes. This was even more concerning as Stockholm was expected to kickstart a process of further treaty negotiations and institution-building that could create future regulatory restrictions on international business. One of the key lessons from the Stockholm experience was, therefore, that business leaders needed to engage more proactively with the international environmental agenda. At a minimum, they needed to achieve better representation at future UN environment summits and other international environmental conferences.

Business Ascendant: Rio de Janeiro, 1992

The experience of the Stockholm conference prompted international business leaders to strengthen the private sector's ties to the UN. ICC representatives already enjoyed a close working relationship with Maurice Strong, a former oilman who had chaired the Stockholm conference and in 1973 became UNEP's founding executive director. Strong had repeatedly expressed a desire to work with business associations, and particularly the ICC as the leading voice of international business.²³ In November 1972, the ICC and a few national and international business associations decided to set up a dedicated institution for engaging with the UN's environmental work. The newly founded International

Centre for Industry and the Environment was to “create a focal point for world industry on International Environmental questions” and “ensure that the United Nations and other intergovernmental organizations [...] take fully into account the constructive role that industry can play, as well as [...] the views of industry.”²⁴ By establishing the Center in Nairobi, close to where UNEP had taken up residence, the international business community hoped to be able not only to gain better insights into UN environmental initiatives but also to shape them.

Despite its proximity to UNEP, the Center never managed to provide an effective bridge between industry and the UN. Industry representatives complained about a reluctance among UNEP officials to share information with business groups. They also felt that UNEP was overly ambitious in how it defined its environmental mandate and failed to deliver on core environmental issues.²⁵ UNEP’s location in Nairobi, far from the other UN bodies and the headquarters of major multinationals and business associations, proved to be an additional impediment to developing trust between UNEP and international business leaders. By the early 1980s, the International Centre for Industry and the Environment was disbanded.

The tenth anniversary of the Stockholm Conference provided the ICC with a fresh opportunity to showcase the business community’s commitment to environmental protection. Working with UNEP and other international bodies, the ICC organized the World Industry Conference on the Environment in April 1982. At the conference, business and UNEP representatives reiterated their pleas for deeper cooperation between industry and international organizations.²⁶ Two years later, the ICC convened the first World Industry Conference on Environmental Management (WICEM) in Versailles. WICEM came about in response to a UNEP Governing Council resolution from May 1983 that called on industry to demonstrate its technical contribution to sound environmental policy.²⁷ The conference brought together a wide range of business representatives that all stated their commitment to addressing global environmental problems. The principles and instruments that the WICEM participants elaborated emphasized the importance of business self-regulation within a framework of collaboration between states and the private sector.²⁸

By this time, relations between the ICC and UNEP had improved sufficiently that both were keen to strengthen collaboration on joint initiatives and achieve better business representation in international environmental debates. The UN body had good reasons to seek stronger industry involvement at a time when it faced growing uncertainty about its capacity to act. UNEP’s ambition to position itself as a central node in the growing network of international environmental regimes was hampered by the fact that it lacked a secure funding basis. Part of UNEP’s problem was that its main funding did not come out of the UN’s regular budget but depended on voluntary contributions from key UN member states. During the 1980s, many Western donor countries had become lukewarm about

several international organizations, most notably UNESCO, which the United States accused of being spendthrift and promoting an anti-Western agenda. UNEP also came in for critical scrutiny over its spending patterns and saw its inflation-adjusted funding decline during the Reagan Administration. Especially the United States and the UK pursued a policy of “no new money” for the UN and demanded that international organizations take a more pro-market attitude.²⁹

In contrast to the low-key tenth anniversary of the Stockholm conference, the twentieth anniversary in 1992 was expected to result in a major UN summit, with an opportunity for the international community to renew its commitment to environmental stewardship and develop new international agreements on urgent global problems. This time, international business was determined not to be confined to the margins of the international event.

The intellectual blueprint for the Rio conference had been developed nearly a decade earlier, by a group of experts that came together in 1983 under the chairmanship of Gro Harlem Brundtland, the former Norwegian prime minister. ICC members participated actively in the consultation process, with Thomas McCarthy, the Chairman of the ICC Environment Committee, joining the Brundtland Commission’s Industry Panel. Business leaders were keen to ensure that the Commission recognized the contribution that market mechanisms and industry self-regulation could make. Although the final report of the Commission, published in 1987 under the title *Our Common Future*, was seen in some business circles as “provocative,”³⁰ its core message about the continued importance of growth and development reassured business leaders. In fact, most international business associations quickly adopted sustainable development, the core concept promoted by the Commission, and put it at the heart of voluntary business initiatives.³¹

International business actors were much better organized for Rio than they had ever been at previous UN conferences. In the run-up to the Rio summit, the ICC defined its approach to environmental problems in a *Business Charter for Sustainable Development*, which had been in development since 1988 and was published in April 1991.³² The sixteen principles of the Charter provide a template for companies that seek to embed environmental management into their business operations. The Charter was a voluntary instrument, designed to inform and guide, not create measurable or enforceable commitments. In 1992, the ICC went one step further and created the World Industry Council for Environment (WICE) as its main vehicle for injecting a business perspective into the Rio conference. A separate international business grouping, the Business Council on Sustainable Development (BCSD), was created by the Swiss industrialist Stephan Schmidheiny, who had been appointed as special adviser to the UNCED chair Maurice Strong. Forty-eight business leaders from leading multinational companies (e.g., Royal Dutch Shell, Dow Chemical Co., DuPont & Co., ALCOA, Axel Johnson AB, Tosoh Corp.) joined Schmidheiny in setting up the BCSD with the express purpose of shaping the international debate at the

Rio summit.³³ Schmidheiny and the Business Council produced a 350-page book that laid out the main principles of how companies could adopt sustainability as part of their business strategies.³⁴ The book also contained thirty-eight case studies of company initiatives to implement sustainability principles. Published just before the Rio conference, the book was intended to showcase the success that companies had achieved in putting sustainability into practice. At a minimum, it was expected to establish international business as a legitimate partner in the search for global environmental solutions.³⁵

Apart from working through international and cross-sectoral business associations, such as the ICC and BCSD, business leaders also lobbied their national governments to shape the summit outcomes. In most advanced economies, major companies can rely on personal links to state leaders and close links to ministries that represent industry interests (e.g., commerce or trade ministries), which can provide them with more effective if less transparent means of influencing international negotiations. Indeed, much of the business lobbying in the run-up to Rio happened at the national level, at the point where governments formulated their positions going into the UN conference. Some governments also incorporated business representatives into their national delegations, which gave business direct access to the inter-governmental preparatory process and final conference. In addition, large numbers of business representatives were present in Rio as observers of the UN summit, with the BCSD taking the lead in representing the business perspective before and during the conference.³⁶ The private sector also contributed a fifth of the \$16.9 million budget that the summit secretariat spent toward preparing and hosting the conference. The extent to which this level of financial contribution strengthened business influence during the summit negotiations remains a matter of speculation. It is unlikely to have given business leverage in negotiations on specific conference outcomes but would have strengthened the overall legitimacy of business as a partner in the conference.³⁷

The Rio conference is widely regarded as a particularly successful UN summit, not least because it produced two major international conventions to deal with the twin crises of climate change and biodiversity loss (United Nations Framework Convention on Climate Change; Convention on Biological Diversity). The conference also adopted Agenda 21 as the key tool for its implementation strategy. While environmental NGOs had hoped that Agenda 21 would incorporate a regulatory instrument that deals with the polluting activities of multinational corporations, their demands went unheeded. Agenda 21 contains only a short section on business that merely mentions corporations as playing a role in promoting sustainable development. As many NGOs and critics of the Rio Earth Summit noted, the agreed text made “[n]o mention [...] of corporations’ role in the pollution of the planet, nor was there any kind of guidance or regulation to ensure that they are more responsible in the future.”³⁸ Instead, the Rio outcomes were seen by activists to be promoting the ICC’s doctrine of

“corporate environmentalism,” and in particular the principles of self-regulation and market-based approaches to sustainability.³⁹

The Rio summit thus marks the moment in international environmental diplomacy when the international business community had fully gained recognition as a legitimate and trusted partner in the search for global sustainability. No longer relegated to the margins of UN diplomacy, business groups such as the ICC, BCSD, and WICE were able to present the business case for voluntary business action and market-friendly environmental regulation. That the Rio Earth Summit agreements largely reflected this position can certainly be interpreted as a major win for international business. But it is important to note that business preferences were already widely shared by most Northern governments well before the start of the Rio conference. The business-friendly principles espoused in the BCSD’s *Changing Course* had already found their way into earlier policy documents produced by the Organization for Economic Cooperation and Development and the European Union, which in turn informed many Northern countries’ bargaining positions at Rio. As Bernstein notes, the liberal, pro-market environmental compromise that Rio became famous for had in fact evolved out of complex processes of ideational creation and compromise-seeking, which industry groups were not always fully engaged with.⁴⁰ In this sense, the Earth Summit of 1992 merely capped a development toward business-friendly environmental governance that had been in the making for some time.

Business Empowered: Johannesburg, 2002

If the 1992 Rio Summit brought business closer to the heart of international environmental policymaking, it was the 2002 Johannesburg Summit, officially known as the WSSD, that formalized the prominent role that business actors were accorded in implementing the global sustainability agenda. From an environmental perspective, Johannesburg was a disappointing UN summit. Not only did it fail to agree any major new international environmental treaties, but it also did not deliver any significant reforms to the institutional structure of global environmental governance. Against the backdrop of widespread “treaty fatigue” and perceptions of weak implementation of existing agreements, the preparatory process for Johannesburg had been focused on a more limited agenda of advancing sustainability goals in five areas: water, energy, health, agriculture, and biodiversity. Yet, even with such a slimmed-down agenda, it proved impossible to agree on even modest policy measures, such as the proposed target for increasing renewable energy’s share of worldwide energy consumption. In the end, the most notable outcome of Johannesburg was the endorsement of public-private partnerships (so-called “Type-II outcomes”), which empowered international business, acting in partnership with other nonstate and state actors, to assume a central role in designing and delivering sustainability programs.⁴¹

International business leaders had used the period following the 1992 Rio Summit to further enhance their legitimacy as partners in the pursuit for global sustainability. Rather than dissolve itself as originally expected, BCSD carried on its work promoting best practice in environmental management. In 1995, the leaders of the ICC and BCSD overcame their earlier differences and agreed to merge WICE with the BCSD to form the World Business Council for Sustainable Development (WBCSD), which would grow into the leading international business organization on environmental matters.⁴² Industry experts also worked together with national regulators to develop a set of environmental management standards under the auspices of the International Organization for Standardization (ISO). Adopted in 1996, the ISO 14000 series became the global standard for integrating environmental issues into business management. Although voluntary in nature, the new ISO standards were adopted by companies worldwide, and especially those in the developing world that sought to integrate themselves into global supply chains.⁴³

By the 1990s, the idea of private environmental governance, based on voluntary codes of conducts, business self-regulation, and multi-stakeholder initiatives, had become widely accepted in national and international environmental policy circles.⁴⁴ Buoyed by the global spread of the market norm in international society during the 1990s, the WBCSD continued to promote a vision of corporate environmentalism that built on, *inter alia*, “the principle of free trade and open market access,” “stable and predictable ‘rules of the game,’” “strengthened consultation with all stakeholders in civil society,” and “wider use of voluntary agreements and other self-regulatory approaches.”⁴⁵ During this period, the first major multi-stakeholder regimes began to emerge, which industry groups advocated as examples of the market mechanism working for sustainable development.⁴⁶ Following the failure to adopt a binding international treaty on forests at the Rio summit, environmental NGOs, trade unions, indigenous communities, and companies came together to create the Forest Stewardship Council (FSC). Founded in 1993, the FSC soon established itself as a leading private certification scheme to promote sustainable forestry. It also became a model for similar sustainability partnerships and certification schemes in other areas, such as fisheries (e.g. Marine Stewardship Council) and agricultural commodities (Roundtable on Sustainable Palm Oil).⁴⁷ Leading industrialized economies welcomed the creation of such partnership initiatives; indeed, many encouraged the adoption of voluntary regulatory approaches in the private sector.⁴⁸ By the end of the 1990s, the UN had also made decisive steps toward a new relationship with business, which favored voluntary action and the dissemination of best practices over top-down regulation. Having abandoned earlier efforts to create a legally binding code for multinational corporations, the UN developed the UN Global Compact as a new form of engaging international business in the delivery of global social and environmental policy objectives. Formally launched in 2000, the Global Compact sent an unambiguous signal to the private sector that the UN

was ready to collaborate with the international business community in pursuit of global policy goals.⁴⁹

The ground for a new era of partnership between the UN and business had thus been prepared well before the opening of the Johannesburg summit in 2002. Ten years after Rio, business actors could expect to receive a favorable hearing in Johannesburg, but also increased scrutiny of their global impact. As Björn Stigson, president of the WBCSD, noted in the run-up to the conference, “While Governments in most countries have weakened, the role and influence of business has increased to the point where it is being challenged as being too powerful.”⁵⁰ What was uncertain, however, was the question of how this partnership idea, and with it the many individual initiatives that the summit was expected to kickstart, would be structured and how the respective roles and responsibilities of public and private actors would be defined. Environmental activists had called on governments to create a global legally binding framework on corporate accountability.⁵¹ In contrast, business leaders argued for voluntary action and collaboration among relevant stakeholders.

Business representatives had been actively engaged in the preparatory and plenary negotiations at Johannesburg, both as observers and members of national delegations.⁵² The ICC and WBCSD, together with their jointly created Business Action for Sustainable Development (BASD), were the main business associations at the summit negotiations, while many individual companies and sectoral business groupings showcased their sustainability programs on the margins of Johannesburg, including at a one-day business event sponsored by BASD.⁵³ One of the symbolically most significant events occurred on 28 August 2002, when Greenpeace and the WBCSD gave a joint presentation at the summit, announcing that they had formed a partnership focused on tackling climate change.⁵⁴ Governments were keen to turn business engagement into a success story, not least as they had little to show for in terms of inter-governmental agreements coming out of Johannesburg. In fact, the partnerships announced at the summit—by August 2011, a total of 348 partnerships were registered by the United Nations Commission on Sustainable Development—were the main tangible contribution that the Johannesburg conference made.⁵⁵

The preparatory meetings for Johannesburg spent some time debating the rules for public-private partnerships. The idea of partnerships had already been included in Agenda 21, but if such collaborative efforts between governments, NGOs, and business were to be used more extensively, then certain conceptual decisions and rules were needed to harmonize what would otherwise be a confusing and largely unstructured field of voluntary actions. Business actors were fully engaged in these preparatory discussions and sought to steer country delegates away from an overly legalistic and intrusive set of rules.

The discussions during the preparatory process pitted developing countries and environmental NGOs against Northern governments and industry representatives. The former argued for developing a framework for partnerships that

would ensure their alignment with global sustainability objectives and strict monitoring and reporting procedures; the latter favored a looser and more flexible set of rules that did not impose too heavy a burden on participants in such partnerships. The conflict between these two sides came out into the open by the time of the third Preparatory Committee (PrepCom) meeting and was eventually resolved at the fourth PrepCom meeting in Bali.⁵⁶ The so-called Bali Guidelines offered a compromise that mostly rejected the more demanding model advocated by developing countries and activists. Partnerships would be guided by non-binding criteria. There would be no mandatory rules for monitoring and reporting, no newly created international body that would oversee the emerging partnerships, and no code of conduct for participating corporations.⁵⁷ The outcome of the negotiations suggests that the international business community and its allies among Northern governments won the main battle over how to define and operationalize the partnership idea.

The 2002 Johannesburg Summit thus caps the end of a journey that had brought international business groups from the margins to the center of UN-style global environmental governance. Industry self-regulation was now formally accepted by international society as a key mechanism for implementing sustainable development objectives, and corporate actors had been encouraged to develop a plethora of partnerships together with public authorities and nonstate actors to advance specific sustainability goals. Talk of formal international business regulation failed to gain any traction with negotiators, while governments affirmed the centrality of market-based instruments.

Conclusions

Business involvement in international environmental policymaking changed dramatically between the 1970s and 2000s. In the early days of the modern environmental movement, when states began to establish international institutions to address transboundary environmental problems, business actors found themselves largely excluded from international policymaking. The preparations for the Stockholm conference of 1972 proceeded without much business input, and the few business representatives that attended the conference felt sidelined in the inter-governmental process. At that time, many corporate leaders viewed the rise of environmental politics with a mixture of suspicion, skepticism, and hostility, and the leading business associations were slow to respond to the new demands of environmental conference diplomacy.

After Stockholm, business leaders had good reason to believe that global environmentalism was a temporary fad that would soon disappear. Against the background of two oil crises and global economic stagnation in the 1970s, most governments refocused on the need to stimulate economic growth. Moreover, by the early 1980s, the electoral successes of Ronald Reagan in the United States and Margaret Thatcher in the UK signaled the arrival of neoliberal economics.

With it came a concerted political effort to reduce the state's role in the economy and set business free from burdensome regulation. Yet, despite the economic turbulence of the 1970s and subsequent global spread of neoliberalism, environmentalism remained on national and international policy agendas. International business had to organize itself and engage with the international process if it wanted to shape the way states were going about crafting global environmental strategies. At UN level, the ICC became a key player in defining the global business response. It organized the first WICEM in 1984 and developed guidelines on how companies could advance the sustainability agenda within their own organizations. The ICC's main focus was on establishing business as a legitimate partner in international environmental politics. It was keen to ensure that emerging environmental regulations would be business-friendly and least disruptive of international trade and investment flows. The ICC's version of corporate environmentalism was based on a reassertion of the central role of the market, free trade, and economic growth, and the importance of self-regulation and voluntary action in the corporate sector. To be sure, individual companies and sectors were not always fully aligned on specific regulatory policies being debated at the international level,⁵⁸ but the ICC managed to establish a largely united business front in the debate on what role business should play within global environmental governance.

The ICC's efforts to engage more positively with the international environmental agenda paid off in the run-up to the 1992 Rio Earth Summit. By this time, the UN's approach to business had shifted, with UN leaders—most notably Maurice Strong, the chair of the Rio summit—seeking to engage business representatives in the preparatory process and the conference itself. The Rio process marked the key turning point when business emerged as a more central player in international environmental policymaking. At Rio, the ICC and the newly formed BCSD played a highly visible role in shaping the debate on how to implement the UN's sustainable development vision. Corporate leaders were able to showcase their experience with environmental management and their contributions to sustainable development, thereby enhancing their legitimacy as partners in international environmental politics. Their lobbying efforts are widely considered to have paid off, not least because the Earth Summit's Agenda 21 left out any suggestion that stricter regulation of international business was needed to advance global sustainability.

The transformation of the relationship between international business and the UN, which was already evident in the 1980s, continued after 1992 and reached its high point at the 2002 Johannesburg Conference. Coming ten years after Rio, Johannesburg failed to agree on institutional reforms or introduce new international environmental treaties. Instead, states invited nonstate actors—NGOs, but particularly the private sector—to join them in voluntary initiatives. Encouraged by the emphasis on voluntarist action and public-private partnerships, the ICC and other business groups took the opportunity to further legitimize the corporate

sector's role in the environmental field. Working with the support of the United States and other industrialized countries, their interventions in the Johannesburg process ensured that the new partnership initiatives would remain purely voluntary, without being embedded in new formal structures and without onerous reporting and monitoring requirements imposed by the UN. The Johannesburg conference thus marks the end of the process that saw international business move from the margins to the center of international environmental policymaking, emerging empowered as a partner in global environmental governance.

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2 Between Pushback and Collaboration

The Oil Industry and the Challenges of Environmentalism and Resource Scarcity, 1970s–1980s

Odinn Melsted

Introduction

In December 1974, Robert O. Anderson, the chairman and CEO of the oil company Atlantic Richfield Co. (ARCO), wrote a fifty-five-page long paper about “The Global Dilemma,” which he saw in three central “problem areas”: capital, food, and resources. The demise of the Bretton Woods system, the challenge of feeding a growing world population, and the limited availability of natural resources coupled with environmental pollution made him deeply concerned about the future. Anderson was particularly worried about energy supply:

Until quite recently, the entire petroleum industry felt the energy future of the globe was quite secure, was at least tenable. The potential supplies available throughout the world appeared to meet estimated demand curves through the end of this century and hopefully by that time our nuclear energy program would be well into an advanced stage.¹

This paper, written by Anderson as a basis for discussion in philanthropic and political circles, reveals the multitude of concerns in his thinking about the future. Anderson was not only a leader of the oil industry, but also chairman of the Aspen Institute for Humanistic Studies, a confidant of US President Nixon, and among a group of “oilmen” who shaped global environmental governance in the 1970s.²

At the time, the world of oil was in turmoil. In October of 1973, the Arab members of the Organization of Petroleum Exporting Countries (OPEC), separately organized as OAPEC, issued their famous oil embargo, which is often associated with the “oil crisis.” The embargo, however, did not quite stop the flow of oil to the West, and the spectacular price increases of 1973–1974 were rather caused by separate announcements of production cuts by OPEC members.³ The perceived oil crisis was in most instances an expectation of a potential supply issue, rather than a prolonged shortage, as the perceived threat of tightening supplies

drove a rush on the market. Still, there was undoubtedly a shock in the world of oil, as Anderson recognized, and previously optimistic expectations of the future of oil-based growth were widely questioned. Oil had been the essential energy source of economic growth in the postwar years. Nevertheless, OPEC countries of the Global South, which contained the largest and most profitable oil reservoirs, were able to seize control over crude oil pricing, demand higher shares of the profits, and expropriated oil production infrastructures within their borders.⁴ At the same time, a debate about resource scarcity stoked by the 1972 study *Limits to Growth*, the critique of environmentalism, and the emergence of environmental institutions imposed new boundaries for oil companies.⁵ Global environmental governance, however, was also shaped by oil actors. This was particularly the case with Anderson's friend and ally, the Canadian oil manager Maurice F. Strong, who chaired the UN Conference on the Human Environment (UNCHE) in Stockholm in 1972 and became the founding director of the UN Environment Programme (UNEP).⁶

Why did oil executives like Anderson and Strong engage with the challenges of environmentalism and resource scarcity? How did they influence environmental governance and management? And how did major oil companies and their executives react to the same situations? The relationship of oil companies with the environmental challenge of the 1970s can be understood as one of pushback and collaboration. On the one hand, they pushed back against environmentalist critiques and restrictive regulation that threatened their business interests. On the other hand, these companies—especially some individual executives—also collaborated in environmental matters by shaping environmental governance, addressing pollution problems, and investing in alternative energy.

This chapter examines how oil companies and executives dealt with the emerging environmentalist demands and the question of potential limits to the global availability of oil. The first part will focus on a group of a few influential oilmen around Robert Anderson and Maurice Strong, who promoted environmentalism and shaped seminal events and leading organizations, notably the agenda for the 1972 Stockholm Conference. They also helped create organizations and institutions that prioritized the role of business in environmental management instead of restrictive regulations, but also raised awareness of environmental problems such as global warming. The second part discusses the role of oil companies more broadly and examines how they addressed environmental challenges both by pushing back against regulation, but also by collaborating and addressing atmospheric pollution challenges. Oil companies engaged with the 1972 *Limits to Growth* report and prepared for the prospect of oil becoming scarce by investing in alternative energy technologies. This chapter will conclude with a discussion of the 1986 counter-shock, when oil prices crashed, and how it became a turning point in the oil industry's involvement in alternative energy and its position toward environmental problems.

Building on the available archival evidence of key actors and companies—especially the personal papers of Maurice Strong, Joseph E. Slater, and Constantinos Doxiadis, as well as on oil industry records in various corporate and personal archives—this chapter offers new insights into the relationship of the oil industry with the environment. Previous studies of the emergence of global environmental governance have noted the role of business and particularly oil actors Robert Anderson and Maurice Strong, but offered limited insights into their motivations, the organizations and alliances they built, and the context of their continued oil industry involvement.⁷ These aspects are analyzed in this chapter, which thereby challenges previous interpretations that have considered business engagement with environmental governance primarily as a corporate lobbying effort. Anderson and Strong went beyond protecting business interests in their engagement, gained the trust and respect of environmental leaders, and even alienated some of their business allies. Moreover, important parts of the corporate world did not unilaterally reject the notion of “limits to growth.”⁸ The report and the debate about resource limits were actually embraced by oil companies and executives, many of whom expected an impending oil scarcity and invested in alternative energy.

As will be shown, the oil industry of the 1970s was very different from the one we know today. Since the late 1980s, Big Oil has become notorious for maintaining the “fossil” status quo, its greenwashing campaigns, empty net-zero pledges, opposition to government action to reduce greenhouse gas emissions, and not least its support for climate denialist networks, as a number of journalists, scholars, and activists have uncovered in recent years.⁹ In light of the evidence of oil actors and companies engaging with environmentalism and alternative energy in the 1970s, while also refraining from climate denialist campaigns before the late 1980s, it is necessary to nuance the currently dominant narrative of the historical oil industry as climate denialist. We need to recognize turning points in the history of business and environment, since oil industry positions and circumstances (and surely those of other industries too) have not remained static, and there was no linear progression from early climate knowledge to denialism either. Rather, they evolved over time. While there is no reason to vindicate the greenwashing of oil companies or distract from the environmental harm they have evidently caused, it is necessary to recognize the complexity of the environmental history of the oil industry.¹⁰ After all, the latter underwent a fundamental transformation in the 1970s, when oilmen promoted environmentalism and prepared for a future beyond oil, only to backtrack from these positions in the late 1980s.¹¹

Oilmen Shaping Environmental Governance: From Aspen to Stockholm and Beyond

In November 1969, Robert O. Anderson of ARCO was invited to speak at the UNESCO conference “Man and Environment: A View towards Survival” in

San Francisco. In his talk, Anderson presented himself as a representative of the business world who found it essential to put an end to environmental degradation and argued for a new balance between humans and the natural environment.¹² This unusual move for an oil executive might raise suspicions today, and certainly also did in 1969. After all, Anderson had spent most of his life drilling, refining, and selling petroleum. The son of a Chicago banker and oil financier, Anderson built an oil empire based on a series of mergers that culminated in the formation of ARCO in 1965. His business interests also included banking (he was a director at the Chase Manhattan Bank) and ranching in Texas and New Mexico, which made him one of the biggest cattle herders and the largest individual landowner in the United States.¹³ While he was a nature lover, Anderson cannot be described as an environmentalist by conviction. Rather, he was a pragmatic businessman and philanthropist who recognized the nascent importance of environmental issues in society and that the corporate world had to contribute to finding solutions. In his 1969 speech, he acknowledged that “private industry,” along with consumers, was responsible for environmental pollution and “must bear the full share of the burden in repairing the damage and maintaining the balance of nature.”¹⁴

At the heart of Anderson’s philanthropic empire stood the Aspen Institute for Humanistic Studies, which had traditionally organized *humanistic* summer retreats for business executives to read works like *Plato’s Republic* and discuss pressing societal issues.¹⁵ Anderson’s most important ally in running this institute was Joseph E. Slater, who had in the 1950s worked as the chief economist at Creole Petroleum in Venezuela, which was at the time the world’s largest crude oil producer and owned by Standard Oil of New Jersey. Slater had gone on to become a manager of philanthropic organizations, first with the Creole Foundation, then the Ford Foundation, followed by the Salk Institute, and from 1969 the Aspen Institute. Together with Anderson, Slater transformed the Aspen Institute from an executives’ summer school into a more policy-oriented organization, which put the natural environment on the agenda.¹⁶

Initially, the Aspen Institute cooperated with David R. Brower, one of the most prominent environmental campaigners of the United States. He directed the John Muir Institute for Environmental Studies (JMI), which received substantial contributions from the Aspen Institute and organized a joint conference about “Progress in a Living Environment” in 1969.¹⁷ Little later, however, the Aspen Institute shifted its focus to global questions of environmental organization and instead partnered with Thomas Wilson, who had worked on international environmental matters at the US State Department. The other important partner became Maurice Strong, who like Anderson had spent most of his career in the oil industry, holding leading positions with Canadian companies like Dome Petroleum and the Power Corporation. In 1966, he started a second career in environmental and development diplomacy and ended up being appointed to prepare and chair the 1972 UNCHE in Stockholm.¹⁸ Like Anderson, Strong was

not known for being overly environmentalist in his convictions, even though he was a board member of leading conservation organizations like the World Wildlife Fund and the International Union for Conservation of Nature and Natural Resources (IUCN) in the 1970s. He considered pollution as a convenient international problem and a unique opportunity to revive the struggling United Nations, or a “cure” for the “sick man,” as he put it when accepting the UNCHE assignment in 1970.¹⁹ Slater had known both Wilson and Strong from earlier work with the Ford Foundation and included them in the Aspen initiative to aid the debate about international environmental organization.²⁰ Backed by a grant from the Anderson Foundation, Wilson produced a global environmental survey that recommended the creation of a small NGO to “stimulate, synthesize, and communicate” information and opinions about the “environmental crisis.” As a result, the Aspen Institute set up an affiliated organization in 1971, the International Institute for Environmental Affairs (IIEA), initially financed entirely by Anderson’s personal foundation.²¹

The year before the Stockholm Conference was very busy for the small, yet well-connected IIEA, managed by Thomas Wilson and former *New York Times* correspondent Jack Raymond as its CEO.²² IIEA established its offices across the street from the UN headquarters in New York City,²³ and worked closely with Strong, who—given the limited UN funding and manpower—gladly enlisted the institute’s services.²⁴ In the summer of 1971, IIEA organized the workshop “International Management of Environmental Problems” at the Aspen Institute, which assembled fifty-five international experts over seven weeks. It explored the organizational implications of international environmental problems in preparation for the Stockholm Conference,²⁵ and concluded with recommendations to the Conference Secretariat.²⁶ In the same year, IIEA recruited a worldwide set of board members, published a regular *World Environment Newsletter*, and coordinated the publication of *Only One Earth*. This was a report commissioned by Strong and written by Barbara Ward and René Dubos with the input of 152 consultants from 58 countries.²⁷

In preparation for Stockholm, IIEA also engaged with the business world. On 21 February 1972, IIEA and the International Chamber of Commerce (ICC) hosted a “private briefing for world business leaders” at the ICC headquarters in Paris with Strong and 150 international business leaders.²⁸ IIEA also used the occasion of the ICC briefing in Paris for its first international board meeting. In May, IIEA then organized a second briefing for business leaders with Strong in New York City,²⁹ and in the run-up to Stockholm, Strong would also meet with countless other business organizations.³⁰ Anderson’s vision for IIEA was, after all, to “steer a steady mid-course between doom and gloom alarmists and those who resist acknowledging the clear danger,” and in order for that to happen, the business world needed to have a seat at the table. In other words, industry should acknowledge and “manage” the environmental problem (rather than be faced with restrictive government regulation).³¹

Just before the Stockholm Conference, the ICC organized a pre-conference of business actors at Gothenburg. While the IIEA did not participate in the organization of this conference (and only Raymond attended it), they still took credit for having initiated the environmental debate in the business world, as it was “one of the constructive responses to emerge from the World Business Leaders Briefings” convened by the IIEA.³² That meeting was to a considerable extent facilitated by John G. Welles, an economist and specialist on oil and gas at the University of Denver’s Research Institute, who worked closely with Strong in organizing meetings with the business world prior to Stockholm. Strong did not attend the Gothenburg meeting, but stated that he would be represented by Welles, “one of my close collaborators in preparing the Stockholm Conference.”³³ While the business community turned out to be marginalized in Stockholm,³⁴ the Gothenburg meeting and its official conclusions allowed it to emphasize its priorities at the start of the UNCHE.³⁵

In June of 1972, Anderson flew from New York to Stockholm in his private jet to attend the UNCHE, accompanied by Slater.³⁶ While discouraged by the limited interest in finding solutions in dialogue with industry, Anderson saw the UNCHE as a success in fostering international cooperation on environmental matters. After the conference, Strong thanked Anderson for the IIEA’s “extremely valuable contribution” and requested IIEA to help set up and recruit staff for the new UN institution under preparation.³⁷ In July 1972, Anderson, Slater, and Barbara Ward also attended the Delos symposium of the Greek architect and urban planning guru Constantinos Doxiadis, a board member of IIEA, with discussions about human settlements, environmental problems, and the results of the Stockholm Conference with other participants, including anthropologist Margaret Mead and futurists Buckminster Fuller and Herbert Kahn.³⁸ The creation of a specialized UN agency under Strong convinced Anderson and his partners that IIEA would be most useful as an international, and not US-based, organization. Anderson therefore offered IIEA leadership to Barbara Ward, along with the promise of continued funding.³⁹ Ward accepted on the condition of moving the institute to London and assembling her own staff, and headed the organization with a new emphasis on development as the International Institute for Environment and Development (IIED).⁴⁰ In the meantime, Strong continued the cooperation with Anderson and the Aspen Institute as founding director of UNEP. In August of 1973, IIEA organized a six-day “consultation” for Strong and UNEP at the Aspen Institute about the “outer limits” to human activity, intended to bring the new agency up to date on critical issues by consulting with twenty-five leading international scientists on resource depletion, population growth, and environmental pollution.⁴¹

Throughout the 1970s and into the 1980s, Anderson and Strong maintained a wide network that brought together businessmen, bureaucrats, scientists, environmental experts, and representatives of international organizations. The Aspen Institute continued its development of policy-oriented programs alongside the

executive seminars, and, among other themes, organized programs on energy, environment, and climate change. The activities were largely financed by Anderson and other corporate donors—notably oil companies—managed by Slater, and also shaped by Strong, who served on the institute’s Board of Trustees, and provided a venue for events at his ranch at Baca, Colorado. The “Aspen family,” as it was called, included many more oil executives: Gulf Oil chairman Jerry McAfee, Mobil director and diplomat George McGhee, Texan oil and gas tycoon George P. Mitchell, Exxon Vice-President Jack Clarke, VOLVO chairman Pehr Gyllenhammar (a company that established an oil subsidiary), as well as ARCO economists Waldemar Nielsen, David Sternlight, William Kieschnick, and Anderson’s right hand at ARCO, president and former Harvard Business School professor Thornton Bradshaw.⁴²

Through those Aspen collaborations and relations with UNEP, the Anderson-Strong network helped shape global environmental governance. At UNEP, Strong built up a seminar program of cooperation with industry on environmental issues.⁴³ Anderson and Strong also maintained close ties with the Club of Rome (CoR), the International Federation of Advanced Study (IFIAS), and the Geneva-based Centre d’Etudes Industrielles (CEI, or Center for the Education in International Management). As board members of the CEI Foundation, Anderson and Strong shaped the center’s agenda for environmental questions and its initiative to facilitate exchanges between government and industry representatives, such as the International Environmental Management Seminar in January 1975.⁴⁴ In those exchanges with the business world, and as the head of UNEP, Strong particularly promoted the concept of *environmental management* as a business-inspired approach to dealing with environmental issues in corporations, government, and international organizations alike.⁴⁵

Anderson’s central role in the relationship of business and environmental governance can particularly be seen in his involvement in the World Industry Conference on Environmental Management (WICEM) in Versailles in 1984. After Strong left UNEP, his successor Mustafa Tolba had continued cooperations with industry in environmental matters and relied on the ICC to organize conferences.⁴⁶ For the planned conference in Versailles, Anderson decided to host a special workshop at Aspen and submitted a nine-point program to the organizing committee, which it adopted.⁴⁷ In Versailles, Anderson was invited as a keynote speaker and praised the conference for finally bringing industry, government, and environmental organizations together in dialogue, as he had envisioned for the Stockholm Conference. “Industry and government need not be at loggerheads,” he stated and argued for voluntary environmental management and innovation by industry itself, rather than restrictive regulation by governments. This episode shows how Anderson, Strong, and their allies were quite successful in gathering environmental activists, scientists, and diplomats in Aspen, channeling oil money toward environmental research and organizations, and thereby shaping global environmental governance as well as research and institutions.

What Anderson and his allies wanted was a global environmental governance that takes into account and protects the basic needs and interests of the business world. This meant that they preferred corporate initiatives and environmental management over restrictive regulation that might hamper multinational and especially extractive industries.

At the same time, though, Anderson and Strong remained in the oil business. Anderson's biggest coup as an oilman was developing the giant oil field at Prudhoe Bay in Alaska, which ARCO discovered in 1968.⁴⁸ To transport the Arctic oil to refineries, ARCO and partners planned the highly controversial Trans-Alaskan Pipeline, which brought Anderson into direct conflict with environmental organizations.⁴⁹ Anderson won the battle and the pipeline was eventually authorized during the oil price crisis by President Nixon, with whom Anderson maintained close relations, and built by 1977.⁵⁰ Maurice Strong returned to the oil industry after leaving UNEP. From 1976 to 1977, he headed Petro-Canada, a national oil company to develop new oil and gas resources. In that context, Anderson and Strong also made a business deal as Petro-Canada acquired ARCO's Canadian subsidiary ARCAN.⁵¹ While Strong frequently emphasized that he would not give up his environmental ideals, in reality Petro-Canada did not stick out as a particularly environmentally friendly oil company. It hired environmental managers and followed existing regulations, but was involved in some of the riskiest and most polluting oil developments in Canada's seas and wilderness: the Albertan tar sands, offshore, and in the Arctic.⁵² Thereby, Strong switched sides and from 1976 also represented Petro-Canada at the International Petroleum Industry Environmental Conservation Association (IPIECA), which had been established to facilitate a dialogue with UNEP.⁵³ Strong's and Anderson's engagement with environmentalism and environmental governance, however, should not be dismissed as a conspiracy to take the wind out of the sails of the environmental movement and make sure its governance would not hurt business. They did aim at protecting the interests of the business world by arguing for a dialogue between environmentalists, governments, and polluters, and for industry to *manage* the environment instead of restrictive government regulation. Yet this does not mean they were not genuinely concerned about environmental problems and considered changes to address them as inevitable, not least to maintain a stable social, economic, and thereby "business environment."

Oil Companies, Environmentalism, and Energy Transitions: Managing Scarcity and Sustainability

Around 1970, the oil industry generally faced a more critical public on environmental issues. The landmark events of the era that impacted the public image of oil companies were tanker accidents like the one at Torrey Canyon in 1967 or the Santa Barbara oil spill of 1969. Besides marine oil spills, airborne pollutants released from refineries and the combustion of oil and gas products—carbon,

sulfur, nitrogen, lead—were diagnosed as harmful to humans, plants, animals, and the balance of the world's climate. Environmental pollution had of course existed before, and the oil industry had developed technological solutions to reduce it and thereby also increase production efficiency.⁵⁴ With the emergence of environmentalism and the formation of a popular movement, environmental issues were increasingly problematized as societal issues.⁵⁵ Oil companies generally saw themselves compelled to manage environmental problems more systematically and established environmental departments, which served to comply with regulations such as environmental impact studies, to provide industrial expertise for planned legislation, but also to find solutions to manage environmental problems.⁵⁶ Environmental management also became an essential part of corporate public relations, often criticized as *greenwashing*, even though not all marketing of oil companies was intended to deceive the public, as it also featured legitimate improvements such as increasing pipeline safety or reducing refinery emissions.⁵⁷

In the 1970s and 1980s, oil companies both pushed back against environmentalist critiques and restrictive regulation, but at the same time also collaborated in addressing pollution problems. Particularly air pollution controversies compelled oil companies to reduce the harmful side-effects of fuel combustion, primarily through government regulation but in part also voluntarily. The use of (toxic) tetraethyl lead as an additive to motor gasoline, which had originally been introduced to prevent the knocking of engines, was generally phased out in the course of the 1970s and 1980s.⁵⁸ Similarly, the contents of sulfur in refined oil and gas products were reduced significantly to lower sulfur dioxide emissions that caused acid rain. In both cases, oil companies, together with other industries, generally retracted from their earlier opposition to scientific studies and policy proposals to diminish lead and sulfur emissions, and instead branded themselves as innovators who developed and implemented technological solutions like catalytic converters for automobiles and improved desulfurization processes in oil and gas refining.⁵⁹

In the case of anthropogenic climate change due to the emission of carbon dioxide (as well as methane), the oil industry's position remained ambivalent in the 1970s. Oil companies were generally aware of the early science of global warming, with Exxon also creating a special climate research program in 1977. Already in the 1970s, several oil actors voiced skepticism about climate science and emphasized the uncertainties, but did not yet resort to climate denialist campaigns as they would from the late 1980s.⁶⁰ Somewhat paradoxically, there were also oil actors who promoted climate science in the 1970s, as the Aspen Institute and particularly Strong and Anderson helped fund climate research and raised awareness of the science and issue of global warming. They did so by recruiting distinguished atmospheric scientist Walter Orr Roberts to lead a special program on Food, Climate, and the World's Future at the Aspen Institute from 1973.⁶¹ This program helped increase knowledge about the growing

scientific consensus on global warming with business leaders as well as public and international organizations like UNEP. At the same time, it particularly propagated *adaptation* strategies in food production as a solution to dealing with the effects of a changing climate.⁶² Owing to those science communication efforts, Anderson spoke quite frankly about the scientific consensus on global warming in 1980:

Those working on it are unanimous—or as close to unanimous as scientists ever get—in their evaluation that we are moving toward a cycle of industrial dust, airborne particles and carbon dioxide that will create a major warming trend in the next forty or fifty years.⁶³

In the 1970s, however, there was another potentially existential challenge in the eyes of oil executives: the question of resource scarcity. Many oilmen were fascinated and alarmed by the MIT modeling study *Limits to Growth*, commissioned by the CoR, which warned of a potential destabilization of industrial societies due to ecological limits if the growth trend remained unchanged.⁶⁴ Robert Anderson and Aspen Institute allies received a special briefing by the CoR and study authors in May of 1972. As an observer noted, Anderson was “ecstatic about the study and said it was something that could not be dismissed but either had to be disposed of or acted upon.”⁶⁵ The Texan oil and gas tycoon George P. Mitchell, who in the 1990s became famous for commercializing “fracking,” was so impressed by the *Limits to Growth* report that he invited study author Dennis Meadows to co-convene a series of conferences at his real estate complex called the “Woodlands” near Houston.⁶⁶ Mitchell and Meadows hosted three biannual conferences that brought together leading proponents and critics of the limits thesis, such as economist Julian Simon and biologist Paul Ehrlich.⁶⁷ Those events were organized in cooperation with the US Association of the Club of Rome, where Mitchell, Anderson, and several other oil executives associated with the Aspen Institute were members.⁶⁸

The 1970s oil shocks presented both opportunities and challenges for oil companies. On the one hand, they faced supply shortages, expropriation in producer countries, and OPEC’s price dictate, while oil companies also encountered public scrutiny over their environmental impact. On the other hand, the oil price crisis brought spectacular profits, which were invested in novel technologies and alternative energy solutions. From the mid-1960s, oil companies diversified into many other business sectors, as was common in large firms at the time, including transport, chemical industries, biotechnologies, computing, and in the 1970s particularly in alternative energy technologies.⁶⁹ There are many examples of oil companies pioneering alternative energy development. In geothermal energy, particularly the Union Oil Company of California created a consortium with two start-ups at The Geysers field near San Francisco in 1967. To expand geothermal steam production, Union Oil brought in its geologists, drilling, and reservoir

engineers, who developed techniques to extract the steam more efficiently and build the world's largest geothermal power plant complex.⁷⁰ Oil companies such as Gulf, Exxon, Mobil, and Shell entered the uranium exploration, nuclear fuel, and reactor technology business. They also promoted nuclear energy as an environmentally friendly technology of the future.⁷¹ In solar energy, oil companies like Exxon, Mobil, BP, and ARCO were among the major investors in solar photovoltaic start-ups. Anderson's ARCO, for example, invested in Stanford Ovschinsky's Energy Conversion Devices (ECD) and Bill Yerkes' Solar Technology International (STI), and set up ARCO Solar to develop and produce photovoltaic technologies.⁷² Exxon Research even provided the laboratory spaces for later Nobel laureate M. Stanley Whittingham to develop the rechargeable lithium-ion battery in 1977, which today serves electric automobility.⁷³

The phenomenon of oil companies investing in alternative energy has been explained as a diversification of the business portfolio, or simply with conspiracy theories of Big Oil taking control of energy supply and hindering transition. This phenomenon, though, also has to be seen in the context of symbiotic relationships. For instance, oil companies could apply the same geoscientific exploration, oilwell rotary drilling, and reservoir engineering methods in geothermal energy.⁷⁴ It also has to be viewed in relation to expectations of conventional oil reserves running short before 2000 that motivated and legitimated alternative energy investments. Around 1970, as crude oil production in the United States and Venezuela decreased, oil companies became increasingly concerned about the future availability of oil, with most predictions assuming an eventual worldwide decline in conventional oil reserves toward 2000.⁷⁵ It was not that oil companies expected the world to simply run out of oil—there were still unexplored provinces and unconventional alternatives like shale oil—but that a peak in conventional crude oil production was inevitable if demand continued to grow. The scarcity consensus in the oil industry was captured by the Workshop on Alternative Energy Strategies (WAES) of MIT professor Carroll Wilson, who had longstanding relationships with Anderson and Strong, was an Executive Committee member of the CoR, and was also key to the making of the *Limits to Growth* study. From 1974 to 1977, Wilson's WAES brought together energy experts, managers, and planners from energy agencies and industries, particularly oil companies Shell, BP, ARCO, Statoil, and Petro-Canada. It explored six different scenarios that all diagnosed an oil shortage before 2000, and therefore recommended the immediate development of alternatives like nuclear and coal, as well as synthetic fuels and renewables in the long-term.⁷⁶ Those findings of an impending oil scarcity were then communicated by the companies involved, e.g. in the Shell Briefing Service, and used to legitimate investments in alternative energy.⁷⁷ At the same time, oil firms also invested in the development of new forecasting methodologies, above all Scenario Planning, which Shell pioneered, but also energy modeling to project future energy supply and consumption.⁷⁸ Gulf Oil, for example, put a vast effort into forecasting, which shaped expectations of

future energy constellations and the company's investment decisions. Gulf Oil's decision to go "all-in" with nuclear and coal was in the expectation that those alternatives would become essential energy sources next to and, at some point, instead of oil.⁷⁹

Today we know that the expected oil scarcity never came. On the contrary, much more oil was found inside and outside OPEC, and enhanced oil recovery (EOR) techniques enabled companies to squeeze more oil out of existing reservoirs. Then came the "counter-shock" with the dramatic drop in the price of crude oil in 1986, when OPEC cooperation failed and the market was flooded with oil anew.⁸⁰ There was also a drop in demand and changing expectations; while oil planners had anticipated oil demand in industrialized countries to rebound after the price shocks, the reality was that oil demand stabilized after 1973 and only grew again after 1990.⁸¹ The expectations that oil planners and executives throughout the industry had until then—that oil prices would remain at a high level and help commercialize unconventional and alternative energy sources—were shattered, as became evident in the price forecasts of around 1980 that turned out to be fundamentally wrong.⁸² The rise of neoliberal ideals and governments, which led to lower alternative energy subsidies and privatization of national oil companies, was certainly part of the counter-shock, although it was not solely responsible for it. In the oil industry, the price shock meant dramatic drops in oil earnings and a prioritization of the core business—petroleum—and the optimization of its profitability. This happened not least to satisfy shareholders and guard industry leaders from activist investors and corporate raiders targeting oil companies with takeover bids.⁸³

As oil earnings declined, companies withheld investments into hydrocarbon exploration and synthetic fuels research, and mostly sold off their alternative energy ventures in the late 1980s. Oil companies followed decarbonization strategies from the 1990s on, with some reinvesting in renewables, although not to the extent they did in the 1970s.⁸⁴ That way, the oil industry, which in the 1970s had shown tendencies toward an energy transition and a more serious engagement with environmental issues, evolved into an industry that financed climate deniers, became notorious for greenwashing, and worked towards postponing the end of fossil fuels at any cost. In this business climate, oil companies like Exxon or Total deliberately spread doubt about the science of global warming and supported denialist networks, while also coordinating their opposition in international climate diplomacy at a 1987 IPIECA meeting and with the Global Climate Coalition, an international industry lobbying group against greenhouse gas reduction policies, from 1989.⁸⁵ Following their efforts in the 1970s, Anderson and Strong left complicated legacies. Anderson retired from ARCO in 1985 and continued as an independent oilman, while ARCO joined other oil companies in the Global Climate Coalition. Following his oil endeavors and work with the Brundtland Commission that defined *sustainable development*, Strong held another post in global environmental governance as the chairman

of the 1992 Rio Earth Summit, where he once more propagated a dialogue with business that ended up giving the corporate world and oil companies a stage for opposition and denial.⁸⁶

Conclusion

Between 1970 and the mid-1980s, the international oil industry faced a myriad of challenges, from the OPEC oil revolution, environmental debates, and regulations, to the uncertain future of oil availability and demand. In dealing with the shock of the 1970s, oil companies and individual oil executives responded not only by pushing back or denying the problems, but also by addressing the challenges and even promoting sustainable development and environmental governance. A highly influential circle around the oil executives Robert O. Anderson and Maurice F. Strong encouraged debates about the environment and resource scarcity—including global warming and *Limits to Growth*—and shaped leading international environmental organizations and institutions. It did this through the Aspen Institute for Humanistic Studies, the IIEA and its successor organization, via the ICC, and at the 1972 Stockholm Conference on the Human Environment and the resulting UNEP. Thereby these oilmen promoted the concept of environmental management, which they said industry needed to embrace, instead of restrictive environmental regulation at the national and international levels.

At the same time, oil companies initiated a shift toward alternative energy by investing in solar, nuclear, geothermal, and other energy technologies in the expectation that oil resources would become scarce. Facing the environmental challenge, oil firms responded both by pushing back against regulation, but in the end also by collaborating in addressing the emission problems of sulfur and lead. As for the carbon problem and the emerging consensus on anthropogenic warming, oil actors were generally aware of it but did not immediately resort to denialism, while Strong and Anderson openly acknowledged the scientific consensus and raise awareness of it. In trying to understand the relationship between oil industry leaders, environmentalism, and climate science before the 1990s, it is essential to recognize the evolution of their positions and the fundamental turning point the counter-shock to oil prices of the mid-1980s represented. When oil prices crashed, companies turned from alternative energy back to oil, started denying the science on global warming, and conspired to obstruct meaningful climate policies. The oil industry's climate denialism and obstruction were not predetermined or inevitable, as in the 1970s, oilmen and oil companies thought of a future beyond oil, promoted environmental debates and governance, and were preparing to eventually transition to alternative energies.

Notes

- 1 Columbia University. Joseph E. Slater Papers 19-9. Anderson/Slater meetings: Notes from Hermosa, December 10, 1974 (first draft).

- 2 See correspondences in Nixon Presidential Library. White House Central Files. Alphabetical Name Files. Anderson, Robert O.
- 3 Elisabetta Bini, Giuliano Garavini, and Federico Romero, eds., *Oil Shock: The 1973 Crisis and Its Economic Legacy* (I.B. Tauris, 2016); Giuliano Garavini, *The Rise and Fall of OPEC in the Twentieth Century* (Oxford University Press, 2019).
- 4 Robert Groß, Odinn Melsted, and Nicolas Chachereau, "Creating the Conditions for Western European Petroculture: The Marshall Plan, the Politics of the OEEC, and the Transition from Coal to Oil," *Journal of Energy History/Revue d'Histoire de l'Énergie, JEHRHE* 10 (2023): 1c–22c, <https://doi.org/10.3917/jehrhe.012.0001>.
- 5 Donella H. Meadows, Dennis L. Meadows, Jørgen Randers, and William W. Behrens III, *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind* (Potomac, 1972).
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3 “More harm than good”

Small Business and Climate Denialism in the United States

Benjamin C. Waterhouse

Introduction

“We must free the business community from regulatory bondage so it can produce,” U.S. President Gerald Ford declared in 1975. His audience, members of the National Federation of Independent Business (NFIB), nodded in agreement. For more than three decades, the NFIB had defended the small business community against what it saw as misguided government regulations, intrusions, and obstructions. For most of that time, it had devoted its energies to mobilizing against labor unions, social welfare spending, and consumer product safety laws. But by the mid-1970s, as President Ford addressed the group, there was no mistaking the fact that a new category of regulation—and a new source of grievance for businesses—was rapidly ascending across the American political landscape: environmental protection.

Jerry Ford had only recently assumed the presidency following Richard Nixon’s resignation the previous August. A conventional Midwestern Republican, he was eager to cement his reputation as a friend to business, and most especially to the types of “mom & pop” or “Main Street” enterprises that the NFIB comprised. Although it had existed since the 1940s, the NFIB had expanded its lobbying and public relations efforts rapidly in recent years. By the end of the 1970s, it would take its place alongside such stalwarts of the mobilized business community as the U.S. Chamber of Commerce and the National Association of Manufacturers when it came to projecting the “voice of business” in national affairs. It made great political sense, therefore, for Ford to curry its favor, and going after the new regulatory boogiemán on the block was a smart place to start.

“The issue is not whether we want to control pollution,” the President continued. “We all do. The question is whether added costs to the Public make sense when measured against actual benefits.” The sober reality, he averred, was that environmental regulation—like consumer product or workplace safety rules—“often does more harm than good.”¹

Fast forward a quarter century to 2001. A different Republican President, George W. Bush, had just moved into the White House. The ink was still drying on the 1997 Kyoto Protocol. And in Washington, DC, environmental activists

had begun pushing a plan to reform the executive branch of the federal government in the interest of protecting the planet. Their goal was to increase the political clout of the Administrator of the Environmental Protection Agency (EPA). Since its creation in 1970, the EPA's administrator—a presidential appointee—had both overseen the agency and advised the president. Bush's predecessor, Democrat Bill Clinton, had elevated the administrator to honorary cabinet-level status. Now, fearing that a more conservative president would sideline or minimize their cause, environmentalists sought to institutionalize the administrator's role and make the EPA a permanent member of the President's Cabinet, on par with Secretaries of State, Treasury, and Defense. Although the push was mostly symbolic, and it ultimately failed to pass, it nonetheless sparked outrage among conservative opponents—most especially at the NFIB.

In a survey to its millions of members, the NFIB's leadership declared that the proposal "would add thousands of new bureaucrats to the already bloated federal government" but "would not necessarily raise its effectiveness." Invoking a longstanding conservative complaint, the group's leaders reminded their members that the creation of the Department of Education in 1980 "did nothing to improve education." But the risk of *ineffectiveness* wasn't the worst part. Indeed, making the EPA *better* at its job would lead to an even more dire fate. A stronger EPA, the NFIB believed, would necessarily come at the expense of the American business community, and it would hurt small companies in particular. "The EPA has gone too far in some attempts to protect the environment," the group stated bluntly, "and damaged free enterprise in the process."²

These two vignettes provide useful bookends to a vital period in recent history, a stretch of three decades in which ideological camps regarding environmental science and policy calcified in American politics. If the 1970s represented a pivotal moment of ripe possibilities in response to humanity's degradation of the natural world, the early twenty-first century seemed to foreclose the possibility of real climate action. Central to that political shift was the emergence and widespread acceptance of a longstanding conservative critique of environmentalism: that it was bad for business.

On the prosaic, green-eye-shade level, the business critique focused on the allegedly high costs of regulatory compliance. On a loftier, philosophical level, it invoked the need to protect business people from cumbersome bureaucracy and defend society from threats to individual freedom. The shift over the last decades of the past century was marked: Jerry Ford, speaking in the mid-1970s, deployed somewhat cautious language, suggesting a trade-off between the noble goals of pollution reduction and the economic necessity of reducing the regulatory burden. The NFIB advocates of 2001, on the other hand, adopted far more strident language: government bureaucrats, including those at the EPA, were actively destructive to free enterprise and capitalism itself.

This chapter situates the advent of latter-day anti-environmentalism, which would eventually emerge as full-blown climate denialism, within the political

context shaped by the particularly vocal community of American small business owners. It proceeds from a conception of “business” as a historically structured and politically normative idea, one that carries explicit and implicit power to shape not only the nuts and bolts of legislation but also popular discourse and norms on a host of issues. As such, it joins a long scholarly tradition that takes seriously the business community’s influence over politics and policymaking, within individual countries as well as in international policymaking. In both historical and present-day analyses, the central questions of this literature concern how that influence actually works, how and when corporate actors lobby, and how their pro-business (sometimes framed as neoliberal) values shape political culture.³ This chapter contributes to these debates by stressing the importance of small business and entrepreneurial ideology to the corporate attack on environmental regulation and the rise of climate denialism.

Traditionally, scholars of business’s political influence in Europe, North America, and elsewhere have directed their attention to large, multi-unit, multi-national corporations and the associations that speak for their interests.⁴ Perhaps due to the lingering long shadow of Alfred Chandler over the field of business history, most studies tend to conflate “business” political activity with “corporate” political activity—leaving aside the role of the far more numerous small and mid-sized companies and their representative associations.

On the narrower question of how business activism has shaped environmental policy, much the same pattern emerges. Judith Layzer’s *Open for Business*, now more than ten years old, convincingly traced the linkages between the American conservative movement and anti-environmental policies at the highest levels of elective politics, notably but not exclusively within the Republican party.⁵ Naomi Oreskes and Erik Conway, in *Merchants of Doubt*, highlighted the importance of scientific experts, on the payroll of or at least highly deferential to major corporations and corporate-backed think tanks, to denying evidence for human-caused climate change, among other issues.⁶ More recently, Robert Brulle and Christian Downie have called attention to the role that major trade associations, not just conservative politicians or individual companies, have played in opposing climate policy.⁷ Adam Orford, making the point more explicit, has argued for the centrality of the nation’s largest business association—the Chamber of Commerce of the United States—to the creation of an anti-environmental political ethos during the Reagan Administration, via the “soft power” discourse-shaping work of its in-house magazine, *Nation’s Business*.⁸

This chapter seeks to link the literature on corporate anti-environmentalism with a distinct body of work by management scholars, largely but not exclusively writing from business schools. Taking up the charge first laid out by the economist William Baumol more than thirty years ago, this literature analyzes the unproductive and even destructive tendencies within entrepreneurial culture.⁹ Recently, a call has gone out from a range of management scholars for sustained study of the “dark side” of entrepreneurship, from its psychological

implications to its social consequences.¹⁰ Some, including Dean Shepherd and his collaborators, have examined environmental consciousness explicitly, probing the disconnect between entrepreneurs' individual views on the values of environmental protection and their business decisions to pursue actions that oppose those values.¹¹ On a broader, more political level, Robert Eberhart and his collaborators have questioned the consequences of unquestioned public and academic faith in entrepreneurship, or what he calls "entrepreneurial ideology," for social policies including but not limited to environmental protection.¹² My history of the ideal of business ownership in the United States likewise suggests links between widespread popular enthusiasm for people who start and run companies and the fate of social welfare, regulatory, and labor policies in the United States.¹³

The existing literature, however, does not sufficiently account for the ways in which small business ideology and entrepreneurial fetishism translated into anti-regulatory and particularly anti-environmental policies and ideas. In a preliminary gesture at expounding that relationship, this essay traces the environmental positions and rhetoric advanced by the NFIB during the pivotal decades at the end of the twentieth century. In precisely those years, two apparently unrelated historical phenomena unfolded: a cultural turn to embrace the virtues of small business, on the one hand, and the maturation of the environmental movement, from a pre-occupation with localized pollution and energy conservation to a holistic and systemic fixation on human-caused climate change, on the other. I conclude that the ideal of independent business ownership and popular faith in entrepreneurship combined into a powerful anti-regulatory political vision, auguring the political culture of climate denialism. The story of the NFIB captures that important evolution and exposes a critical way by which disinformation and denialism spread—often in a less-coordinated manner than scholars typically presume. Although it was founded decades earlier, in the 1940s, the NFIB became a highly influential political player in the 1970s, precisely at the moment when, as Alex Boynton has demonstrated, the broader conservative movement became increasingly unified around anti-environmental thought.¹⁴ By the time public debate on environmental protection began to coalesce around global warming and climate change, the NFIB and the small business community it spoke for had developed a well-rehearsed set of positions and a pre-built sense of grievance and antipathy to the entire environmental project. What emerged as full-blown climate denialism by the early years of the twenty-first century was thus the political and rhetorical fruit of a multi-decade political campaign to disparage public interest regulation. Small businesses, no less than large industrial polluters and multi-national corporations, were central to bringing that political critique to the public square. In the United States in particular, but perhaps in other countries as well, the growing reverence for small business and the elevation of entrepreneurial ideology created essential intellectual and political space for the anti-regulatory, anti-environmental politics that underlay climate denialism and hampered efforts to mitigate the climate crisis.¹⁵

Children of a Common Mother: Environmental Politics and the Small Business Resurgence

During the quarter century that followed World War II, American political and popular culture reveled in bigness. Amid historic and widely shared economic growth and a rising middle class, economic inequality declined, consumer culture bloomed, and suburban living expanded. The New Deal state and demand-side Keynesian policies brought forth robust government agencies, powerful labor unions, and giants of science and technology.¹⁶ On the corporate scene, “managerial capitalism” reigned. Large, publicly owned companies, particularly in the manufacturing and extractive sectors, employed thousands of workers and dominated their industries.¹⁷ What’s more, as liberal icons like the economist John Kenneth Galbraith boasted, this universal bigness was reconciled with democratic governance and egalitarian values through the fortuitous deployment of “countervailing power”: Big Government and Big Labor kept Big Business’s excesses in check while reaping the rewards of scale and efficiency, sowing the seeds of continued growth, progress, and prosperity.¹⁸

During the 1970s, however, this optimistic embrace of bigness ran headlong into the woodchipper of political and economic malaise. In a few short years, turmoil over the war in Vietnam, the unfulfilled promises of the civil rights movement, and the persistence of gender and sexual oppression—compounded by growing attention to the degradation of the natural environment—conspired to unravel the social fabric of postwar liberal politics. At the same time, inflation and business failures, exacerbated by monetary mismanagement and the global oil crisis of 1973, raised popular doubts about the fabled Keynesian promise that “a rising tide lifts all boats.”¹⁹

As the old order collapsed, “small is beautiful” became America’s unofficial slogan, taking its inspiration from the title of the German-born British economist E.F. Schumacher’s 1973 best-seller.²⁰ The grand ambitions of the previous decades, when Americans went to the Moon not because it was easy, but because it was hard, were discarded (as was the Apollo program; the last human beings to walk on the moon did so in 1972). The American quest to spread democratic capitalism in the developing world left with the last helicopters out of Saigon, paused at least for another few decades. Even popular culture went small, as the sweeping epics of giant Hollywood studios gave way to small-budget, grittier, and more artistic films.²¹

Material reality as much as social strife underlay the sense of moral crisis. The age of bigness was done in by a growing level of dependency—on foreign energy, yes, but also on a range of challenges that everyday people felt powerless to control. And powerlessness was an unfamiliar sensation, one that subverted the rising expectations many Americans had cultivated during the boom economy. This contested, contentious cultural climate birthed, during the 1970s, two related—however apparently contradictory—variants of the politics

of "smallness": the modern environmental movement and the small business movement, twins of a common mother.

Modern environmentalism took off. Distinct from the conservation ethic that had structured Americans' understanding of their relationship to the natural world since the early twentieth century, the new movement had its roots in the 1960s. According to the prevailing consensus, events like the publication of Rachel Carson's *Silent Spring* in 1962 drew public attention to the unintended ecological consequences of human activity, especially new technologies like DDT that promised to boost crop yields to feed a rapidly expanding human population. Unlike conservationism, which imagined separate spheres of human and "natural" activity, the new environmentalism argued for the complex and inescapable networks that bound all living things on the planet together, humans very much included.²²

The movement quickly gathered momentum, leading to the passage of the National Environmental Policy Act, which President Richard Nixon signed into law on January 1, 1970. The first Earth Day, held in April 1970, signaled the arrival of a new environmental consciousness as millions of people participated in civic demonstrations, teach-ins, and other events. That July, the creation of the EPA put a finer point on the movement. Even Nixon himself, whose relationship to environmental politics was at best self-interested opportunism, acknowledged the new politics. Human beings, he noted, had become "too cavalier in [their] relations with nature," and the result was that "we face the prospect of ecological disaster."²³ Over the next seven years, under Republican and Democratic presidents alike, the U.S. Congress passed eighteen new laws to promote conservation, regulate pollution, and otherwise institutionalize the ethos of the new environmentalism.²⁴

The simultaneous economic, social, and energy crises of the 1970s added renewed urgency to the cause of environmental protection, even as they directed political attention inward and fostered the "small is beautiful" ethic that E.F. Schumacher elucidated to much fanfare in 1973. "We shrink back from the truth," Schumacher had concluded, "if we believe that the destructive forces of the modern world can be 'brought under control' simply by mobilizing more resources—of wealth, education, and research—to fight pollution, to preserve wildlife, to discover new sources of energy." Instead, the modern moment called for "a revision of the ends which these means are meant to serve" and, most importantly, "the development of a life-style which accords material things to their proper, legitimate place, which is secondary and not primary."²⁵ The Club of Rome's publication of *The Limits to Growth* in 1972 likewise renewed attention to the disastrous consequences of unchecked human expansion and resource depletion, furthering calls for retrenchment, re-alignment, and smallness.²⁶

Among the grand ironies of recent history is the degree to which Schumacher's anti-materialism, which denounced not only the size and scope of modern business but also the "development and production and the acquisition of

wealth” more broadly, was co-opted and often hailed by resurgent defenders of America’s small business community. In an era of scarcity and cynicism, many of the same social and economic forces that pushed environmentalists to disavow large institutions and adopt a “think global, act local” mindset also animated the political revival of small business ownership and entrepreneurship.

As their country turned 200 in 1976, large numbers of Americans found little to celebrate. Unemployment peaked at 9 percent in May 1975, and it remained close to 8 percent as the presidential campaign of 1976 unfolded. Even many who still had jobs suffered dissatisfaction, a listlessness born of uninspired work and compounded by a defeated civic spirit—memorably expressed as the “Lordstown syndrome,” so named after the site of an autoworkers’ strike in 1972.²⁷ As Americans grappled with that malaise, many looked back longingly at what they imagined were purer and more authentic bygone days.

Paeans to locally owned small businesses were central to that nostalgia. Shortly after Labor Day, in September 1976, Senator Hubert Humphrey read into the *Congressional Record* a typical ode, published in the *Washington Post*. Invoking longstanding cultural tropes about virtuous small operators, the article described shopkeepers who were “personally identified with, and accountable for, what they sell,” and had “affectionate feelings for the neighborhood.” They didn’t report to out-of-town boards or investors, but “escaped the monotony of modern labor and had a say in their own working conditions.”²⁸ Yet in recent decades, Humphrey worried, small business had suffered a decline in economic power, political standing, and cultural prestige. Redressing that imbalance, he argued, was “crucial to the future condition of our economy and to the social and cultural fabric of the nation.”²⁹

Public denunciations of small business’s reduced stature signaled an important shift in the political winds. In 1976, Congress created an “Office of Advocacy” within the Small Business Administration explicitly to study and publicize the economic benefits of small business.³⁰ Meanwhile, intellectual and academic researchers dedicated new energy to studying, analyzing, and promoting the possibilities of small business. In 1978, economist David Birch published a highly influential, though methodologically suspect, report that 80 percent of all jobs were created by small firms. Meanwhile, on the associational level, major business groups like the U.S. Chamber of Commerce began to expand outreach to small business constituents. By 1978, the U.S. Chamber boasted that 80 percent of its member firms employed fewer than one hundred people.³¹ The voices calling for renewed attention to small business began to make themselves heard.

The Little Guy against the Bureaucrats: The NFIB’s Attack on Regulation

It was in precisely this political environment that the NFIB began to wield greater influence within the policymaking establishment.³² Since its founding

in 1943, the NFIB had committed itself to representing the political interests of small and independent firms at the state and federal levels. Its founder, Wilson Harder, explicitly sought to do for small interests what large national employers' associations—notably the U.S. Chamber of Commerce (founded in 1912) and the National Association of Manufacturers (founded in 1895)—did for major corporations: pose a challenge to the power of the New Deal state.

Harder's business model distinguished the NFIB from existing business interest associations. Like a traditional trade organization, the NFIB had paid members, but what he offered in return was unique. The NFIB's "product" was information—specifically, the opinions of independent business owners about legislation currently under consideration in Congress. In exchange for a dues payment, NFIB members would reply to a set of survey questions about various policy issues. Harder synthesized those responses into a publication called *The Mandate*, which he shared with his member-clients as well as legislators, providing them the supposedly unfettered views of the small business community.

Despite Harder's efforts, NFIB was a minor player in national affairs during the twenty-five years that its founder ran the show. Yet after his death in 1968, the organization began to expand in both scale and scope under new leadership. In 1977, it joined the flood of business groups rushing to create political action committees (PACs) to solicit and direct campaign contributions. In 1982, it launched a program of "Action Councils"—groups that put local business leaders (who were also, of course, NFIB members) in touch with the organization's national legislative staff in Washington and various statehouses. Members of those Action Councils testified before lawmakers, spearheaded letter-writing campaigns, and raised money for PACs.

By the late 1970s, the NFIB distinguished itself as the loudest voice among an increasingly vocal community of business owners in the United States. The organization's 1979 annual meeting in Washington, DC, for example, featured an ideologically diverse range of politicians. Participants included members of the Carter cabinet like Commerce Secretary Juanita Kreps as well as presidential candidates Ronald Reagan (a Republican) and Edward Kennedy (a Democrat), among many others. Bestowing the blessing of fiscal conservatism on the small business agenda, the economist Milton Friedman proclaimed: "Of the various business organizations, the only one I have found that is almost always on the right side is the National Federation of Independent Business."³³

In 1983, a new president, CEO of First Tennessee Bank John Sloan, took over, bringing an even higher degree of professionalism to the now-mature lobbying group.³⁴ Under his leadership, the NFIB firmly established itself on the national business lobbying scene, alongside the NAM, the U.S. Chamber of Commerce, and the Fortune-100-centered Business Roundtable. By the late 1980s, one journalist commented, "no one on Capitol Hill thinks of small business as weak and unorganized," and the NFIB led the way. "We have reached a maturity level,"

Sloan commented in 1989, “that makes it easier for us to hold [politicians’] feet to the fire.”³⁵

As the organization mobilized, it found itself at the center of vital political debates. Its member survey—*The Mandate*—provides a useful qualitative and quantitative gauge of what issues mattered most to its members and leaders, as well as their preferred framing and messaging. An analysis of that publication reveals two important trends. First, the NFIB’s policy preferences dovetailed with those of the business community writ large, especially those advanced by the largest national employers’ associations. Second, its approach to environmental policies started off relatively muted, especially when the movement itself focused more on localized issues like pollution rather than systemic, global issues like climate change. With time, however, the NFIB brought a well-rehearsed set of political arguments—honed in the context of labor power and workplace regulation—to environmental politics.

Since the Industrial Revolution of the late nineteenth century, the owners of small and independent businesses had frequently identified themselves in stark opposition to the monopolistic, multi-unit corporations that defined modern capitalism. As early as the 1870s and 1880s, small concerns rallied to the cause of “industrial liberty,” defending the civic virtues of local production and distribution against the impersonal and anti-competitive might of big business, even if scale and scope brought efficiencies and lower prices.³⁶ The following decades exacerbated those divisions, particularly in the retail space. Under the banner of politicians like Wright Patman in the 1920s and 1930s, small shopkeepers mobilized against the “chain store menace,” demanding limitations on how large retailers could undercut small ones.³⁷

In post-World War II America, however, the politics of small business changed profoundly. Under the New Deal order, a truce emerged between the political activists of large and small firms. Rather than define their interests in opposition to those of their larger competitors, small business owners increasingly came to *ally* with big business against the regulatory predations of the federal state. From its origins in the 1940s, the NFIB played a key role in articulating that alliance. *The Mandate* routinely invoked strident anti-statist (and anti-Democratic party) rhetoric to condemn liberal policies related to labor power and the social welfare state—the two *bêtes noires* of the big business community by the mid-twentieth century.

Nothing stimulated coordinated political activism within the American business community as much as the burst of social regulation passed by Congress and state legislatures in the 1960s. During the Great Society years, new laws imposing limitations and regulations on businesses flourished, responding to social movements championing labor rights, consumer product safety, civil rights, and environmental protection and conservation. This wave of regulation—marking what the historian Lizabeth Cohen has called the “third-wave consumer movement”—culminated in the near-simultaneous creation of the EPA, the

Occupational Safety and Health Administration (OSHA), and the Consumer Product Safety Commission (CPSC) in the early 1970s.³⁸ For business, this spate of regulatory activity epitomized everything that was wrong with government regulation. "Did you know that Agents of the Occupational Safety and Health Administration can raid a place of business any time they want...[and that] the Environmental Protection Agency has the power to destroy a city?" asked Richard Leshner, the president of the U.S. Chamber of Commerce, in a typical stump speech from 1975.³⁹

Such regulations, the NFIB took pains to explain, created especially onerous burdens for smaller firms. Compared with larger companies, small businesses generally had less capacity to absorb the costs of regulatory compliance and less wiggle room between success and failure. Large firms might complain about the added costs of regulation and threaten that, if profits were to be preserved, those costs would have to be passed through in the form of higher consumer prices or reduced wages or jobs. For small companies, on the other hand, the threats were more acute and existential.⁴⁰

While scholars frequently lump OSHA and the EPA together in explaining the vitriolic nature of conservative business activism in the 1970s, the two agencies came in for quite lopsided critique.⁴¹ During its quick rise to national prominence, the NFIB trained the majority of its anti-regulatory fire on OSHA and workplace-related regulations, from safety protocols and inspections to minimum wage and policies governing unionization and strikes. Taking a self-interested position couched in a philosophical argument, the group frequently lobbied to exempt small companies from workplace safety rules; more ecumenically, it joined with groups like the Chamber of Commerce and the NAM to work against labor-friendly reforms. "Of all the Washington acronyms, OSHA is the worst four-letter swear word in the small business's vocabulary," pronounced the NFIB's chief lobbyist, Mike McKevitt, in 1981.⁴²

When it came to ecological issues, on the other hand, the NFIB took a notably more muted tone, at least at first. That dynamic would change, however, as the environmental movement itself expanded its purview and political influence in the latter decades of the twentieth century. While its antipathy to workplace regulations never waned, the group would become increasingly aggressive in its challenges to environmental regulation, cleverly integrating the same set of objections to regulatory cost even as it joined and amplified the voices that diminished the threat of environmental degradation and climate change.

Getting Organized: The NFIB's Slow but Steady Embrace of Climate Denialism

In the 1970s, the NFIB's *Mandate* only sporadically surveyed members on environmental policy. When it did, both the poll questions and their answers revealed a relatively blasé attitude, especially when compared to the rhetoric surrounding

labor power, social welfare spending, and workplace regulations. Indeed, its earliest surveys on the topic essentially conceded the need for anti-pollution laws and suggested that the group's strategy would focus on mitigating those added costs. In 1970, for example, the organization announced that it anticipated "new and tougher standards" when "the anti-pollution drive really gets going." Given "that there will be many small firms whose existence will be threatened if they do not have the finances to meet these new standards," two-thirds of NFIB members favored a proposal for the Small Business Administration to provide preferential loans to small companies.⁴³ In 1972, it hailed the announcement of an SBA study to "determine the costs to small businesses in complying with air pollution, water pollution, and job safety regulations." A clear sense of those costs, it insisted, would be "vital to prevent an overenthusiastic Congress from legislating wildly."⁴⁴

That relatively muted approach to environmental politics continued throughout the 1970s when, in comparison with their campaigns against workplace safety laws, small business activists showed less interest in aligning with large employers to oppose environmental regulations. In a legislative juggernaut, major anti-pollution and anti-emissions bills made their way into law. Moreover, the focus of environmental protection law shifted decisively from preservation and conservation to systemic harm prevention through newly empowered government regulatory agencies. The growing public awareness of the problems of acid rain and the depletion of the ozone layer, for example, helped propel legislation like the Clean Air Act Amendments of 1970 and 1977. Other laws, including the Federal Water Pollution Control Act Amendments of 1972 and the Endangered Species Act of 1973, likewise signaled a far stronger role for government regulators.⁴⁵ To be sure, large industrial emitters bore the brunt of the costs of these regulations, but given its historical antipathy to all manner of government regulations, the NFIB's relative quiet was noteworthy.

Indeed, the organization's environmental focus in the mid-1970s centered mostly on questions of energy conservation. In the spring of 1975, as the nation reeled from the economic after-effects of the OPEC oil embargo, *The Mandate* surveyed small business owners on a range of environmental issues, but primarily those that affected energy consumption and conservation: gasoline taxes, controls over crude oil imports, nuclear power, and offshore oil and gas drilling. In keeping with small business owners' general antipathy to economic planning and liberal governance, the majority of respondents opposed government intervention in market transactions, even in the interest of reducing energy costs.⁴⁶

The advent of the so-called Reagan Revolution jumpstarted the NFIB's engagement with environmental politics. As scholars have amply documented, the 1980s were a period of contradiction in the realm of environmental politics. Public awareness of and concern for ecological problems—notably acid rain, the ozone layer, and, increasingly, global warming—grew substantially, and pre-existing environmental policies became well entrenched. At the same

time, political hostility to environmentalism became increasingly vocal, cynical, and organized, and new legislation ground to a halt.⁴⁷ Ronald Reagan himself, as Judith Layzer commented, "was contemptuous of environmentalists," believing "that individuals would exercise stewardship and did not need government controls to prod them."⁴⁸ Pursuing a policy of *deregulation by administrative neglect*, the Reagan Administration appointed notably unsympathetic leaders to key environmental posts—James Watt at the Department of the Interior; Anne Gorsuch at the EPA—and used its campaign for budget cuts to curtail the reach of environmental protections.⁴⁹ Perhaps unsurprisingly in this political context, the NFIB's *Mandate* included no survey questions about environmental protection, pollution, emissions, or the EPA between 1980 and 1987.

In the late 1980s and early 1990s, however, the NFIB began paying more attention to environmental regulation. Not coincidentally, those years marked an important uptick in environmental politics and especially growing public awareness of and concern for global climate change—even if the prospects of a warming planet still appeared to be a future problem to most observers. In 1988, Vice President George Bush campaigned for the White House on a promise to be "the environmental president."⁵⁰ Despite hailing from the same Republican party as his predecessor Reagan, Bush took a different tack on the environment, at least initially. During his presidency, the EPA's budget increased by 70 percent, Congress passed the Clean Air Act Amendments of 1990, and the country celebrated the twentieth anniversary of the first Earth Day. Devastating events like the Exxon *Valdez* grounding, which dumped more than 10 million gallons of crude oil into waters off the coast of Alaska in March 1989, further fueled public concerns about environmental degradation.⁵¹

Just as important, the overall focus of the environmental movement began to evolve in critical ways as the body of scientific evidence for human-caused global warming grew. Terms like "greenhouse gas" and "climate change" began to dominate the national conversation, and calls for a more systematic approach to environmental protection increased. In the public mind, the environmental movement was no longer just about clean water and air. Rather, it called for a wholesale recalibration of humanity's deleterious effect on the planet.

This rise of climate consciousness sparked a fiercer, more hostile reaction across American conservative politics. By the time he ran for re-election (unsuccessfully) in 1992, President George Bush had abandoned the "environmental president" moniker and mocked Democrat Al Gore (vice presidential running mate of Bush's opponent, Bill Clinton) as "Ozone Man." Indeed, conservative derision of Al Gore would become a staple of anti-environmental politics in the years ahead, even after Gore himself lost the presidency to Bush's son in 2000.⁵²

For the self-appointed defenders of the country's small business community, the costs of shouldering the burden of systemic climate change were too high to contemplate. Faced with stricter emissions regulations, the NFIB vociferously called for carve outs and exemptions for small companies. Repeating

arguments it had made consistently since the 1960s, the organization called for cost-benefit analyses of all regulations, considering both the environmental goals and the economic consequences of meeting them. In 1994, for example, 68 percent of *Mandate* respondents agreed that, before issuing any rule, the EPA should be required “to estimate the cost of implementing the regulation and certify whether the regulation is likely to solve the problem.” Putting words to its simmering lack of confidence in effective environmental regulation, the group added that certain regulations in the past had “proved expensive to administer, yet failed to correct the problem.” Given that track record, “[s]ound scientific data should be considered before regulations extremely costly to small business are issued.”⁵³

That joint appeal to “sound scientific data” and the specific economic needs of small companies formed the centerpiece of the NFIB’s environmental policies in the 1990s and after, when its position quickly evolved from skepticism to denialism. In the fall of 1997, as the world’s first international agreement on mitigating climate change through emission reductions—the Kyoto Protocol—made its way toward final ratification, NFIB members registered an overwhelming vote against the steps the United States might need to take to comply. Some 83 percent of respondents opposed implementing “higher energy taxes on fuels such as gasoline and coal” in an effort to “force Americans to reduce their consumption.” Instead, they agreed with the NFIB’s climate skepticism: that “the science behind global warming is too uncertain to justify imposing higher energy taxes.” Indeed, the *Mandate* survey continued: “Scientists are divided over the questions of why global warming is occurring and how fast it is occurring.” Appealing for prudence and time, the group called for more scientific research “to better understand the earth’s climate and weather trends before the government takes action that would be economically harmful.” And most important was avoiding higher energy prices for “those least able to pay, including small businesses.”⁵⁴

The small business lobby grew increasingly strident toward environmental policies precisely as national politics paid more heed to the economic promise of small and independent companies. In 1996, the U.S. Congress—recently in the hands of a Republican majority after the “Revolution” of 1994 spearheaded by Congressman Newt Gingrich—passed the Small Business Regulatory Enforcement Act. This legislation compelled all federal agencies to create “compliance centers” to assist small companies in following the rules issued by regulatory agencies. The impetus for that law was lobbying by the NFIB and similar groups. In the words of Karen Brown, who worked as the small-business ombuds for the EPA: “Our regulations had started to reach down to the level of small business, and I could see that they needed an advocate.”⁵⁵ Together with the SBA’s Office of Advocacy, small business panels at the EPA and OSHA claimed significant victories in the coming years. Reforming regulatory rules led to potentially “billions of dollars in savings for small businesses,” according to the *Washington Post*.⁵⁶

Conclusion: Denialism and Its Consequences

By the dawn of the twenty-first century, public attention to the reality of global climate change had emerged fully on the domestic policy agenda in the United States. *National Geographic* declared, for example, that 2004 was the year the issue finally "got respect."⁵⁷ In exactly those years, the NFIB and its political supporters applied to environmental policies the well-rehearsed and longstanding critiques it had formerly reserved for workplace and consumer product safety regulation. The success of their aggressive assault—on the scientific evidence for climate change, on the costs of changing energy consumption—owed in large part to their ability to link their critique to the politics of small business and entrepreneurship, which had become so firmly embedded in how politicians of all stripes and ideologies operated. This coincidence of an increasingly antagonistic approach to climate regulation and a renewed sense of political power and importance among small firms created a ripe atmosphere for the proliferation of climate denialism. Importantly, the provincial character of small business politics— isolationist, protectionist, convinced of its inherent virtue to the exclusion of external competition—fit perfectly within the political logic that rejected responsibility for a global problem, that distrusted scientific and academic elites, and rejected the role of the state, let alone international governing authorities.

As the partisan rift in American politics grew more pronounced in the 2010s—as voters increasingly saw themselves as part of a cultural war wrapped up in personal identity—those divisions became ever more calcified. To be sure, some signs of progress emerged. According to a 2014 survey, a growing number of U.S. small business owners both accepted the reality of human-made climate change and agreed that strong regulatory action is needed to mitigate its catastrophic potential.⁵⁸ Yet severe obstacles persist. A recent study of international business owners suggests that American entrepreneurs lead the world in declaring they are "not at all worried" about climate change's impacts on their business and express the greatest reluctance to change their business practices in response to it.⁵⁹ Such intransigence over climate action is deeply rooted in the psyche and politics of the American small business community, the result of a clear ideological messaging campaign from within the heart of American political culture over the past half century. Business historians as well as scholars in the field of climate change mitigation have an important role to play in illuminating the development and consequences of this culture, and in particular the role played by political preferences, lobbying efforts, and ideological commitments of small and mid-sized businesses.

Notes

- 1 "President Vows He Will Reduce Industry Curbs," *New York Times*, 18 June 1975, 85.
- 2 It is worth observing that the NFIB's argument mirrored what has become a standard rhetorical tactic in American politics, especially on the right: demonize a proposal or

- political opponent as simultaneously weak or ineffective *and* diabolically destructive. Conservatives frequently levied this strategy to denounce President Barack Obama, for example, as both incompetent and dictatorial. “NFIB Federal Member Ballot: Issue Overview,” *Mandate* 538, n.d. Document in author’s possession, courtesy of the National Federation of Independent Business.
- 3 See, among many, Kim Phillips-Fein, *Invisible Hands: The Making of the Conservative Movement from the New Deal to Reagan* (W.W. Norton, 2009) and Janick Marina Schaufelbuehl, *Crusading for Globalization: US Multinationals and their Opponents Since 1945* (University of Pennsylvania Press, 2025). I myself am very much a part of this tradition. See Benjamin C. Waterhouse, *Lobbying America: The Politics of Business from Nixon to NAFTA* (Princeton University Press, 2014).
 - 4 On the historical role of business interest associations in a global context, see especially Pierre Eichenberger, Neil Rollings, and Janick Marina Schaufelbuehl, “The Brokers of Globalization: Towards a History of Business Associations in the International Arena,” *Business History* 65, no. 2 (2023): 217–234. See also Sabine Piteloud, *Les multinationales suisses dans l’arène politique (1942–1993)* (Librairie Droz, 2022).
 - 5 Judith Layzer, *Open for Business: Conservatives’ Opposition to Environmental Regulation* (MIT Press, 2012).
 - 6 Naomi Oreskes and Erik M. Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming* (Bloomsbury Press, 2010).
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 - 12 Robert Eberhart, Stephen Barley, and Andrew Nelson, “Freedom Is Just Another Word for Nothing Left to Lose: Entrepreneurialism and the Changing Nature of Employment Relations,” *Entrepreneurialism and Society: New Theoretical Perspectives (Research in the Sociology of Organizations)* 81 (2022): 13–41.
 - 13 Benjamin C. Waterhouse, *One Day I’ll Work for Myself: The Dream and Delusion that Conquered America* (W.W. Norton, 2024).
 - 14 Alex John Boynton, “Confronting the Environmental Crisis?: Anti-Environmentalism and the Transformation of Conservative Thought in the 1970s,” PhD dissertation, University of Kansas (2015).
 - 15 This chapter considers the politics and political culture of the United States. My hope, however, is that this framing provides inspiration for additional research into the global dimensions of this phenomenon.
 - 16 Jefferson Cowie, *The Great Exception: The New Deal and the Limits of American Politics* (Princeton University Press, 2017); Margaret O’Mara, *Cities of Knowledge:*

- Cold War Science and the Search for the Next Silicon Valley* (Princeton University Press, 2005).
- 17 Brian R. Cheffins, *The Public Company Transformed* (Oxford, 2019); Nicholas Lemann, *Transaction Man: The Rise of the Deal and the Decline of the American Dream* (Farrar, Strauss, and Giroux, 2019), 23–70. For foundational discussions, see especially Alfred D. Chandler, Jr., "The Competitive Performance of U.S. Industrial Enterprises since the Second World War," *The Business History Review* 68, no. 1 (1994): 1–72.
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- 24 Meg Jacobs, "The Politics of Environmental Regulation: Business-Government Relations in the 1970s and Beyond," in *What's Good for Business: Business and American Politics Since World War II*, edited by Kim Phillips-Fein and Julian Zelizer (Oxford, 2012), 212–232.
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Part 2

Businessmen as Environmental Experts



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4 A Crack in the Limits

The Case of UNEP's Failed Motor Vehicle Seminar of 1976 in the Context of the Polycrisis¹

Mattias Näsman

Introduction

In early October 1976, the United Nations Environment Programme (UNEP) organized a seminar with car industry associations, car companies, and national governments at UNESCO, Paris, to discuss “ways and means of improving... the human environment.”² One carmaker CEO, Swedish Volvo’s charismatic and outspoken Pehr G. Gyllenhammar, had anticipated the seminar with high hopes. With his friend Maurice Strong, Executive Director of UNEP and previously Secretary General of the 1972 UN Conference on the Human Environment in Stockholm, Gyllenhammar had been discussing the role of the car industry in environmental protection. As the CEO of a niche manufacturer that depended on accessing foreign markets, Gyllenhammar believed it necessary to harmonize environmental legislations internationally. The problem, Gyllenhammar told UN Secretary General Kurt Waldheim, was the “enormous [national] fragmentation in the industry in its approach to better environmental standards,” noting that the seminar represented a “unique opportunity to take a more global approach.”³ Since the late 1960s until today, the environmental impact of cars and road safety have been primarily steered by government implementation of regulations in the form of performance standards. Under Gyllenhammar’s leadership in the 1970s, Volvo gained a green image by pioneering exhaust emissions control technology on the American market to comply with the world’s most stringent emission standards, among other things. Due to conflicting regulatory requirements, however, Volvo sometimes struggled to maintain this image.⁴

The business history and economics literature has shown that different factors related to government regulation complicate car production and carmakers’ commitments to the environment. The first complicating factor concerns the impact of regulations on the quality and performance of vehicles. The second factor involves conflicting technical requirements, meaning that regulations aimed at addressing one problem could compromise another. For instance, weight-increasing safety regulations have negatively affected fuel economy.⁵ The third factor pertains to asymmetric regulatory requirements across firms’ active markets. For carmakers,

dissimilar regulations that require different technologies for compliance in different markets create barriers to car trade, making it more costly for firms to reach export markets. Moreover, internationally asymmetric regulations diminish economies of scale, as carmakers need to make shorter production series and additional post-manufacturing adjustments, as well as gather information from several different statutory compliance programs.⁶ While the positive or negative impacts of regulatory asymmetries on individual international carmakers as well as carmakers' views on regulations have varied across different periods and contexts, it is clear that government regulations have complicated car production in general, whereas the diverse mix of regulations has complicated it even further. This regulatory dynamic has required international carmakers to navigate complex technical, political, and economic landscapes.

Back to the UNEP seminar: Gyllenhammar's hopes that the seminar might address these regulatory challenges were not fulfilled. Clearly irritated, Gyllenhammar wrote to Waldheim that "the seminar achieved nothing" and "might have caused a [sic] damage," while ending by noting that his industry colleagues agreed with him that "this was the last seminar of this type that they would attend."⁷ The Motor Vehicle Seminar was the third of a total of seven industry sector seminars organized by the UNEP between 1975 and 1979 as part of its Industry Programme.⁸ Historians Ben Huf, Glenda Sluga, and Sabine Selchow have studied the Industry Programme and offered a general description of its activities and outcomes.⁹ They argued that UNEP, through its focus on sector-specific problems and technologies, used the seminars as arenas of consultation and information sharing between industry and governments while encouraging the industries to adopt their own guidelines.¹⁰ In pushing for voluntary adoption of guidelines, the Industry Programme differed significantly from the typical top-down type of environmental governance that nation states practiced, according to Huf, Sluga, and Selchow. Taking an international history approach by studying the final public reports, however, they did not look at how industries organized and responded to the seminars or how industry shaped the outcomes. By contrast, business historians Ann-Kristin Bergquist and Thomas David have shown that international business, through the International Chamber of Commerce (ICC), actively shaped UN environmental governance. The ICC was critical of the discourse on the *limits to growth* that dominated the UN global environmental governance in the 1970s, which centered on the idea that environmental protection and economic growth might be impossible to reconcile. Fearing that this discourse and UNEP would encourage costly environmental regulations, it thus began to organize for an alternative, market-based, and voluntary governance approach in the form of industry self-regulation.¹¹ According to Bergquist and David, the ICC pushed for market-based governance because it feared that UNEP "would encourage national governments to implement new regulations that severely complicated international trade, transnational business operations, and ultimately economic growth."¹²

The research on business' relations with UNEP mentioned above has been conducted to explore the reasons why the global environmental governance framework changed between the first UN Conference on the environment in Stockholm in 1972 and the second one in Rio in 1992. As environmental governance scholars have shown, UN-led global environmental governance shifted from focusing on the incompatibility between economic growth and environmental protection as well as on the importance of government policy to addressing environmental issues, to promoting market-friendly forms of regulation in which economic growth was seen as necessary for achieving environmental protection.¹³ Though international and organized businesses were active in facilitating this transformation, this chapter shows that changing material and technical realities created a "crack" in global environmental governance, revealing misalignment between the initially established framework and emerging social goals. This crack in turn amplified the power of business lobbying while also creating opportunities for business-friendly reform.

This chapter aims to identify the origins of this crack through a detailed case study of UNEP's Motor Vehicle Seminar of 1976. There are two reasons for focusing on the car industry. First, unlike the other industries that were subjects of the UNEP seminars—the pulp and paper, aluminum, agriculture, petroleum, iron and steel, and the chemicals industry—the car industry was already being targeted by international environmental regulations.¹⁴ Second, the fact that car industry executives believed the seminar was an unmistakable failure indicates misalignment between UNEP's ambitions and the industry's expectations. This misalignment, as we will see, was related to differences of opinion on the rationales for and means of regulating the industry. By studying these opinions, it is possible to shed light on the origins of the crack in environmental governance. This chapter focuses on the relationship between UNEP and the car industry from the perspective of the international car industry federation: *Bureau Permanent International des Constructeurs d'Automobiles* (BPICA), composed of national car industry associations. This issue is explored by asking why car industry officials considered the UNEP seminar a failure and how BPICA made sense of the UNEP seminar. This chapter will also discuss how and for which reasons BPICA organized itself and responded to the seminar. Analytically, the chapter looks at this development through the lens of the polycrisis facing Western political and business systems in the 1970s—multiple crises spanning the environment, the breakdown of the established production regime, as well as crises in energy, and the economic and monetary systems. This chapter draws on sources from the Swedish Car Industry Association (SCIA), which played an active role in formulating BPICA's response to the seminar. As a matter of fact, BPICA appointed SCIA's president Jonas Gawell as chair of the committee that coordinated the industry's policy development anticipating the seminar. Because of the central role played by the SCIA, these archival documents allow to analyze international regulatory and industrial developments in the car industry.¹⁵

The Polycrisis Facing the Car Industry in the 1970s

The term “polycrisis” refers to the confluence of multiple and mutually reinforcing challenges and has been used to analyze the overlapping crises of the twenty-first century.¹⁶ In their study of how the Euro, refugee crises, and Brexit have affected EU integration efforts, political scientist and historian Jonathan Zeitlin and colleagues argued that these crises have enhanced politicization of the EU integration project, both at the national and at the European levels, because their impacts have been unevenly distributed across member states. According to these authors, politicization occurs “when issues become salient, when actors polarize their views on these issues, and when they are able to mobilize public opinion accordingly,” which opens possibilities for political reform.¹⁷ However, the challenge of predicting the interactions and evolution of multiple crises further introduces a psychological dimension to the concept of polycrisis. The former European Commission President Jean-Claude Juncker, for instance, famously used the term in a 2016 speech to refer to how such a confluence of challenges is “creating a sense of doubt and uncertainty in the minds of our people.”¹⁸ While the term polycrisis has been used to describe the compound crises of the twenty-first century, it can equally apply to the energy and environment, monetary, and production system crises of the 1970s. During that critical decade and in the midst of uncertainty as to the future of motoring, the car industry sought to formulate an industry-wide policy position to deepen politicization on the environment and energy, both at the national and at the international level.

Prior to the oil price shock in the winter of 1973–1974, the car industries in Western Europe and the United States had enjoyed more than two decades of uninterrupted growth. In addition to economic miracles, Western Europe had also experienced the regional integration of car markets during this period. But in 1973, surging oil prices and slowing economic growth had a severe impact on car markets: demand for passenger cars in Western Europe fell from 9.5 million to 8.2 million between 1973 and 1974 and, in the US, from 11.4 million to 8.7 million for the same years.¹⁹ Consumer preferences changed, and car owners began prioritizing cars with better mileage and quality, in turn paving the way for Japanese manufacturers. Japanese firms captured significant shares of Western markets during this period. As a matter of fact, the Japanese import share of new registrations in Western Europe grew from 3.9 percent in 1973 to 10.4 percent in 1980 and, in the US, from below 1 percent in 1973 to 22.7 percent in 1980.²⁰ On top of the oil price shock and growing Japanese competition, labor conflicts escalated and hollowed out the profits of Western companies even more. The largest companies in Europe—Volkswagen, Ford Europe, GM Europe, Peugeot, Renault, Fiat, and British Leyland—as well as Chrysler in the US recorded low or negative returns in 1974–1975.²¹ Swedish Volvo’s Pehr G. Gyllenhammar called 1974 a “lost year for the car industry” after Volvo’s passenger car division reported falling returns: from 9 percent in 1973 to 3 percent in 1974.²²

The surging price of oil had other, indirect, effects on the car industry. Payments for oil shot up in industrialized countries, causing inflation and deterioration of trade balances. Of the many political and economic implications of the oil shock,²³ two are particularly relevant to understanding the car industry's reaction to the 1976 UNEP seminar. The first was the relatively brief but widespread belief that oil prices would remain high, and that oil would become a scarce resource. At the time, the oil shock seemed to some observers to be a confirmation of the thesis developed in the 1972 book *Limits to Growth*, commissioned by the Club of Rome, according to which natural resources would run out and economic growth with them.²⁴ When oil prices began declining again in the early 1980s, partly because of energy conservation efforts and the failure of the Organization of Oil Exporting Countries (OPEC) to maintain volume and price control, beliefs in the oil shock as confirmation of the *Limits-to-Growth* thesis faded relatively quickly.²⁵ For a brief period in the 1970s, however, narratives asserting that scarce oil resources might put an end to the expansion of motoring and by extension the car industry were common.²⁶ From the perspective of car industry associations, pessimistic narratives spelling out a drastic shift in private mobility were equally, or even more, problematic than were tight oil supply or cost increases. For example, in an evaluation of the public response to the first oil embargo and price shock, the SCIA and the Swedish car retail and trading association argued that the difficulties experienced by the car industry, retailers, and car service stations, such as lower sales, "were not due to the fuel supply being uncertain, but to... the pessimism and uncertainty that prevailed during the period from December 1973 to February 1974." The associations continued, "not least the presentation offered in the press, radio and television contributed to creating the perception of deep and prolonged crisis."²⁷

The second effect of runaway inflation and deteriorating trade balances as consequences of rising oil prices was the birth of energy policy as a policy sector in its own right. Governments consequently developed policies to reduce economy-wide energy demand.²⁸ Car industries feared that governments would implement standards on car's fuel use on top of already existing and challenging regulations. They had been targeted by governmental regulation on the US market in the form of safety standards since 1966 and exhaust emissions standards since 1968, and similar yet laxer regulations in Europe since the beginning of the 1970s.²⁹ Because emissions control technologies generally caused fuel consumption to rise, as did the additional weight caused by added safety features, carmakers began to worry that regulations on fuel use would create conflicting and technical challenges that would be difficult to resolve.³⁰ Whereas some European governments responded to the energy crisis by reducing speed limits, rationing fuel, and temporarily closing traffic on weekends in the short term,³¹ there was in hindsight no implementation of technical regulations requiring energy reduction in the transportation sector in Europe. In the US, however, Congress adopted the 1975 Energy Policy and Conservation Act mandating

carmakers to increase fleet average fuel economy through corporate average fuel economy (CAFE) standards applicable from 1978. Ensuring the significance of lowering energy use in the transportation sector, Congress decided that manufacturers failing to comply with the CAFE standards would be required to pay hefty fines. US manufacturers invested substantial resources in downsizing their models: roughly \$80 billion, of which General Motors alone spent \$45 billion.³²

As environmental policy scholars have documented, in industrialized countries the energy crisis overshadowed, to some extent, the environmental issue.³³ Governments postponed implementation of exhaust emission standards due to growing tensions, but they remained on the political agenda.³⁴ This was the case in the US. Adopted in 1970, the Clean Air Act amendments laid down in law the reduction of car exhaust emissions (carbon monoxide, hydrocarbons, and oxides of nitrogen [NO_x]) by 90 percent until 1975–1976. “With the energy crisis,” as historian Tom McCarthy argued, “fuel economy became the paramount automobile policy goal for the US government,”³⁵ and implementation of the Clean Air Act amendment standards was postponed to the beginning of the 1980s: postponed, but not discarded. In Europe as well, the development of exhaust emission standards became turbulent because governments were arguing among themselves, and governments and industry were fighting about the relative importance of conserving energy versus reducing emissions, as well as about the regulations’ impact on profitability and employment.³⁶ Developments on both sides of the Atlantic were open-ended, but pressure to adapt to regulatory requirements remained. The car industry, therefore, had to navigate a quickly changing economic and regulatory context, creating “a sense of doubt and uncertainty” regarding the industry’s future.

The International Car Industry Federation on Technical Regulations

The international car industry federation BPICA, now the International Organization of Motor Vehicle Manufacturers (OICA), has up until today organized national car industry associations globally. The federation was established in Paris in 1919, and members in 1968 included national car industry associations in Western Europe, Japan, the US, Czechoslovakia, and Yugoslavia.³⁷ Until the 1950s, BPICA’s main line of activities focused on organizing international motor shows and setting common advertising rules. In 1956, BPICA established a technical committee whose main purpose was to monitor and take part in international regulatory and standardization debates within the framework of the UN Economic Commission for Europe (UNECE), specifically in the working group for the construction of vehicles (WP 29).³⁸ WP 29 was composed of government experts from Western and Eastern Europe. Its work aimed at developing internationally standardized template regulations for safety equipment and, later, for emission control technologies that European governments could implement

to improve international trade. Since WP 29's formation in 1952, the member states of the European Economic Community (EEC) actively participated in the working party, specifically car manufacturing countries such as France, Italy, Germany, and the UK. Up until the 1980s, most of the standardized regulations developed within WP 29 were actually implemented as EEC directives, including exhaust emissions regulation. BPICA played an observatory role in WP 29, but frequently took part by offering technical information that government experts used to develop standards. Also from its inception, the US had an observer status in WP 29, while Japan and other non-European car-producing countries such as Australia gained the same position in the 1970s. However, these countries maintained regulatory pathways largely independent of the EEC, while applying regulations more stringent than those employed in Europe.

During the 1960s, the car industry began experiencing problems related to asymmetric regulatory development. As mentioned, the US had begun implementing federal safety and environmental standards for car production, whereas some European governments were also doing so in parallel with the development of international standards in UNECE/WP 29.³⁹ For the European car industries, including subsidiaries of US carmakers, asymmetric regulatory development created technical barriers to trade with negative effects for achieving economies of scale. Toward the end of the 1960s, BPICA thus began lobbying national governments to harmonize regulatory requirements. BPICA pushed for the implementation of uniform testing procedures and measurement methods for similar requirements, for coordinating implementation schedules internationally, and for applying similar stringency requirements in comparable conditions. It did this, for example, by adopting a resolution in 1967 addressed to all countries in Europe and to the US, which argued that "conflicting technical requirements for vehicles create new trade obstacles that e.g., impacts on the production and sales costs." BPICA emphasized that governments should acknowledge the problematic situation and do their utmost to agree on international requirements.⁴⁰ In 1968, the president of BPICA, Rudolfo Biscaretti, wrote to the UN Secretary General U Thant, arguing that "the problems to be solved [concerning road safety] are essentially the same in principle in all countries and for this reason should have solutions [regulatory standards] as similar as possible." Safety regulations, Biscaretti stated, ought therefore to be harmonized across the globe, "to promote safety under economic conditions acceptable to the consumer, by taking full advantage of the benefits of large scale production." Moreover, because WP 29 was supposed to play a central role not only in European regulatory harmonization, but also in coordinating regulatory developments between Europe, the US, and Japan, the BPICA president asked Thant to include "officials from all major manufacturing countries" in WP 29's work, i.e., to allow full membership for non-European producer countries.⁴¹ In 1974, BPICA discussed the need for a global exhaust emission standard, using the same testing procedure but with different stringency levels according to regional needs.⁴² Whereas BPICA's

members agreed on the rationale for global standardization methods for testing and measuring emissions, there was a consensus that the stringency of standards ought to vary depending on the severity of the air pollution problem.⁴³

It is important to point out here that, at least in the view of BPICA, the car industry's main concern was not that governments implemented regulations, whether on safety or emissions. The car industry was the target of significant public criticism in the 1960s and 1970s, specifically in the US but also to some extent in Europe, owing to the high number of deaths and injuries due to car accidents as well as to air pollution related to car use. Public pressure to regulate the industry was strong. Accordingly, for BPICA but also for car industry multinationals, it was challenging to, in the long run, fight off regulations in all markets in which regulations were discussed. As a supporting strategy, BPICA sought to lobby governments to harmonize when possible and coordinate regulatory developments, to push implementation dates, and, especially, to stave off the regulatory initiatives that fell outside the national regulatory spheres of Japan, the US, or that of UNECE/EEC. In the 1960s, the US industry tellingly fought against the adoption of emission standards, first in California, and when that failed, against federal regulations. However, when several states at the same time began threatening to implement their own standards in the late 1960s, the US industry instead started pushing for harmonization and came to support federal regulation to avoid raising trade barriers within the US market.⁴⁴

Politicizing Energy and Environmental Issues at the UN

In 1972, following the UN Conference on the Human Environment in June, the UN General Assembly created the UNEP and appointed Maurice Strong as its Executive Director. A year later, after discussions with his contacts in the ICC, Strong proposed that the UNEP establish an Industry Programme as a means of investigating the environmental problems related to specific industrial sectors. Strong then appointed Baron Léon de Rosen, the president of the French Union of Sugar Manufacturers with leadership experience in international organizations, to lead the Industry Programme.⁴⁵ De Rosen was a devote ecumenical catholic and, between 1965 and 1968, the president of the International Christian Union of Business Executives (UNIAPAC). Caring deeply about the lack of spirituality in the developed countries and the poverty of developing countries, de Rosen argued for a holistic view in solving "the crisis of society," which included the natural environment.⁴⁶ In May 1974, de Rosen drew up the program's first terms of reference, and in July 1974, Strong called together representatives from all industry sectors, including the car industry, at the ICC offices in Paris. BPICA was initially skeptical of UNEP's intentions and plans, pointing out the lack of information on what such a meeting should achieve, whereupon the federation asked its members to exercise caution.⁴⁷

Apart from putting a lot of pressure on and causing uncertainty within the car industry, the energy crisis also led to the politicization of energy and environmental problems, as it became evident that the issues were in technical conflict. Car industries mobilized nationally, focusing on the tradeoffs between energy and environmental goals, while seeking to lobby policymakers to explicitly acknowledge and choose between these goals. For instance, in the fall of 1974, the US car industry offered to improve fuel economy by 40 percent until 1980 in exchange for a five-year moratorium on implementation of the Clean Air Act's car emission standards.⁴⁸ A few months later, the Swedish car industry called on the Swedish Government to make "a holistic assessment of the fuel-engine-environment complex." It argued for long-term planning between regulatory authorities, engine manufacturers, and fuel producers to avoid the risk of wasting limited energy resources and capital investments.⁴⁹ A US federal task force, composed of members of the Department of Transportation, the Environmental Protection Agency, and others, similarly contended that federal car policies needed to strike a balance between consumer preferences, governmental regulations, and manufacturing and finance requirements. "This balancing," the task force stated in 1976, "in many cases, requires trade-offs between conflicting pressures—such as conflicts between automobile size and weight and the need to minimize these factors for optimum fuel efficiency."⁵⁰

Car industries mobilized internationally as well by seeking to formulate a common position on energy and environmental issues. After the meeting in Paris in July 1974, de Rosen contacted BPICA directly during the fall of 1974 and informed them that the UNEP planned to organize a motor vehicle seminar in 1976 and that the Swede Gustav Ekberg had been appointed as expert consultant on cars and the environment.⁵¹ With this new information, BPICA's initial cautious approach to the UNEP transformed into active international policy discussions. Part of the explanation for why BPICA changed its attitude toward the UNEP is that there was now a concrete place and time in which the car industry was supposed to share a common view on the challenges related to energy and the environment with the international community. It is likely that this shift was also related to Ekberg being appointed as an expert. Ekberg was the head of the Swedish National Road Traffic Safety Agency's motor vehicle bureau and participated in several Swedish Government commissioned inquiries related to safety and environmental regulation of cars. He was responsible for setting the tone of the UNEP seminar by summarizing the issues for discussion in an introductory report. Moreover, he was known to BPICA as he had served as Sweden's representative to the WP 29 for two decades. In this role, Ekberg often stood out in the talks on, for example, emission standards, because the Swedish Government was pushing for more stringent standards than most other European governments and BPICA were willing to accept. For instance, Sweden argued that US parity standards be introduced in Europe as well, like what Sweden had done on a national level.⁵² In 1972, as the spokesperson for the

Swedish Government, Ekberg stated to WP 29 that “questions of environmental protection should take precedence over the possible economic consequences of radical lowering of limits.”⁵³

De Rosen had therefore pursued a dual strategy. On one hand, he framed the issues up for discussion at the seminar as a way for the industry to share its expertise in shaping future talks, by specifying that the seminar would discuss “everything concerning nuisances, with the exception of the field of regulations.”⁵⁴ On the other hand, de Rosen chose an expert to set the tone for the seminar who was known for prioritizing the environment over the economy through government regulation-centered solutions. During a significant restructuring of the industry, BPICA wanted to avoid a situation in which pessimistic scenarios regarding the future of motoring or unfettered regulatory fervor would taint the deliberations and outcomes of the UNEP seminar.

BPICA and its members thus decided to develop clear policy positions through international cooperation. Although BPICA’s day-to-day activities were mostly European, these issues were undoubtedly of global relevance. Under the leadership of the US Motor Vehicle Manufacturers Association, BPICA’s member associations in Belgium, France, Italy, Japan, Sweden, West Germany, and the UK began developing policy positions for the entire industry.⁵⁵ After policy discussions in March 1975, BPICA decided to form a permanent committee including representatives from the national associations of these eight countries to discuss issues related to cars and energy, the environment, consumer preferences, and production. The committee was named the Motor Vehicle in Society, and the Swedish association’s president, Jonas Gawell, was appointed its first chair.⁵⁶ In July 1975, de Rosen sent formal invitations to the seminar to executives of international and national car industry associations, car manufacturers, and governments. Along with the invitation, he sent Ekberg’s introductory report and, based on the report, an annotated questionnaire containing over hundred questions regarding air and water pollution, pollution from factories, noise, road traffic accidents, work environment, raw materials, and cars in urban areas.⁵⁷ As its first order of business, the Motor Vehicle in Society committee prepared an industry-wide response to the report and questionnaire.

UNEP’s Political Alienation from the Car Industry

To explain why the car industry came to view the seminar as a failure, it is relevant to study the contents of the information exchange between the UNEP and BPICA taking place in preparation for the seminar. Specifically, it is relevant to look closely at Ekberg’s introductory report “Motor Vehicles and the Environment” and at how he, as the UNEP’s expert consultant on cars and the environment, framed the issues the seminar sought to address. The report and other preparatory documents, including BPICA’s response, provide insights into the positions developed by the UNEP and the internationally organized car industry.

While industry leaders found much of Ekberg's report balanced, they were dissatisfied with some of its incendiary policy positions. The report, in short, applauded governmental regulation to address air pollution and other issues, noting that "many governments have taken forceful steps to control the further growth of vehicle emissions." It also pointed out that US and Japanese regulations "are considerably more severe than European rules."⁵⁸ European rules developed by WP 29 within the UNECE framework were too lenient in Ekberg's view, particularly regarding limits for NO_x emissions. Ekberg supported his point by drawing on an OECD study, which claimed that the role of NO_x emissions from cars was greater in creating photochemical smog in Europe than otherwise reflected in WP 29's discussions.⁵⁹ In relation to a debate on the "desirability" of adopting international emission standards applicable worldwide, Ekberg proposed two sets of standards: one equivalent to the US 1970 Clean Air Act amendment standards, which were also closely mirrored by Japanese regulations, and one equivalent to US standards for 1973/1974, from which Sweden and Australia had developed and adopted their own national variations. He maintained, however, that WP 29 should remain the central body through which "proposals and decisions on internationally unified standards" are made.⁶⁰

In a clear provocation of the European car industry, Ekberg omitted the option of adopting standards like those developed by WP 29, which had been implemented in several European countries, including in all EEC member states. In the eyes of the experts taking part in their development, these standards were meant to accommodate specific European conditions, in which for instance air pollution from cars was not thought to be as problematic as it was in the US. In proposing this two-pronged approach to global standards based on US regulation, Ekberg also quite closely mirrored the Swedish Government's position on car emissions control, which European carmakers had strongly criticized as being too strict for Swedish conditions as well as for their negative impact on the international car trade.⁶¹ Ekberg, moreover, put serious blame on the industry for creating environmental problems: "With some exaggeration one could say that the automobile industrial design has, by its policy of creating structural obsolescence and continual outmoding by fashion, promoted steady pollution of the planet." In assessing its future, Ekberg reinforced the narrative spelling out a radical repurposing of the car industry. The energy crisis in 1973–1974, he claimed, had upset previous estimates of the continued growth of the number of motor vehicles, considering that "economic growth is expected to decrease in the future, that the oil price will remain on a high level and that prices of motor vehicles will rise." Despite these severe structural challenges, Ekberg predicted that the industry should not expect a respite from regulators. Whereas several governments had already issued regulations on exhaust emissions, others would follow, and "severe requirements" on noise abatement were to be expected, Ekberg ensured. "The increasing public interest in the preservation of nature" acted as an incentive, according to Ekberg, "for responsible authorities

to proceed on the [regulatory] road embarked upon.” He went on to state that these “new requirements will necessitate the redesigning of engines and vehicles or their equipment with special devices,” as well as cause prices to increase.⁶² Ekberg summarized the section on the future of the car industry by arguing that the “main tasks for the automobile industry in the future” were to decrease fuel consumption, decrease the consumption of raw materials and energy used in manufacturing, decrease air and noise pollution, and improve car safety.⁶³ Reading the report closely, it is clear that Ekberg indicated that it was governments, not markets, that had assigned these tasks to the industry. In addition, in Ekberg’s view the car industry, seemingly, needed to accomplish all tasks at the same time, despite the industry’s insistence on the technical tradeoffs involved in reducing fuel consumption while controlling pollutant and noise emissions, or increasing vehicle safety.

In its written response, BPICA welcomed the UNEP’s initiative, calling it timely, while arguing that “a comprehensive discussion of all issues relating to the environment, safety, energy and natural resource conservation, and of their relationship with the automobile industry, is necessary and urgent.” BPICA also agreed that the “problems reviewed by Mr. Ekberg” were important, but that “his conclusions in relation to the future of motorization and of the automobile industry are altogether over-pessimistic, and at times founded on disputable assumptions.” BPICA criticized in particular the lack of emphasis on the positive contribution of the industry in creating mobility of persons and goods: “mobility which, on account of the advantages it provides, is generally considered by all sections of the population, as one of the main, if not the chief factor of the quality of life.”⁶⁴ As opposed to Ekberg’s description of the industry as having contributed to promoting “steady pollution of the planet,” BPICA laid the burden on the “responsible town planning and traffic authorities,” as they, when planning urban areas, did not give sufficient consideration to the “foreseeable development of motorization.”⁶⁵ BPICA recognized the negative effects of motorization, such as air and noise pollution, accidents and energy consumption, but maintained that “all environmental-related problems... must be assessed in terms of their interrelationships with others,” in light of the technical conflicts involved.⁶⁶ In principle, BPICA remained supportive of global standardization of methods for analyzing the environmental effects of pollution, noise, and safety regulation as well as for testing procedures under the auspices of WP 29. However, the federation argued that the stringency of emissions standards should depend on local or regional conditions, implying among other things that US regulation should not be adopted in Europe. In its reply to the UNEP questionnaire, it stated: “it would be irrational to apply strict standards internationally... to alleviate ‘worst case’ conditions.”⁶⁷

The report’s clear policy position on global exhaust emission standards as well as regarding the regulatory-driven future development of the car industry’s product and production strategies created an inauspicious framing of the

Motor Vehicle Seminar from BPICA's point of view. Seemingly, the UNEP had effectively alienated BPICA even before the seminar took place, creating mistrust between the industry and UNEP. Another aspect that contributed to creating mistrust concerned the UNEP's own communication regarding its future role in environmental governance of cars. UNEP seemed to trespass on the WP 29's and the World Health Organization's (WHO) territory: bodies that the UNECE and UN had explicitly tasked with handling issues of vehicle construction and global health.

The UNEP's own communication of its function in future environmental governance of the car industry was indeed ambiguous. On the one hand, its statements indicated that the seminar would focus on connecting governments, international organizations, and industry in an effort to exchange information unconditionally. On the other, the fact that UNEP aimed at attracting people from the top echelons of the car industry as well as from governments, and the fact that UNEP indicated that it possibly should play a central role in governing the international aspects of the car industry's environmental impact, had created doubt within the industry. In Maurice Strong's invitation to the car industry in July 1975, he stressed the role of information circulation by noting that the aim of the seminars and the related preparatory studies was to "identify ways and means of improving, at the international level, the human environment" by focusing on technologies, and industrial trends.⁶⁸ In June 1976, however, Léon de Rosen indicated that the seminar aimed at resulting in a national and international division of labor in relation to policies. Writing about UNEP's ambitions for the seminar, de Rosen noted that it should "identify what further actions should be taken at international and national levels, by whom and in what time frame," while considering an agreement regarding the division of tasks that should be the subject of follow-up activities by governments, industry, and relevant international organizations.⁶⁹ In this regard, the UNEP stated that it had "a catalytic role to help coordinate where international action may be necessary, identify gaps and direct activities to organizations where effective action can be taken."⁷⁰ The UN's General Assembly indeed assigned UNEP the role of functioning as a catalyzer, meaning that it should promote, encourage, and guide government action, but not implement or enforce it.⁷¹

Yet, for the car industry and in connection to the seminar, such an explicit statement aligned poorly with what the industry itself had tried to communicate. The important tasks for international organizations in governing car's environmental impact, BPICA noted, were to "identify and monitor nuisance sources and evaluate... their medical and ecological effects" as well as to provide a platform for exchanging "information on pollution sources, accident analysis, studies relating to harmonized designs, measuring methods and testing procedures." In BPICA's view, international organizations such as WP 29 and the WHO were already performing these tasks. Furthermore, it maintained, WP 29's terms of references needed to be changed to allow for broader membership

(full membership for countries outside Europe) and enhanced powers, while its financial and material resources should be substantially increased.⁷² The addition of new organizations would be unnecessary, “and in fact could be counter-productive on an efficiency level.”⁷³

The Seminar and Its Outcomes

When analyzing the preparatory documents for the seminar, UNEP’s framing of the issues for discussion clearly created mistrust in the car industry even before the seminar took place in early October 1976. The exchanges between UNEP and the car industry after the seminar concluded also show that the lack of trust was mutual. In a letter to Léon de Rosen, BPICA’s president Biscaretti argued that the discussions at the seminar had not led to any definite conclusions, mirroring the statements by Pehr G. Gyllenhammar in the introduction to this chapter, as well as the responses from the Italian, Swedish, Japanese, US, and UK car industry associations.⁷⁴ Referring to the Findings and Conclusions document circulated by UNEP, which included statements such as the “earnest recommendations to all governments” to establish maximum noise emission standards, to establish fuel efficiency goals, to introduce mandatory annual inspections, as well as the conclusion that the UNEP “will pursue its catalytic and coordinating role in relation to activities on environmental protection and the motor vehicle,” Biscaretti disputed all of these recommendations and conclusions. He noted, in relation to UNEP’s catalytic role, that BPICA and several of its member associations had indicated that they would oppose such a role prior to the seminar.⁷⁵ Apart from this disagreement over the results, Jonas Gawell’s personal notes also indicate that the practical organization of the seminar was comparably poor.⁷⁶

De Rosen agreed with Biscaretti that the seminar had not enabled definitive conclusions but argued that the industry was to blame owing to BPICA’s member associations being in disagreement: “BPICA had still a long way to go to harmonize viewpoints.” De Rosen did not, however, agree that the seminar had been a failure. The seminar had reached its goals, de Rosen maintained, “to the extent that it has allowed us to take an overall view of the sector, to identify its problems,” and to be aware of the positions of the relevant stakeholders. He ended the letter bitterly by thanking BPICA and its member associations “for a cooperation which was remarkable even though, by your letter, you chose to put an end to it.”⁷⁷ National car industry associations, as de Rosen pointed out, indeed disagreed on many of the policy points, such as in relation to what standards developing countries should adopt. The US and Japanese delegation, for instance, opposed recommending that UNECE emissions regulation be used as a minimum requirement in countries that did not yet have emissions regulation in place because it would give European manufacturers a competitive edge in those countries.⁷⁸ The evidence suggests that national car industry associations were unanimous in their criticism of the strong policy positions set out by the

UNEP prior to the seminar, as well as in their view that the seminar did not reach meaningful conclusions on any policy item. Although de Rosen believed the seminar had been successful, it had little-to-no impact on the international environmental governance of cars and motoring. The UNEP did initiate discussions between a leading expert from the US EPA, Eric Stork, and the Italian chair of WP 29 Giacomo Poggi in 1977, on the issue of standardizing methods for emissions testing, measuring, and analysis on a global basis. Nonetheless, after initial considerations of what parties should finance the studies required for developing a global standard, the discussions stranded.⁷⁹

Nevertheless, the UNEP seminar, in all likelihood, had a catalyzing effect on the car industry's own policy development. The industry was in the middle of a deep sense-making process of thinking about the structural and political impact of the mutually reinforcing crises facing it. It needed to polarize discussions on the future of the car industry as well as on regulation, in opposition to policymakers and doomsayers at national and international levels, but also mobilize forcefully against a potential regulatory development that could make it even more difficult for the industry to escape these crises. For this process the seminar was timely, because it focused attention on broad policy issues that were relevant not just for individual firms or national industries, but also for the industry as a whole. In organizing across national boundaries, industries used the materials produced and the arguments developed in international cooperation as tools for influencing policy developments both nationally and internationally. SCIA, for instance, organized several campaigns during the late 1970s and early 1980s in which the industry aimed at mobilizing public opinion, the goal being to, among other things, convince policymakers to coordinate Sweden's regulatory development with that of Europe.⁸⁰

Conclusions

As this chapter has demonstrated, car company CEOs, the BPICA, and national car industry associations clearly viewed the UNEP seminar as a failure. BPICA's members were already skeptical prior to the seminar, not least owing to UNEP's communication concerning its role in governing cars and the environment as well as the policy position communicated in the seminar's introductory report. Through its major member associations, the federation organized a collective counterattack, notably by establishing the Motor Vehicle in Society Committee to develop policy-relevant material. To explain this development, this chapter has employed the concept of polycrisis. Indeed, the compound crises of the 1970s were at the origin of the "crack" in UN environmental governance. The story told in this chapter situates the energy crisis as one of the most important components of the polycrisis because it, to many, served as a confirmation of the limits-to-growth hypothesis while energy emerged as a policy area in its own right. The uncertainty as to how the various crises would interact,

develop, and affect the business of car manufacturing created additional and powerful incentives for the industry to organize collectively and proactively, both to make sense of its own future and to influence policy. These were major reasons why business leaders, for instance, in the car industry, began mobilizing against what they considered to be pessimistic narratives about limits as well as against the contemporary connection between limits and forceful government regulation. Moreover, the energy crisis restructured the thinking on regulation of the environmental impact of cars. Before the first oil price shock, better emissions control and safer vehicles could be pursued primarily with consideration to industry profitability and vehicle performance, but without conflicting with energy policy. After the oil price shock, energy emerged as a new salient political issue next to air pollution control and safety issues. Before the energy crisis, governments were primarily in charge of planning the rate at which the car industry was to become cleaner or safer. After the crisis, the role of governments changed, and regulators increasingly had to accept business-driven solutions to solving the tradeoffs of energy, environment, safety, and profitability. The politics of regulating the industry was thus complicated by the addition of energy as a new dimension to the environment-safety-profitability mix, bringing about even more political conflicts concerning what goals to prioritize. As the UNEP seminar reveals, the emergence of this new dynamic was not immediately evident to all actors. Thus, in his introductory report, Gustav Ekberg, the UNEP expert on cars and the environment, seemingly maintained that governments alone could command cleaner, safer, and more energy efficient vehicles without having to account for the technical tradeoffs involved.

This is not to suggest that self-governance became the new norm in the car industry, which is probably still one of the industries most regulated by mandatory standards.⁸¹ Contrary to what Bergquist and David have shown in relation to the ICC's position on industry self-regulation, the car industry never advocated for a complete overturn of the existing regulatory regime. In an oligopolistic business such as car manufacturing, regulations helped keep new competitors out of the market. Moreover, the negative externalities of motoring, relating to air pollution and car accidents, generated strong public pressure on governments to continue to regulate cars. Nevertheless, car manufacturers could exploit the emergent crack in global environmental governance by requiring regulators to take into consideration a more complex mix of requirements, thereby positioning themselves as even more important experts and stakeholders at the center of regulatory development. While it cannot be argued that the many crises of the 1970s were necessary or sufficient conditions for the shift in global environmental governance between 1972 and 1992, the case explored here reveals that they created misalignment in the established regime governing cars and the environment. For business, the polycrisis acted as a starting point for organizing internationally and was used to demonstrate to regulators the need for change.

Notes

- 1 I wish to thank the volume editors and Grace Ballor for their constructive comments on earlier versions of this chapter.
- 2 Letter from Maurice F. Strong to Sven Gerentz 25 July 1975, Part 1, UNEP Bilseminarium 1976, Archives of the Swedish Car Industry Association (hencefort ASCIA).
- 3 Letter from Pehr G. Gyllenhammar to Kurt Waldheim 2 November 1976, Part 5, UNEP Bilseminarium 1976, ASCIA.
- 4 Ann-Kristin Bergquist and Mattias Näsman, "Safe Before Green! The Greening of Volvo Cars in the 1970s–1990s," *Enterprise and Society* 24, no. 1 (2023): 59–89.
- 5 In addition to Bergquist and Näsman, "Safe Before Green," see, Robert W. Crandall, Howard K. Gruenspecht, Theodore E. Keeler and Lester B. Lave, *Regulating the Automobile* (The Brookings Institution, 1986).
- 6 For a discussion on this, see Mattias Näsman, "The Political Economy of Emission Standards: Politics, business and the making of Swedish and European emission standards, 1960–1980s" (PhD diss., Umeå University, 2021), 8.
- 7 Letter from Pehr G. Gyllenhammar to Kurt Waldheim 2 November 1976, Part 5, UNEP Bilseminarium 1976, ASCIA.
- 8 Seminars were conducted for the pulp and paper industry (Paris, March 1975), aluminum (Paris, October 1975), motor vehicles (Paris, December 1976), agriculture, (Rome, January 1977), petroleum (Paris, March 1977), iron and steel (Geneva, October 1978) and the chemicals industry (Geneva, May 1979).
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- 10 Huf, Sluga, and Selchow, "Business and the Planetary History of International Environmental Governance in the 1970s," 566–567.
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- 12 Bergquist and David, "Beyond Planetary Limits! The International Chamber of Commerce, the United Nations, and the Invention of Sustainable Development," 509.
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- 14 Näsman, "Political Economy of Emission Standards."
- 15 Näsman, "Political Economy of Emission Standards." See specifically, 36–39.
- 16 Such as the simultaneous crises of the COVID-19 pandemic, the war in Ukraine, and climate change. See, e.g., Adam Tooze, *Shutdown: How Covid Shook the World's Economy* (Viking, 2021).
- 17 Jonathan Zeitlin, Francesco Nicoli, and Brigid Laffan, "The European Union beyond the Polycrisis? Integration and Politicization in an Age of Shifting Cleavages," *Journal of European Public Policy* 26, no. 7 (2019): 963–976, here 964.
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- 19 World Motor Vehicle Data 1982, Motor Vehicle Manufacturers Association of the United States [MVMA], 32.
- 20 World Motor Vehicle Data 1992, MVMA, 122, 348, 353.
- 21 Daniel T Jones, *Maturity and Crisis in the European Car Industry: Structural Change and Public Policy* (SERC, 1981), 93.

- 22 Translated by the author. Volvo annual report 1974, Vardagstryck, Swedish Royal Library, 3, 9.
- 23 See, e.g., Elisabetta Bini, Giuliano Garavini, and Federico Romero, eds., *Oil Shock: the 1973 Crisis and Its Economic Legacy* (I.B. Tauris, 2016).
- 24 Donella H. Meadows, Dennis L. Meadows, Jørgen Randers, and William Behrens III, *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind* (Universe Books, 1972).
- 25 Henry C. Wallich, "The Limits to Growth Revisited," *Challenge* 25, no. 4 (1982): 36–42. See also Odinn Melsted's chapter in this volume.
- 26 See, Alan Altshuler and James Womack, *The Future of the Automobile: The Report of MIT's International Automobile Program* (MIT Press, 1984), 48.
- 27 Translated by the author. "Energiberedskapsutredningen, hearing," Styrelsemeddelande 48/1974, ASCIA, 1–2.
- 28 Thomas C. Hoerber, *The Origins of Energy and Environmental Policy in Europe: The Beginnings of a European Environmental Conscience* (Routledge, 2013).
- 29 See Näsman, "Political Economy of Emission Standards," 206–208.
- 30 See Näsman, "Political Economy of Emission Standards," 206–208.
- 31 See SOU 1975:60, *Energiberedskap för kristid* (Ministry of Commerce, 1975), 101–105.
- 32 Jones, *Maturity and Crisis*, 9.
- 33 Miranda A. Schreurs, *Environmental Politics in Japan, Germany, and the United States* (Cambridge University Press, 2002), 60–61.
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- 35 Tom McCarthy, *Auto Mania: Cars, Consumers, and the Environment* (Yale University Press, 2007), 217.
- 36 See Näsman, "Political Economy of Emission Standards," Chapter 10.
- 37 "Copy of the letter sent by the President of B.P.I.C.A to the Secretary General, United Nations," attached to tekniskt meddelande 53/1968, ASCIA.
- 38 Sveriges Automobilindustriförening, Verksamhetsberättelse 1958, ASCIA, 4.
- 39 Näsman, "Political Economy of Emission Standards."
- 40 Translated by the author. Board minutes 24 August 1967, ASCIA, 1–3.
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- 47 Board minutes 5 June 1974, ASCIA, 10.
- 48 McCarthy, *Auto Mania*, 217.
- 49 Translated by the author. "Energiberedskapsutredningen, hearing," Styrelsemeddelande 48/1974, ASCIA, 5.
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- 51 "BPICA:s höstsammanträde 1974," attached to tekniskt meddelande 97/1974, ASCIA, 2.
- 52 See Näsman, "Political Economy of Emission Standards."
- 53 "Report of the Working Group of Rapporteurs on Air Pollution (GRPA) on Its Eighth Session," box 97, internationella sekretariatet, dossier F2, Kommunikationsdepartementets arkiv, Swedish National Archives, 4.
- 54 "BPICA:s höstsammanträde 1974," attached to tekniskt meddelande 97/1974, ASCIA, 4–5.
- 55 "BPICA:s höstsammanträde 1974," attached to tekniskt meddelande 97/1974, ASCIA, 2–3.
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- 57 Board minutes 3 September 1975, ASCIA, 3; Sveriges bilindustri- och bilgrossistförening, Verksamhetsberättelse 1975, ASCIA, 27.
- 58 "Motor Vehicles and Environment. Introductory Report Prepared for UNEP by Gustav Ekberg, Sweden," Part 3, UNEP Bilseminarium 1976, ASCIA, 5 and 6.
- 59 "Motor Vehicles and Environment. Introductory Report Prepared for UNEP by Gustav Ekberg, Sweden," Part 3, UNEP Bilseminarium 1976, ASCIA, 10.
- 60 "Motor Vehicles and Environment. Introductory Report Prepared for UNEP by Gustav Ekberg, Sweden," Part 3, UNEP Bilseminarium 1976, ASCIA, 11.
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- 62 "Motor Vehicles and Environment. Introductory Report Prepared for UNEP by Gustav Ekberg, Sweden," Part 3, UNEP Bilseminarium 1976, ASCIA, 53.
- 63 "Motor Vehicles and Environment. Introductory Report Prepared for UNEP by Gustav Ekberg, Sweden," Part 3, UNEP Bilseminarium 1976, ASCIA, 55.
- 64 "BPICA Reply to the Questions Raised in the U.N.E.P. Questionnaire," Part 2, UNEP Bilseminarium 1976, ASCIA, 3.
- 65 "BPICA Reply to the Questions Raised in the U.N.E.P. Questionnaire," Part 2, UNEP Bilseminarium 1976, ASCIA, 4.
- 66 "BPICA Reply to the Questions Raised in the U.N.E.P. Questionnaire," Part 2, UNEP Bilseminarium 1976, ASCIA, 7.
- 67 "BPICA Reply to the Questions Raised in the U.N.E.P. Questionnaire," Part 2, UNEP Bilseminarium 1976, ASCIA, 10–12.
- 68 Letter from Maurice F. Strong to Sven Gerentz 25 July 1975, Part 1, UNEP Bilseminarium 1976, ASCIA.
- 69 Letter from Léon de Rosen to Sven Gerentz 10 June 1976, "UNEP Motor Vehicle Seminar," Part 1, UNEP Bilseminarium 1976, ASCIA.
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- 73 "BPICA reply to the questions raised in the U.N.E.P. questionnaire," Part 2, UNEP Bilseminarium 1976, ASCIA, 13.
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- 75 Letter from Rudolfo Biscaretti to Léon de Rosen 7 December 1976, Part 5, UNEP Bilseminarium 1976, ASCIA.

- 76 Jonas Gawell, personal notes 4 October 1976, “Angående UNEP-seminariet,” Part 6, UNEP Bilseminarium 1976, ASCIA.
- 77 Letter from Léon de Rosen to Rudolfo Biscaretti 27 December 1976, Part 5, UNEP Bilseminarium 1976, ASCIA.
- 78 See annex I to “Final report of the Motor Vehicle Seminar,” Part 6, UNEP Bilseminarium 1976, ASCIA, 2–3.
- 79 See documents, “TSV ang WP 29 – rapport,” tekniskt meddelande 17/1978, ASCIA; “Rapport från ECE:s rapportörgrupp för bilavgaser,” tekniskt meddelande 18/1978, ASCIA, 6; and “Aktuellt inom WP29 och BPICA:s tekniska kommitté,” tekniskt meddelande 66/1981, ASCIA, annex 1, 3.
- 80 See Näsman, “Political Economy of Emission Standards,” Chapters 9 and 10.
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5 Exxon and Climate Change

Navigating Internal Dissent in the Context of the Reagan Administration's Environmental Deregulation Agenda

Audrey Loetscher

Introduction: New Insights on Climate Denialism¹

Exxon's production of scientific expertise and its involvement in climate denialism has been at the center of recent public and legal controversies. In 2015, the non-profit news organization *Inside Climate News* (ICN) published the results of its eight-month investigation into the company, titled *Exxon: The Road Not Taken*.² Based on archival material, including Exxon's own historical archives at the University of Texas at Austin, interviews with former employees, scientists, and officials, the investigation centers on Exxon's carbon dioxide (CO₂) research activity between 1977 and 1986. That same year, the *Los Angeles Times*, together with the Columbia University School of Journalism, conducted a distinct but similar investigation, further highlighting Exxon's leadership in CO₂ research and climate modeling in particular.³ Both investigations prompted a social media campaign under the hashtag #Exxonknew, which snowballed into the legal world when attorney generals of various cities and counties across the country began filing lawsuits against ExxonMobil, and other oil conglomerates such as Chevron, Shell, and BP.

The main question driving these legal challenges centers around the notion of responsibility, which requires litigants to demonstrate that Exxon and the other major oil corporations knew of climate change and to construct a timeline of their knowledge and actions.⁴ According to ICN journalists, the Exxon Corporation's own scientists had initially produced unbiased and solid research on the greenhouse effect, as climate change was known then, and they had published their results in scientific journals. Exxon's strategy, from the late 1970s to the early 1980s, was to position itself as a leader and expert on climate change. But, starting in 1989, company executives began contradicting their own in-house results and the predictions of the models their scientists had developed, orchestrating a decade-long denial campaign. This is the argument presented in the ICN articles, and it was echoed by historian of science Naomi Oreskes in an opinion piece she wrote for the *New York Times*, and by environmental sociologist Ronald Kramer

in his book *Carbon Criminals, Climate Crimes*.⁵ To be sure, 1989 marks a turning point in the political history of climate change: while it witnessed the fall of the Berlin Wall and the start of a new geopolitical era, that year also saw the founding of one of the industry's front groups, the Global Climate Coalition (GCC), whose primary goal was to advance the fossil fuel industry's interests and to promote a "skeptical" approach to the science of climate change.⁶

However, based on various scientific reports and correspondence from the company's archival records, this chapter shows that Exxon executives' change of heart occurred as early as 1981, and that the Reagan administration's turn against science contributed to this outcome.⁷ Indeed, the Reagan administration's deregulation agenda created a political environment that emboldened corporate actors like Exxon to abandon their earlier, more science-driven approach in favor of a strategy that emphasized uncertainty and delayed regulatory intervention. Thus, Reagan officials not only influenced a significant ideological transformation within the Republican party but also provided the political framework within which Exxon and other fossil fuel companies could strategically resist emerging climate regulations, fostering a legacy of environmental skepticism and climate denial that continues to shape U.S. environmental policy to this day. Moreover, while the empirical evidence provided in this chapter may appear as a detail in the larger narrative seeking to prove that Exxon knew of the harm caused by its product, it is a damning one in terms of Exxon executives' moral culpability. It shows that Exxon's upper management never allowed free research for the sake of it, but only did so temporarily and for a brief period of time when it needed accurate results to assess the threat to its business. The fact that only two years into the research, executives ordered budget cuts into the company's CO₂ research program demonstrates that they knew enough to see how serious the threat was to their industry (and obviously, to humanity as a whole). And yet, they chose to stay the course, emphasize uncertainty, and highlight climate models' shortcomings, instead of joining the chorus of scientists who had begun to alert the political world to the threat. Finally, this story is also an important one to tell, as it sheds light on the inner workings of a corporation and shows a variety of behaviors within the same entity, depending on the actors' professional backgrounds and the departments considered. It is relevant to better understand the constraints that in-house corporate scientists have faced, not least because of the increasingly significant role private-funded research has played in the U.S. context.

The Origins of Exxon's Disinvestment in Climate Science

The election of Ronald Reagan to the U.S. presidency in November 1980 portended the rise of the New Right, and a change in the ideological nature of the Republican party, especially regarding environmental protection and regulation.⁸ As historian Andrew Isenberg and political scientist James Morton

Turner explain, over the course of the previous century, the Republican party had undergone what they call a “reversal.” Republicans went from championing conservation at the end of the nineteenth century and supporting environmental protection in the first half of the 1970s—when Congress enacted a series of major environmental laws sponsored by the Nixon administration—to taking the opposite direction starting in the 1980s, when the party began calling for environmental deregulation.⁹ The polarizing lens through which scientific expertise was viewed by Republican officials played an important role in their appraisal of climate change.¹⁰ Up until the 1980s, climate science had received consideration from both parties, and from a large swath of the electorate. The Reagan administration, however, began to characterize scientific results regarding climate change as politicized and skewed in favor of the Democratic political agenda. This resulted in the somewhat awkward association of scientists with environmentalists, as these groups reluctantly joined forces to confront a resolutely anti-science administration and engaged in what historian Joshua Howe calls “a politics of dissent.”¹¹

Meanwhile, the administration’s close ties to industry, especially the fossil fuel sector, catalyzed the reversal in the U.S. Republican Party’s stance on environmental issues, marking the beginning of a decade-long alignment with corporate interests that sought to undermine scientific consensus on climate change. Exxon Corporation was one of the most influential business actors in this regard. At the beginning of the 1980s it was the United States’ wealthiest firm. In 1999 it would merge with Mobil, another powerful U.S.-based oil multinational, and become ExxonMobil, one of the world’s largest oil and gas companies today.

The first blow to Exxon’s CO₂ research program came in January 1981, in the form of an assessment report of what was called the “Atmospheric CO₂ Scoping Study.” The research program had been launched just two years earlier in one of its subsidiaries, Exxon’s Research and Engineering Company (ER&E). The 1981 report recommended not implementing the next phase of the “high-impact” research program on atmospheric CO₂, deeming “the ER&E projects underway and [those] planned on atmospheric CO₂ R&D [...] adequate to serve Exxon needs.”¹² The report mentioned a five-point rationale for Exxon’s involvement in CO₂ research: to “make an early assessment of the possible impact of the greenhouse effect on Exxon’s business,” “develop expertise to evaluate Government programs,” “provide the Government with high quality information to reduce the business risk of poorly formulated Government policy,” “generate important scientific information that will enhance the Exxon image and provide public relations value,” and finally, to “form a responsible team that can credibly carry bad news, if any, to the Corporation.”¹³ The January 1981 report was therefore not a call to disengage from all research into CO₂, and ongoing projects were maintained, at least initially. But as later records show, Exxon soon abandoned large, experimental research projects, such as the ocean sampling project carried out aboard one of its tankers, the Atlantic Esso, to prioritize the mathematical

modeling of climate change. Executives understood that “these predictions will influence the perception of the problem by key groups such as Congress, Federal R&D groups, and the public.”¹⁴ This type of theoretical research also required fewer financial and human resources. But more importantly, and as an overview of the domestic legislative situation presented in the final section of the January 1981 report attests, the authors noted that “no near term threat of legislation to control CO₂” existed, for “it has not yet been proven that the increases in atmospheric CO₂ constitute a serious problem that requires immediate action.”¹⁵ As these documents make clear, in the days before the new Reagan administration took office, Exxon was still interested in funding research on CO₂ tailored to its needs and anticipated the wind of change with respect to regulatory pressure in the environmental domain. The company leaders were correct to foresee such a shift: once in power, Reagan appointed Anne Gorsuch as the administrator of the U.S. Environmental Protection Agency, a deregulatory zealot who drastically reduced the agency’s staff and budget.

In May 1981, Henry Shaw, a science manager at Exxon’s ER&E, volunteered to provide a “position statement” on CO₂ to Edward David, the president of ER&E and Richard Nixon’s science advisor from 1970 to 1973, who was scheduled to attend a public event.¹⁶ In his memo, Shaw underlined the timescale which, he believed, or wanted the audience to believe, applied to climate change. He predicted that the increase in the average global temperature would not be measurable, i.e. distinguishable from normal climatic variations, before the turn of the century. This claim was substantiated by atmospheric scientist James Hansen, employed by Columbia University, and his colleagues in a *Science* article, published three months later, in August 1981.¹⁷ Contrary to Hansen though, Shaw concluded that “there [was] sufficient time to study the problem before corrective action is required.”¹⁸ He added that “effective energy conservation and high price for fossil fuels over the last few years have now delayed the projected doubling time of CO₂ [to] about 100 years.”¹⁹ This was a fallacious statement, as it said nothing of growing consumption levels of fossil fuels, and the unpredictability of future economic conditions, which made predictions about the levels of CO₂ emissions a century away very uncertain. Nevertheless, these projections allowed Shaw to conclude that the problem’s extended duration would give “time for an orderly transition to non-fossil fuel technologies should restrictions on fossil fuel use be deemed necessary.”²⁰ Yet Shaw also explained that Exxon scientists’ calculations projected that, from the 15 percent increase observed since 1957, CO₂ levels would reach 380 ppm by the year 2000, and that Exxon scientists expected a 3°C temperature rise of the global average temperature and an increase of 10°C at the poles following a doubling of CO₂. Consequences included major shifts in rainfall and agriculture, and polar ice melt.²¹ While these were rather alarming potential future developments, Shaw reiterated his claim that the doubling of atmospheric CO₂ levels would not occur before another full century had elapsed, dismissing any sense of urgency that the issue might have raised. As this internal

document attests, in the early 1980s, Exxon's official public position on the matter did not underline uncertainty or called climate change a non-issue, but it insisted on the long timespan between the discovery of the problem and the first detections of its effects, which allowed executives to defend a wait-and-see policy. The pace of policymaking regarding climate change would, after all, be determined by the way societal actors, i.e. companies, politicians, and environmental movements, framed the meaning of scientific evidence. In this sense, Exxon benefited from the discourse of the Reagan administration, which depicted environmental and climate concerns as overblown.

While Exxon's public message focused on the timeframe of the issue to quell any legislative impulse, the question proved to be a thorny one within the company, giving rise to internal dissent. In the summer of 1981, Maurice Edwin James "Morey" O'Loughlin, a senior vice-president on Exxon's Management Committee, had asked for ER&E's opinion on the subject. Specifically, he was interested in the possible consequences of the Corporate Planning Department's projections for fossil fuel combustion levels until 2030 in relation to climate change and acid rain. Although O'Loughlin was not calling for an extensive review of the literature, his query signaled an awareness and interest for the CO₂ issue at the highest levels of the corporation. One of the department's scientists, Werner Glass, produced a draft response on behalf of ER&E president Edward David, which greatly downplayed the issue, stating that "much is still unknown about the sources and sinks for atmospheric CO₂, as well as about the climatic effect of increasing CO₂ levels [...] so that prognostications remain highly speculative."²² Glass acknowledged that "models that appear most credible (to us) do predict measurable changes in temperature, rainfall pattern and sea-level by the year 2030 for the postulated fossil fuel combustion rates," but he quickly added that expected changes were "of a magnitude well short of catastrophic and probably below the magnitude that need trigger otherwise noneconomic responses to the problem of energy supply."²³ By noneconomic, Glass certainly meant interventionist, state-sponsored regulatory measures, as opposed to letting the market operate without any governmental intervention. In his review of the proposed draft response to O'Loughlin, another Exxon scientist, Roger Cohen, expressed uneasiness at Glass's suggestion that changes would not be catastrophic, writing that the latter's statement "may be too reassuring."²⁴ Cohen argued that projections of oil consumption after the year 2000 were not credible, because by that time, "we will unambiguously recognize the threat [...] because of advances in climate modeling and the beginning of real experimental confirmation of the CO₂ effect."²⁵ As such, Cohen deemed predictions based on oil availability and economics "hazardous," and he invited Glass's revised reply to include a statement about "the strong evidence for a delayed CO₂ effect of a truly substantial magnitude."²⁶ As this letter attests, halfway into 1981, internal disagreement between Exxon's in-house scientists and the company's upper echelons over the severity of climate change's repercussions had begun to quietly simmer.

In March 1982, the American Petroleum Institute (API), the oil and gas industry's main trade association, received a report it had commissioned to the Lamont-Doherty Geological Observatory at Columbia University, entitled *Climate Models and CO₂ Warming: A Selective Review and Summary*. Exxon had partnered with the institute and funded research done by two of its geochemists, Wallace Broecker and Taro Takahashi. Consequently, this state of the art was necessarily known to Exxon's executive team. The report reviewed and assessed five types of climate models, from the simplest to the most complex and advanced ones, which were the General Circulation Models (GCMs). Except for one, all the models predicted an increase in the global mean temperature of the earth of 2°C–3.5°C for a doubling of CO₂ concentrations in the atmosphere.²⁷ Yet in a brief summary, the authors wrote that "it seems clear from the discussion herein that all models are still sufficiently unrealistic that a definitive evaluation of the problem requires continued effort."²⁸ More to the point for the API, Broecker and Takashi also stated that "optimum forecasting of climate changes is a necessity for any realistic long term planning by government and industry," and that "there is sufficient uncertainty in the range of predictions to leave the consequences of the CO₂ doubling in considerable doubt."²⁹ Models are mathematical descriptions of the ocean-atmosphere system run on computers. As such, they necessarily generate imperfect simulations of highly complex systems such as the ocean-atmosphere one, and uncertainty is inevitable. Ignoring the exact contours of global warming did not allow one to conclude that the problem did not exist or that no preventive measure ought to be taken. But oil industry executives anticipated that models might influence long-term government planning and policy choices, and they therefore chose to capitalize on climate models' inherent weaknesses. Whether inadvertently or because they responded to cues about what the API wanted to hear, the Lamont-Doherty researchers provided oil corporations with a potent weapon: doubt.

In line with their decision not to advance to phase II of the research plan outlined in the 1981 "Atmospheric Scoping Study," and despite growing evidence of the adverse effects of rising CO₂ emissions, Exxon executives decided to slash funding for in-house research on the greenhouse effect. In a letter dated June 1982, immediate cuts were announced and the 1982 budget was reduced from \$900,000 for the year to \$385,000, while funds for 1983 were brought down to \$150,000, an 83 percent decrease.³⁰ Although the early 1980s witnessed a deep recession, and an oil glut was driving prices down, this was hardly a sufficient explanation for Exxon's to defund research on global warming, especially considering that the company's total research budget at the time amounted to more than \$600 million.³¹ The severe cuts illustrate the company's senior management's change of priorities, from a willingness to contribute to the body of knowledge on climate change, to a decision to merely monitor the science produced elsewhere.³² Exxon's willingness to pursue research on CO₂ had unmistakably weakened early in Reagan's first term.³³

One letter from Exxon scientist Roger Cohen to Alvin M. Natkin, an environmental affairs coordinator in Exxon's Science and Technology Office dated

2 September 1982 particularly attests to the continuing tensions between the company's various departments. The content of the letter appears to indicate that Cohen, as the lead researcher, found himself in a particularly difficult position. He was careful to insist on the scientific consensus on climate change, a consensus bolstered by his own department's findings. Departing from the emphasis on uncertainty displayed in the Lamont-Doherty report to the API, Cohen first acknowledged the "considerable variation" in the various climate models' quantitative predictions, but then immediately referred to "a clear scientific consensus [...] regarding the expected climatic effects of increased atmospheric CO₂," and wrote that "the consensus is that a doubling of atmospheric CO₂ from its pre-industrial revolution value would result in an average global temperature rise of $(3.0 \pm 1.5)^{\circ}\text{C}$."³⁴ He further insisted on the "unanimous agreement in the scientific community that a temperature increase of this magnitude would bring about significant changes in the earth's climate, including rainfall distribution and alterations in the biosphere."³⁵ Displaying scientific integrity, Cohen discussed positions taken by some scientists that questioned the validity of the predictions of the models as well as different proposals made about possible mitigating effects. In a tone that did not leave room for doubt, Cohen concluded that "the results of our research are in accord with the scientific consensus on the effect of increased atmospheric CO₂ on climate," and he explained that his department intended on presenting these results to the scientific community "through the usual mechanisms of conference presentations and publications in appropriate journals."³⁶ The letter did not stop here, however, and the final paragraph further demonstrates how much the Exxon scientist appeared to have been walking on eggshells. Referring to a previous meeting the week before between ER&E and the public affairs department, he recognized that publishing these findings might attract negative publicity:

Despite the fact that our results are in accord with those of most researchers in the field and are subject to the same uncertainties, it was recognized that it is possible for these results to be distorted or blown out of proportion.³⁷

But, Cohen insisted, the "consensus position" was that Exxon had an interest in continuing this line of research in order to both understand how future scenarios might impact its business and to provide the company with "the credentials required to speak with authority in this area."³⁸ In concluding his appeal, Cohen referred to "Exxon's public position and ethical credo on honesty and integrity," both of which he perhaps knew were already in jeopardy.³⁹

Public Discourse versus Internal Scientific Knowledge

While the records show internal disagreement between Exxon executives and some of its own heads of research and scientists over the best course of action

regarding in-house research on the CO₂ question, the company presented a united front in the public sphere, which consisted in acknowledging the issue while drawing attention to the uncertainties surrounding climate change science. In October 1982, Edward David, the head of the research department, gave a presentation at a symposium supported by Exxon. His talk, "Inventing the Future: Energy and the CO₂ 'Greenhouse' Effect," proved a difficult exercise in carefully balancing opposite points of view, while promoting the company's position. On one hand, David acknowledged climate change. He did that reluctantly, declaring that "the scientific community is apparently reaching some consensus about the general mechanisms of the greenhouse effect," a fact settled by nineteenth-century physicists.⁴⁰ This was very different from recognizing that, as Exxon's own scientists had demonstrated, most advanced models were predicting a significant global warming. In a barb to the academic scientists attending the workshop, David pointed out that "man does not have the gift of prophecy," as if mathematical modeling amounted to no more than an exercise in chiromancy.⁴¹ However guarded his acknowledgment was, it still was not comparable to the position Exxon would take on the subject starting in the early 1990s, which was to flatly deny the existence of a problem. David also conceded that "few people doubt that the world has entered an energy transition away from dependence upon fossil fuels and toward some mix of renewable resources," which was a remarkable comment on the part of one of the major investor-owned oil corporations.⁴²

That said, the talk was also a lobbying opportunity, and David employed his time to dismiss any calls for immediate action. He insisted on the long period of time before the first effects of the temperature increase would manifest themselves. He also spoke of the technological breakthroughs in energy conservation and the drop in global fossil fuel consumption driven by price increases as reasons for not expecting a doubling of atmospheric CO₂ before another century had elapsed. Citing these factors as evidence that scientists could not predict "what people will do" was an attempt to once again emphasize the uncertainty, according to him, surrounding a significant variable in the equation, namely "how fast the buildup will occur."⁴³ Regarding the sharp increase in fossil fuel consumption announced by Exxon's own predictions, David stated that "our estimate is that the doubling of atmospheric CO₂ levels might occur sometime late in the 21st century," and that "assuming the greenhouse effect occurs, rising CO₂ concentrations might begin to induce climatic changes around the middle of the 21st century."⁴⁴ While climatic changes would increase in severity as CO₂ concentrations built up in the atmosphere (assuming fossil fuel emissions continued unabated), David's latter statement omitted an uncomfortable parameter, namely that the consequences of climate change would be felt sooner than 2050, findings with which Exxon's own scientists concurred. That claim, however, challenged his argument, as his goal was to underscore the supposed extended

duration at society's disposal to further research the issue before taking any measures. In his view:

the real point of these extrapolations is to get an understanding of how soon the problem may become serious enough to require action—and the lesson is that [...] we can still afford further research on the problem [before society has] to contend with the problem.⁴⁵

In line with what historians of science Naomi Oreskes and Erik Conway call “free market fundamentalism,” David impressed on his audience the imperious need to reject any major governmental intervention into the energy market, asserting that “any manager or government planner would err seriously by masterminding a plan based unalterably on some vision of the future.”⁴⁶ Invoking the 100th anniversary of the company, David explained that the massive transformations in the field of energy and transportation had been driven primarily by “technology and economic markets,” and he intended that to remain the guiding principle for the next energy transition.⁴⁷

Three weeks after David gave his talk at the Ewing Symposium, in November 1982, Exxon circulated an internal report on the “CO₂ ‘Greenhouse’ effect” to its personnel. In the accompanying letter, the company recognized that climate change was “receiving increased attention in both the scientific and popular press as an emerging environmental issue.”⁴⁸ The thirty-nine-page document was an in-depth, if rather biased, presentation of the problem and of the science. It was not signed, but most probably represented an aggregate of various contributions from ER&E, resulting in a somewhat puzzling document. While some figures and paragraphs described the seriousness of the subject and the adverse consequences of global warming, the overall message consisted in emphasizing the remaining uncertainties, at times questioning whether there would be a warming at all, and more generally arguing that the right course of action was to produce more research before considering any policy measure. While the two-page summary did not represent the report accurately, the effect was clear: it downplayed the severity of the issue and offered a more restrained view than what the bulk of the report suggested of how climate change should be dealt with. The authors stated that “considerable uncertainty also surrounds the possible impact on society of such a warming trend, should it occur.”⁴⁹ They added that a part of the impact on agriculture or rainfall patterns “could be beneficial in some regions and detrimental in others,” although they recognized that the least favorable scenarios predicted “the flooding of some coastal land masses as a result of a rise in sea level due to melting of the Antarctic ice sheet.”⁵⁰

The report stated that “there is currently no unambiguous scientific evidence that the earth is warming.”⁵¹ While this was true, as observed global temperatures remained within the range of natural climate variability, the report's graphs showed

a clear increase in the concentrations of atmospheric CO₂. All the scientific reports released up to that point had concluded that CO₂-induced global warming would occur—even if that warming had not been detected yet and its effects would not become visible before another twenty years had elapsed, because of an initial lag and inertia in the climate system. Exxon's own scientists had written, in 1981, that "the 'greenhouse effect' has become recognized [...] as a descriptor for a global warming effect due to build-up of CO₂ in the atmosphere," and that "an upward trend in CO₂ content is well documented through measurements since 1957 by weather stations of the United States Government."⁵² No such sobering assessment appeared in the document circulated to Exxon's employees. On the contrary, the last paragraph in the report's summary ended on a wishful note, unsupported by science, which claimed that "overall, the current outlook suggests potentially serious climate problems are not likely to occur until the late 21st century or perhaps beyond."⁵³ What this record illustrates is the discrepancy between the executive spheres of power at Exxon, and the rest of its employees. While executives' understanding of climate change and its repercussions reflected the scientific consensus, which was affirmed by the company's own researchers, it was not the view they chose to share with the bulk of Exxon employees. At the end of 1982, the tide had turned, and Exxon's position had shifted from one of open contribution to science, to an insistence on the uncertainties surrounding the issue.

Two presentations on the CO₂ research conducted by Exxon scientists give insight into executives' knowledge of and approach to the issue during the first term of the Reagan administration. In February 1984, Andrew Callegari, who had taken over the CO₂ research program in 1981, gave a conference presentation entitled "CO₂ Greenhouse and Climate Issues," in which he offered an overview of the corporate research program that confirmed the turn taken by Exxon, which had decided to favor climate modeling over conducting large-scale experiments.⁵⁴ His presentation further evidences Exxon's knowledge of global warming, as it included various figures illustrating the rise of atmospheric CO₂ from the 1950s to the early 1981, produced by gas, oil, coal, and fossil fuels.⁵⁵ Moreover, while insisting that the validity of models had not yet been established due to the "many approximations and parametrizations," Callegari included a graph taken from Hansen's 1981 *Science* article, which showed that climate change effects would become apparent by the turn of the century, and that the mean surface temperature would continue its sharp rise, leaving the range of natural variations starting in the 1990s.⁵⁶ A similar rhetorical strategy was also used by Henry Shaw during a presentation given in March 1984 at a conference, which shows a pattern.⁵⁷ Shaw reiterated that "there is adequate time to study the problem," and that "legislation is premature." At the same time, Exxon's management was alerting other oil majors to the gravity of the regulation threat at a meeting of the International Petroleum Industry Environmental Conservation Association (IPIECA) held in Houston in 1984.⁵⁸ Exxon did not concern itself with the

repercussions of a fossil-fuel-driven rise in atmospheric CO₂, but it sought to thwart any attempts at regulating CO₂ emissions at the national and international levels.

Exxon's Resolute Turn toward Climate Denialism

The second term of the Reagan administration marked an acceleration in Exxon's handling of climate change as a threat to its industry that needed to be firmly opposed. In a telling move, and as ICN journalists have reported, Exxon paused publications in peer-reviewed journals for five years, between 1986 and 1990.⁵⁹ This voluntary withdrawal from the scientific community clearly illustrates the completion of the shift in the company's policy toward climate change, which would culminate at the end of the decade with its resolution to cover up its own results and embark on a campaign of denial, led by the GCC and other front groups.⁶⁰ Founded in June 1989 under the aegis of the National Association of Manufacturers, the GCC was a consortium of trade organizations and individual corporations active in the fossil fuel industry, such as the automobile, the petrochemical, and the mining industries.⁶¹ Exxon only formally joined the GCC in 1992, although the API, of which it was part, was mentioned in a 1989 membership list.⁶² The GCC remained active until its dissolution in 2001, after several corporations rescinded their membership following growing public pressure, but not before it succeeded in thwarting international efforts at curbing emissions.

A presentation given in October 1985 by Brian Flannery, one of Exxon's leading climate modelers, on the CO₂ issue and the research conducted by Exxon, gives an overview of the company's research engagement at the time. More importantly, this document sheds light on what Exxon scientists knew about global warming, but also on what they thought remained unknown and how these areas of uncertainty could bolster the company's position on the question. Flannery centered his presentation on two ongoing research projects. One was the collaboration with Columbia University's Lamont-Doherty Earth Observatory, where Broecker and Takahashi, using data from a specially outfitted Exxon tanker, worked on developing a better understanding of the oceanic carbon cycle, and more specifically the sea-air exchange of CO₂ in the North Atlantic waters.⁶³ While the ocean constitutes a central variable in the climate system, whose role in the carbon cycle needed to be better understood, what appeared to have motivated Exxon in sponsoring research into the ocean/CO₂ relationship was the mechanism known as thermal buffering, or the fact that the ocean acts as a carbon sink, potentially delaying global warming by several decades. This was alarming news for everyone but the oil industry, which clearly stood to benefit if climate change's effects were delayed for another couple of decades because the absence of discernible effects, or at least, minimized effects, weakened climate change's political and legislative salience.

Exxon's executives had probably inferred that no domestic or international political action would derive from computerized, *potential* consequences of climate change, however serious and far-reaching models predicted them to be. The question, formulated by Flannery in his presentation, "why hasn't warming been observed?" further evidences the manifest interest of Exxon's executive team in the ocean's delaying of global warming.⁶⁴ He went on to explain, that "oceanic thermal buffering [was] much greater than found in previous studies."⁶⁵ Not only did this theory buy Exxon time before it had to profoundly alter its business model, but it also provided the company with a crucial piece for denying, or at least questioning the validity of model predictions.

The second research project mentioned by Flannery in the presentation he gave to Exxon's management in October 1985 further evidences the fact that Exxon had pivoted its research operations, from a willingness to understand the greenhouse effect in the late 1970s and early 1980s, to looking for blind spots or weaknesses in climate models that executives could exploit. The project mentioned by Flannery was a chapter in a 1985 Department of Energy (DoE) report co-authored with Martin Hoffert, a professor of physics at New York University and a consultant to the company from 1981 to 1987.⁶⁶ Like the rest of the volume, the paper was a review of the science of climate modeling and as such, highly technical in nature.⁶⁷ The contribution focused on transient climate models, or models that do not look to determine a new static climate equilibrium following changing levels of CO₂ concentration in the atmosphere, but are dynamic models that describe how the climate evolves to reach the new equilibrium state, such as the GCMs developed by Hansen and his team at the NASA Goddard Institute for Space Studies.⁶⁸

Recalling the research question underlying the study conducted at Lamont-Doherty on the ocean's role in the carbon cycle, one of the article's main threads was the question of "where and when a climate change is likely to be observed in the future."⁶⁹ One of the difficulties pertaining to transient models was that thermodynamics, the set of physical laws underlying climate science, does not allow scientists to draw conclusions regarding any systems' transient response (in this case, climate's response to rising atmospheric CO₂ concentrations). In other words, Flannery and Hoffert argued that, despite important research efforts, prevailing models at the time were unable to provide answers concerning the scope and magnitude of climate change. Climatic variations, caused by a variety of external factors (large-scale deforestation, emissions of trace greenhouse gases, variations in solar luminosity, and volcanic aerosols), had occurred throughout the earth's geological history, and it was not clear, according to Flannery and Hoffert, that a warming trend was underway at all. In the conclusion to their article, they cited the scientific consensus drawn from "transient climate models currently available, [which] indicate a warming of the order of 1°C by the year 2000, relative to the year 1850, and an additional 2–5°C warming over the next century," but they immediately shrouded that

consensus in layers of doubt, adding that “the sensitivity of such predictions to known uncertainties of the models—that is, the robustness of CO₂ warming predictions—has not yet been extensively explored.”⁷⁰ This claim, like the paper as a whole, was a subtle but clear attempt at challenging the validity of climate models.

In his presentation to Exxon’s managers, Flannery offered a summary of the DoE chapter’s findings, insisting on the fact that there were “major disagreement between models,” that global warming was “not yet confirmed by observation” and that “modern climate is forced by factors other than CO₂.”⁷¹ These claims were not false, *per se*, as models differed in their predictions, the recorded global mean temperature increase remained within the range of normal fluctuations at the time, and many elements outside of CO₂, natural and man-made, influence the climate system. Yet the growing concentration of CO₂ resulting from the combustion of fossil fuels had been and still was contributing to a steadfast warming of the lower atmosphere, and as a physicist and a climate modeler, Flannery understood that better than anyone else.⁷²

In a memo dated August 1988, Joseph Carlson, a public affairs manager at Exxon, acknowledged what the company had known for at least a decade by then, namely that the “greenhouse effect may be one of the most significant environmental issues for the 1990s” and that CO₂ constituted one the “gases that favor absorption of infrared radiation.”⁷³ Carlson’s memo declared that “the greenhouse effect [...] is essential to the support of life on earth,” and that what worried scientists was the “‘enhanced’ greenhouse effect,” so as to insist on the idea that global warming was the mere increase of a natural phenomenon, one essential to life on earth itself.⁷⁴ Carlson applied the same grain of doubt to climate models. In direct contradiction to Hansen’s congressional testimony two months earlier, Carlson stated that “it is too early to specify the severity of the potential impacts of the enhanced greenhouse effect.”⁷⁵

In his concluding remarks, Carlson reaffirmed Exxon’s position, which was to “emphasize the uncertainty in scientific conclusions regarding the potential enhanced Greenhouse effect,” as well as “urge a balanced scientific approach.”⁷⁶ However, in 1988, and although important aspects of climate models needed to be worked out, all serious scientific endeavors were pointing in one direction. Climate change was not a question of values, ideology, or policies: it was scientific evidence, and as such, required no “balancing” of opposite viewpoints. Carlson’s memo also reveals Exxon’s role in guiding the oil industry, by “providing leadership through API in developing the petroleum industry position.”⁷⁷ We know that Exxon succeeded in building a strong coalition. Just two years after its own research had confirmed fossil fuel emissions’ direct role in upsetting the climate system and shown that the corrective action implied a drastic curtailment of CO₂ emissions and the transition to low-carbon sources of energy, Exxon and the major actors in the oil industry opted for a wholesale rejection of science, and the spread of falsehood and misleading statements. In successful

unison through lobbying groups such as the George C. Marshall Institute, the GCC, and IPIECA, the oil industry not only “resisted the overstatement and sensationalization of potential greenhouse effect which could lead to noneconomic development of non-fossil fuel resources,” in Carlson’s words, but effectively contributed to prevent any meaningful political action on climate change.⁷⁸

Conclusion

The history of Exxon’s internal climate science research and its subsequent public stance on climate change reveals a profound dissonance between corporate knowledge and corporate action. From the late 1970s to the early 1980s, Exxon’s scientists conducted significant research, contributing to the scientific understanding of climate change. The company positioned itself as a leader in climate research, with its scientists publishing in reputable scientific journals and developing sophisticated models to predict the potential impact of fossil fuel emissions on global warming. However, this commitment to scientific inquiry was short-lived. By the early 1980s, a shift in corporate strategy began to emerge, driven by the recognition of the existential threat that climate regulations posed to Exxon’s business model. This profound change in Exxon’s strategy in relation to climate research was certainly favored by the context of Ronald Reagan’s presidency, as the Republican president pursued a strong anti-regulatory environmental policy. After taking office in January 1981, Reagan planned to close the DoE, increase coal production on federal lands, and deregulate surface coal mining. The defiance of the Reagan administration against science also increasingly legitimized Exxon’s reinterpretation of scientific uncertainty.

This chapter underscores that, as early as 1981, Exxon executives began to downplay the implications of their own research, strategically highlighting uncertainties in climate models to delay regulatory action. Despite internal reports acknowledging the likelihood of significant global warming, the company reduced funding for climate research and shifted its focus toward theoretical modeling, which required fewer resources and was easier to manipulate for public relations purposes. This marked a critical turning point, as Exxon transitioned from a company contributing to climate science to one that actively sought to cast doubt on it. By the mid-1980s, Exxon had fully aligned itself with a broader industry effort to deny climate change. This research highlights the paradox of Exxon’s internal recognition of climate risks while publicly promoting a narrative of uncertainty to thwart regulation. This dissonance between corporate knowledge and public messaging raises serious ethical concerns about the company’s role in shaping climate policy and delaying meaningful action, as well as the purpose of private-funded research. Exxon’s strategy to obscure science and amplify doubt has had long-lasting repercussions, contributing to decades of inaction on climate change that the world is grappling with today.

Notes

- 1 The author would like to thank Sabine Pitteloud, Sandra Bott, and Janick Marina Schaufelbuehl for their invaluable input and suggestions to the present chapter.
- 2 Neela Banerjee, David Hasemyer, Lisa Song, and John H. Cushman, *Exxon: The Road Not Taken* (Inside Climate News, 2015). The nine articles that form the e-book are also available on ICN's website: <https://insideclimatenews.org/news/16092015/exxons-own-research-confirmed-fossil-fuels-role-in-global-warming/>. The e-book gives access to the primary sources cited in the articles as well as additional material. Geoffrey Supran and Naomi Oreskes, in a 2017 study and a follow-up article published in 2020, examined ExxonMobil's public and private communications on climate change, finding a significant discrepancy between the two. Using textual content analysis, the authors analyzed over a thousand documents, such as advertisements in the *New York Times*, internal company reports, peer-reviewed articles, and other types of publications, and concluded that the corporation had misled the public about the issue before and after the 1999 merger. See Geoffrey Supran and Naomi Oreskes, "Assessing ExxonMobil's Climate Change Communications (1977–2014)," *Environmental Research Letters* 12 (2017): 1–18; Geoffrey Supran and Naomi Oreskes, "Addendum to 'Assessing ExxonMobil's Climate Change Communications (1977–2014),' " *Environmental Research Letters* 15 (2020): 1–18. Finally, using a similar line of inquiry, the Energy and Policy Institute documented electric utility companies' early knowledge of climate change. See David Anderson, Matt Kasper, and David Pomerantz, "Utilities Knew: Documenting Electric Utilities' Early Knowledge and Ongoing Deception on Climate Change from 1968–2017" (The Energy and Policy Institute, July 2017).
- 3 Ivan Penn, "California to Investigate Whether Exxon Mobil Lied about Climate Change Risks," *Los Angeles Times*, 20 January 2016; Amy Lieberman and Susanne Rust, "Big Oil Braced for Global Warming While It Fought Regulations," *Los Angeles Times*, 31 December 2015; Katie Jennings, Dino Grandoni, and Susanne Rust, "How Exxon Went from Leader to Skeptic on Climate Change Research," *Los Angeles Times*, 23 October 2015; Sara Jerving, Katie Jennings, Masako Melissa Hirsch, and Susanne Rust, "What Exxon Knew about the Earth's Melting Arctic," *Los Angeles Times*, 9 October 2015.
- 4 On the notion of climate liability, see Peter C. Frumhoff, Richard Heede, and Naomi Oreskes, "The Climate Responsibilities of Industrial Carbon Producers," *Climatic Change* 132 (2015): 157–171; Richard Heede, "Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854–2010," *Climatic Change* 122 (2014): 229–241.
- 5 See Banerjee et al., *Exxon*, 11; Naomi Oreskes, "Exxon's Climate Concealment," *New York Times*, 9 October 2015; Ronald C. Kramer, *Carbon Criminals, Climate Crimes* (Rutgers University Press, 2020).
- 6 See Naomi Oreskes and Erik Conway, *Merchants of Doubt: How a Handful of Scientist Obscured the Truth on Issues from Tobacco Smoke to Global Warming* (Bloomsbury Press, 2010), 36–65 and 169–215; Naomi Oreskes and Erik Conway, "Challenging Knowledge: How Climate Science Became a Victim of the Cold War," in *Agnotology: The Making and Unmaking of Ignorance*, edited by Robert N. Proctor and Londa Schiebinger (Stanford University Press, 2008), 55–89.
- 7 This chapter draws from the author's unpublished PhD thesis, Audrey Loetscher, *A History of Unsustainability: The U.S. Government, the Fossil Fuel Industry, and Climate Change (1957–1992)* (University of Lausanne, 2022). All the source material quoted in this chapter, which draws on Exxon's internal records, is accessible on the

- Climate Files, an archival database documenting more than twenty years of research by the Climate Investigations Center, *Inside Climate News* and *Los Angeles Times* investigative journalists. Primary source documents can be downloaded at <http://www.climatefiles.com/collection-index/>, accessed 10 October 2024.
- 8 On the Reagan administration's (attack on) environmental policy, see especially Judith A. Layzer, *Open for Business: Conservatives' Opposition to Environmental Regulation* (The MIT Press, 2012), 83–133; David Vogel, *Fluctuating Fortunes: the Political Power of Business in America* (Basic Books, 1992), 240–289; Samuel P. Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955–1985* (Cambridge University Press, 1987), 491–526; Jonathan Lash, *A Season of Spoils: The Reagan Administration's Attack on the Environment* (Pantheon Books, 1984).
 - 9 James Morton Turner and Andrew C. Isenberg, *The Republican Reversal: Conservatives and the Environment from Nixon to Trump* (Cambridge University Press, 2018).
 - 10 On Republicans' relationship to the environment, see Brian Drake, *Loving Nature, Fearing the State: Environmentalism and Antigovernment Politics Before Reagan* (Seattle University Press, 2013); Paul Sabin, *The Bet: Paul Ehrlich, Julian Simon, and Our Gamble over Earth's Future* (Yale University Press, 2013); Thomas G. Smith, *Green Republican: John Saylor and the Preservation of America's Wilderness* (University of Pittsburgh Press, 2006); Chris Mooney, *The Republican War on Science* (Basic Books, 2005); J. Brooks Flippin, *Nixon and the Environment* (University of New Mexico Press, 2000).
 - 11 Joshua P. Howe, *Behind the Curve: Science and the Politics of Global Warming* (University of Washington Press, 2014), 118–146.
 - 12 G. H. Long to P. J. Lucchesi et al., "Atmospheric CO₂ Scoping Study," 5 February 1981, The Climate Files (CF), 1.
 - 13 R. E. Barnum, "Scoping Study on CO₂," January 1981, CF, 9.
 - 14 R. E. Barnum, "Scoping Study on CO₂," January 1981, CF, 3.
 - 15 R. E. Barnum, "Scoping Study on CO₂," January 1981, CF, 13.
 - 16 Edward David became a climate change denier after retiring. See Banerjee et al., *Exxon*, 70–72.
 - 17 James Hansen, David W. Johnson, Andrew A. Lacis, S. Lebedeff, P. Lee, David Rind, and Gary L. Russell, "Climate Impact of Increasing Atmospheric Carbon Dioxide," *Science* 213, no. 4511 (1981): 957–966.
 - 18 Henry Shaw to E. E. David, Jr., "CO₂ Position Statement," 15 May 1981, CF, 2.
 - 19 Henry Shaw to E. E. David, Jr., "CO₂ Position Statement," 15 May 1981, CF, 2.
 - 20 Henry Shaw to E. E. David, Jr., "CO₂ Position Statement," 15 May 1981, CF, 2.
 - 21 Henry Shaw to E. E. David, Jr., "CO₂ Position Statement," 15 May 1981, CF, 2.
 - 22 W. Glass to J. F. Black, R. W. Cohen, S. A. Diamond, H. Shaw, 14 August 1981, CF, 2.
 - 23 W. Glass to J. F. Black, R. W. Cohen, S. A. Diamond, H. Shaw, 14 August 1981, CF, 2.
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6 Shaping Environmental Impact Assessment

The Brazilian Electricity Companies' Experience in Dam Construction during the 1970s

Nathalia Capellini

Introduction

Brazil is the second largest hydropower producer in the world, after China.¹ The construction of hydroelectric dams grew from the late 1950s onwards as a strategy to power the country's industrialization. This expansion came with numerous social and environmental impacts, which over time became a subject of public debate and state policy. This was notably the case during the military regime (1964–1985). This right-wing dictatorship sought to modernize the country by developing key industrial, agricultural, and extractive sectors in close collaboration with local and international capitalist interests, leading to a multiplication of dam projects. This chapter deals with the emergence of environmental management in hydroelectricity dam construction in that period, an activity that ultimately shaped the practice of Environmental Impact Assessment (EIA) in Brazil and influenced the legislation on the subject that emerged with democratization. Through the empirical analysis of the construction of the Tucuruí dam in the Amazon region, it questions how this type of management emerged and unfolded amid diverging economic interests and ecological controversies. Furthermore, it dwells on the role of science and expertise in mitigating social discontent, and on the concrete ways a company builds its environmental management know-how and communication strategy. This case-study shows how an economic sector—hydropower—dealt with a new issue—environment protection—and adapted to pressures coming from different actors ranging from civil society to international lending institutions. This chapter thereby offers new insights into the logics underlying the adoption and consolidation of EIA mechanisms and uncovers some reasons behind their current shortfalls.

An EIA is a policy procedure aimed at identifying the consequences of the implementation of certain infrastructures and activities on the bio-geo-physical environment, as well as their socio-economic effects and to avoid or mitigate them. To achieve its objectives, it must be conducted sufficiently ahead of a project's implementation. It gained notoriety with the passing of the United States

National Environmental Act in 1969, becoming one of the United States' most emulated policies.² Following the US example, several countries were quick to adopt laws including this type of instrument, such as Canada, New Zealand, Australia, Columbia, and France. Later, international organizations integrated EIA in their conditionalities, such as the International Development Bank in 1979, the European Union in 1985, and the World Bank (WB) four years later. By 1990, more than forty countries had legislations that included their use.³ Despite of their popularity, EIAs have many deficiencies. Most notably, studies and stakeholders point to poorly conducted assessments, inadequate consultation of the affected populations, lack of transparency, poor bureaucratic functioning, unsatisfactory results of actions taken, and important gaps between planning and execution.⁴ Consequently, after being promoted as a solution, EIA has itself become a contested policy tool.⁵ Nonetheless, it still remains the main framework employed by policymakers worldwide to deal with the consequences of dam construction.

The direct and indirect impacts of dams are numerous and have been widely documented.⁶ To give but some examples, the fragmentation of rivers disrupts their natural flow affecting sediment transportation and the biogeochemical cycles of river ecosystems. As such they pose a threat to the survival of aquatic fauna, and they can cause riverbank erosion as well as earthquakes. Dam reservoirs can cause siltation, changes in water quality, and impact flooded fauna, flora, and human communities. As research shows, they are also major emitters of green-house gases especially in tropical regions.⁷ Their negative social consequences range from property loss to the destruction of traditional ways of life. All in all, dams can deeply transform socio-economic and territorial dynamics. Moreover, they have been shown to foster corruption and participate in the extermination of indigenous communities.

Before the 1970s, hydroelectric dams had usually been built by their promoters without much questioning regarding their impacts on nature, landscapes, and the lives of humans and non-humans.⁸ The effects of these infrastructures were mostly considered positive (economic growth, urban electrification, industrial development) and negative fallouts were seen as minor problems or necessary sacrifices. From the mid-1960s onwards, criticism of large dams gained momentum and ecological contours. At the time, it was mostly researchers, scientists, and experts who pointed out the negative consequences of dams and questioned their comparative benefits. Over the following decades, other voices emerged, coming from activist networks and grassroots movements embedded in the local affected communities, who also drew attention to dams' social costs. It is in this context that the use of EIA mechanisms in dam construction started to make ground.

EIA's history has been unevenly investigated, and archival documents related to their implementation are rarely analyzed collectively as sources in the historiography of environmental protection.⁹ A particularly well-studied dimension

is the role of environmental NGOs in the push for the adoption of EIA at the international level.¹⁰ As noted by several authors, bilateral and multilateral development institutions, such as U.S. Agency for International Development (USAID), the WB, and the Inter-American Development Bank, played a leading part in disseminating environmental policies, and EIA mechanisms in particular, in what was then called “developing” countries, such as Brazil.¹¹ This is interesting because although we know a lot about EIA’s emergence and its repercussions in the United States,¹² examples from other parts of the world are rarely studied from a historical perspective.¹³ While this chapter also emphasizes the role played by environmental NGOs in pushing for action, it challenges the top-down narrative of international institutions influencing national action on poorer countries. In the case of the construction of the Tucuruí dam, the local political context and the specificities of the Brazilian energy sector were key in determining the process. As Barandiarán and Oyarzún point out, EIA practices in Latin America had substantial international influence, especially relating to the role of the state and the diversity of expertise. Their findings are in line with other research pointing to the region as central to global science-driven policies in the second half of the twentieth century.¹⁴ In this sense, one key contribution of this chapter is to analyze the emergence of the EIA procedure even before a formal framework existed and the key role expertise played in shaping and legitimizing this new policy tool. This analysis points to the importance of improvisation and random calibration that left a large room for companies to shape it, before the state formalized EIA procedures through legislation.

This chapter is based on a variety of sources. It relies on institutional and gray literature of the electricity sector, as well as on a collection of interviews that were carried out by the Brazilian Center for Electricity’s Memory (*Memória da Eletricidade*) in 1992. It also draws on documents from social movements at the archives of the *Comissão Pastoral da Terra*, as well as on the documents of the military’s regime intelligence service deposited at the Brazilian National Archives. Additionally, articles published in the press and Congressional minutes have been consulted. First, this chapter investigates the drivers of the spread of environmental management and the use of EIAs in the electricity sector during the 1970s and highlights the knowledge production and the establishment of institutions that went hand in hand with it. It then focuses on one empirical example: that of the construction of the Tucuruí dam by Eletronorte, a branch of the public power company Eletrobrás, between 1974 and 1984, in the Tocantins River in the Amazon region. This case study serves as an excellent illustration of the process featured here, not only because it was one of the biggest dams at the time of its construction, and the first one to be built in a tropical rainforest, but also because of the new definition of the relation between the environment and infrastructure that it generated. The Tucuruí case tells the passage from the environment being considered by engineers solely regarding its impact to a dam’s functioning, to one where it is the environment that is impacted by a dam. The

decision to build the Tucuruí dam was made under the hard-line government of General Emilio Médici (1969–1974). However, its construction occurred during a time when the regime faced a legitimacy crisis and was undergoing a process of controlled democratic opening. As such this chapter analyzes the rise of ecological controversies and social movements and their repercussions on the state-owned company, Eletronorte, which became very influential in Brazil's legislation and later dam construction in the region.

The Emergence of the Environment as an Issue for the Electricity Sector

Despite some early efforts to protect fisheries, it was in the 1970s—under a military dictatorship—that Brazil made more coherent strides in addressing the social and environmental impacts of hydroelectric development. The rule of the military, which lasted from 1964 to 1985, positioned dams as the backbones of its plans for economic growth. During this period, dams generated over 90 percent of the nation's electricity, making them crucial to the regime's industrial, developmental, and urbanization policies.¹⁵ Due to their strategic significance, the military consolidated a model of hydroelectric planning and management run exclusively by state-owned enterprises, mainly under the control of Eletrobrás, the national public electricity company. This state-driven approach aligned with both national and international capitalist interests, as many dams directly served industrial and economic needs. Though the military held power, it relied heavily on support from the Brazilian business sector, leading several scholars to describe the regime as an entrepreneurial-military dictatorship.¹⁶ Private companies were treated as vital partners in the state's modernization agenda, at the expense of civil rights and individual liberties.¹⁷ Between 1964 and 1984, installed hydroelectric capacity grew from 4,894 MW to 37,437 MW, with the construction of more than sixty large dams. This proliferation of dams throughout the country exacerbated social conflicts while also heightening awareness of their environmental impacts.

An early example of the development of environmental measures in the dam sector is that of the Centrais Elétricas do Estado de São Paulo (CESP), Brazil's largest electric power generation company, which was established in 1966. The CESP built twelve large dams during the military regime in the state of São Paulo alone. In 1974, the reservoir filling in one of its dams, the Promissão on the Tiête River, sparked public outrage when rising waters trapped animals on islands and treetops.¹⁸ In response, the company's director requested assistance from the São Paulo Zoological Park to save the endangered animals, leading to an expensive emergency rescue operation that received significant media coverage. Although the improvised effort saved only a small percentage of the region's fauna, it introduced the practice of animal rescue operations, which was later adopted in other dam projects across Brazil, including Água Vermelha, Marimbondo, Salto Osório, Itaipu, Coaracy Nunes, Capivara, and Tucuruí.¹⁹

This case shows a growing concern for the environment on the part of public opinion. It also demonstrates how CESP's improvisation produced a practical experience that was later replicated by other electric companies across Brazil. The prevalence of these issues in the 1970s prompted CESP to establish a department dedicated to environmental management inside the company in 1976, the first for the electric sector. By 1978, the company had developed an initial roadmap for implementing EIAs in the electricity sector. This document was commissioned from renowned architect Ruy Ohtake and the experienced consulting firm Themag to serve as an internal guide for minimizing environmental impacts of infrastructure projects.²⁰ The methodology developed, along with other publications and training programs from CESP, formed the basis for Eletrobrás' first guide on environmental assessments, published in 1986.²¹

In the 1970s, several other companies in the electricity sector began to engage in some kind of environmental protection activity.²² In those early years these efforts were typically undertaken by small teams of fewer than ten people, with minimal influence on project design, usually intervening only after construction had started. These initiatives were designed and implemented in partnership with consulting firms, research institutions, and scientists. This collaboration—quite common in environmental assessment and conservation²³—was necessary because the (mostly) newly established state enterprises had little-to-no expertise in this emerging field. It is important to highlight that these environmental actions were carried out before there was a national regulatory framework, making them site-specific and dependent on each company's willingness to engage with them. Shaped by an engineering mindset, this approach viewed the environment primarily as a risk to dam operations and commercial exploitation. Monitoring efforts focused on factors like water quality—which could corrode turbines—erosion of reservoir banks that could clog reservoirs and reduce energy output, and potential earthquakes that could damage infrastructures. Consequently, most environmental initiatives of this period centered on water quality measures, reforestation, and health controls.

By the late 1970s, efforts expanded with the introduction of EIA and conservation plans.²⁴ Such studies were conducted for at least twenty dams across Brazil during this period, although most began after construction had already started.²⁵ Robert Goodland, an ecologist from the Cary Arboretum of the New York Botanical Garden, authored several of these EIA. In 1978 he joined the Office of Environmental Affairs of the WB where he remained until 2001 leading an intense lobbying campaign for policies that recognized the socio-environmental impacts of funded projects. Goodland drafted documents that formed the basis of the bank's "safeguard policies," including the WB's reference volume on the environment.²⁶ Given his significant role in shaping the WB's environmental guidelines, it is reasonable to suggest that Goodland's extensive experience in Brazil influenced the Bank's policies.

Inversely, the guidelines, standards, and conditions set by financial institutions significantly influenced the activities of the electricity sector.²⁷ During the military

dictatorship, this sector lacked the resources to independently support costly projects and relied heavily on loans from foreign banks and international agencies.²⁸ Consequently, the need for funding played a key role in the adoption of environmental measures. For example, the WB promoted EIAs for dam projects it supported in Brazil as early as 1974, even though funding was not strictly contingent on their implementation.²⁹ Nonetheless, several actors in the Brazilian electricity sector anticipated that the use of EIA mechanisms would soon become a requirement for loans.³⁰ This expectation led the National Department of Water and Electric Energy to issue a decree in 1979 that established “ecological and environmental studies” as prerequisites for approving feasibility reports in hydroelectric projects.³¹ This regulation for the first time introduced environmental licensing for hydroelectric projects prior to their approval, highlighting the electric sector’s pioneering role, as national legislation mandating such studies did not take effect until 1986.³²

These environmental actions adopted by the electricity sector were also a response to contingencies created by the development projects themselves. On the one hand, the construction of these infrastructures, as radical processes of environmental change, saw nature intrude into the cracks and gaps of technical knowledge, prompting reflection within the sector. On the other hand, local communities and civil society began advocating for the protection of their environment, emerging as key voices pushing for greater environmental consideration in these projects, as we will see in the Tucuruí case.

Building Dams in the Amazon: Between Economic Interests and Ecological Uncertainties

The construction of dams in the Amazon region began in the 1970s, at the same time as environmental actions started to be institutionalized in the electricity sector. For the Brazilian military regime, hydroelectricity from the Amazon was seen as key to driving economic growth by supporting large electro-intensive factories and mining projects, as well as help populate this vast “empty” area of the country.³³ To carry out this project and manage the area, Centrais Elétricas do Norte do Brasil (Eletronorte) was created as a branch of Eletrobrás in June 1973.

The first dam built by Eletronorte was the Tucuruí dam on the Tocantins River, in the Amazon region. Its construction was tied to negotiations between the Brazilian government and the Keidanren (Japan Federation of Economic Organizations) for the construction of industrial aluminum production complex. The creation of partnerships with the private sector was a hallmark of the regime’s economic policy, aimed at expanding strategic industrial sectors.³⁴ The Albrás/Alunorte project, as it was called, was planned for the city of Bacarena, to process bauxite reserves found some years earlier near the Trombetas River. This partnership is part of a context where amid the 1974 oil crisis, Japan—a global leader in aluminum production but lacking petroleum reserves—was severely impacted. To continue producing aluminum at a lower cost, Japanese companies

began seeking international joint ventures through direct foreign investment.³⁵ To succeed, the aluminum plant required a large and reliable source of energy. It was to be delivered by the Tucuruí hydroelectric plant, which was financed entirely by the Brazilian government, at the cost of substantial external debt.³⁶

The timeline of the aluminum production complex dictated the pace of the dam's construction: the Albrás/Alunorte plants were set to open in 1981, by which time the dam was expected to be operational. As a result, when construction began in 1975, the project was "already late," as noted by engineer Pedro Holtermann, coordinator of the Tucuruí project for the consulting consortium Engevix-Themag.³⁷ Despite this pressure, Tucuruí was not completed until 1984. The delay had a lot to do with the economic crisis that severely affected Brazil following the 1974 oil shock.³⁸ Another factor contributing to the delay was the uncertain encounter between the engineering plans and the Amazon ecosystem, which required schedule adjustments in response to floods, unstable soils, extreme humidity, and tropical diseases.

Undeniably, Eletronorte, the brand-new company in charge of the electrical development of the entire Amazon, had little knowledge of the region it was set to transform. This was not only a problem for dam construction, but also for the prediction of its impacts. Prior experiences with dams in tropical rainforests were limited and on a much smaller scale, leaving many uncertainties about Tucuruí's effects on the local ecosystem. To address this, Eletronorte began gathering data by visiting dams abroad, attending seminars, and collaborating with research institutions specialized in ecology.³⁹ Like other companies in the sector, it also hired ecologist Robert Goodland to assess the environmental challenges associated with Tucuruí, its flagship project.⁴⁰ In addition to ensuring the dam's operational safety, the report was commissioned to secure funding from the WB, a goal it ultimately failed to achieve.⁴¹ Work on the report began in December 1976, more than a year after construction had started. As Dário Gomes, one of the engineers in charge of the Tucuruí project, later explained: "I [was] not interested in a report saying that [the dam] would flood the forest and that we [could not] continue with construction."⁴² The report was meant to assess the consequences of choices already made, not to alter the project based on its identified impacts. As a result, the company instructed Goodland to exclude engineering aspects from his analysis. Following Goodland's report, Eletronorte established a series of partnerships with research institutions, public universities, state agencies, and consulting firms. Most notably, in 1980 it hired the National Institute for Amazonian Research (INPA) to conduct several ecological studies and monitor the reservoir area before and after the dam's inauguration.⁴³ This Manaus-based research institute was then becoming a world reference in tropical biology. Other partnerships included the University of Pará State, the Emilio Goeldi Museum in Belém, and the Butantan Institute in São Paulo, a renowned center for immunobiological research and production.

As with other public infrastructure projects at the time, the decision came from above, with no consultation of the local population and little-to-no public debate

about the potential impacts of the construction of the Tucuruí dam. Despite frequent media coverage promoting Amazonian development, Eletronorte only began informing and registering families living in the reservoir area three years after construction began in 1975, leading to a long-lasting social conflict.⁴⁴ Locally, protests against Tucuruí were organized by affected populations denouncing the forced displacement, unfair compensations, bad relocation condition, and intimidations by the company. Nationally, concerns about the dam's environmental effects grew, especially after 1980, when scientists, emerging environmentalist groups, journalists, and politicians began to speak up.

Toxic Controversies in the Public Debate and the Afterlife of the Tucuruí Dam

A big controversy during the Tucuruí dam construction concerned questions about the use of toxic products by two subcontracted companies for clearing the flooded area and transmission lines. The first was Capemi, created shortly before being hired in 1979 to clear the reservoir area. This firm had ties to the government but no relevant experience in forest removal. As a matter of fact, it went bankrupt in 1983 before finishing this job, amid a \$100 million corruption scandal.⁴⁵ The second subcontracted company was Agromax, which was hired to clear the path for the transmission lines, built in 1981.⁴⁶ From 1982, the press reported multiple testimonies from local residents and subcontracted workers about the use of toxic substances.⁴⁷ Accusations abounded about the covert use of "Agent Orange," a dioxin-based defoliant infamous for its application during the Vietnam War, and of pentachlorophenol (PCP), a wood preservative fungicide.⁴⁸ Concerns grew over the high toxicity of these substances to humans and wildlife. Sebastião Pinheiro, an agronomist specialized in soil health and a pioneering environmental activist in Brazil, became the spokesperson for these allegations, relaying them in various political and scientific forums. One example is an interview he gave to the most widely read Brazilian magazine at that time, *Revista Manchete*, in which he announced that:

...if the containers of the powerful herbicides abandoned in the region are not collected before the formation of the lake, there could be a genocide of the *ribeirinha* populations of the Tocantins, not to mention a total chaos in the zone and the death of all type of life, fauna and flora.⁴⁹

In the following years, numerous reports of human and animal deaths and contamination were attributed to the use of these chemicals. Opposition Senator Hélio Gueiros commented on a legal action taken by the State Attorney of Pará to halt the reservoir's filling, stating:

At first glance this may seem a sensationalist or provincial attitude of a major authority of my region, but the truth is that a public disaster is predicted in the state of Pará, in case this reservoir is filled by the end of this year.⁵⁰

This issue gained international dimensions when Brazilian lawyer Sônia Regina Brito Pereira, a member of the Movement in Defense of Life (MDV), a Belém-based group opposing large projects in the Amazon, denounced this contamination to the United Nations Environment Programme.⁵¹ The corpus of documents produced by the critics of the dam during this period is characterized by the extensive adoption of an apocalyptic rhetoric as a political tactic. Through this approach, opponents tried to raise awareness of the potential dangers associated with the dam while pressuring the company to act amid pressing time constraints. Although this rhetoric was a strategic choice, it should not undermine the legitimacy of the concerns raised by opponents regarding the consequences of the dam's construction.

In the face of such strong criticism, Eletronorte sponsored several reports and studies regarding contamination cases and inspected the reservoir area in 1984, prior to its flooding. Regarding the transmission lines, Eletronorte acknowledged the use of dioxin-based chemicals in the area but specified that these were legal products, not "Agent Orange."⁵² Conversely, the company categorically denied any negative impacts on humans, animals, and the environment, despite ongoing denunciations from researchers, doctors, lawyers, and journalists concerning deaths, injuries, and the environmental impact of the use of these substances. Investigations in the reservoir uncovered 373 barrels of chemicals, nearly all empty or bearing holes.⁵³ In response, Eletronorte hired Dr. Alberto Rahde, who had recently stepped down as president of the Brazilian Society of Toxicology, to assess the area. His report concluded that the subcontracting company Capemi had used toxic products such as PCP, but asserted that they likely posed no risks, particularly in light of the impending flooding of the perimeter.⁵⁴ Eletronorte pledged to remove the abandoned barrels from the reservoir area, but controversy persisted as public trust in the company eroded.

The Agent Orange controversy made Eletronorte realize that it had not reacted adequately to Goodland's environmental assessment.⁵⁵ Despite its shortcomings, Goodland's report had managed to identify most of the issues that arose during and after construction and provided specific recommendations for each. However, the company took almost no concrete action, as it was more interested in protecting dam operation from environmental risks, than the environment from the dam's operation. However, thanks to these public controversies, things started to change. Put under a spotlight, Eletronorte commissioned a report on the environmental (bio-geo-physical and human) activities associated with the Tucuruí project. To this end, it hired two experienced engineering consulting firms from São Paulo (Engevix and Themag) in 1983. These companies had previously contributed to the elaboration of the dam's design projects.⁵⁶ The report compiled and analyzed the environmental activities that had been, were being, and those that would be carried out in preparation for the reservoir's filling.⁵⁷ The most significant issue identified was the lack of time, as the dam was set to be inaugurated less than a year later. Consequently, actions had to be taken to mitigate the impacts that had become inevitable.

Although the decision to build the dam was made during the most repressive phase of the Brazilian dictatorship, its construction took place amid a legitimacy crisis for the regime. Protests multiplied and new types of social movements began to organize and gain traction, most notably the environmentalist movement. The controversy surrounding the use of chemicals embodied—but also fueled—the general dissatisfaction among the population with the military regime and its authoritarian development policies. Between protests against the dam and those opposing the regime, the case of the Tucuruí dam construction acted as a catalyst for different political processes underway.

In the beginning of these controversies, Eletronorte rejected all dialogue, which intensified public fears of an impending disaster. Over time, the company began to counter accusations, attack opponents, and reassure the public, with clarification notes, statements, and sponsored ads in the press, while still avoiding direct exchanges with its critics. Communication became a key mechanism in establishing what is now referred to as the “social acceptability” of such large infrastructure projects.⁵⁸ In the case of Tucuruí, the company’s communication strategy aimed to navigate strong criticism while ensuring the dam’s inauguration—a process referred to in the electric sector as “making a project viable” (*viabilizar*). In a context of growing rejection of the military regime after 1982, which extended to all its emblematic projects, it became crucial for the electric sector that Tucuruí served as a model for future hydroelectric development in the Amazon—one that could endure the regime changes looming ahead.

The communication material produced by Eletronorte during this period was driven by a central idea: scientific studies guaranteed the proper functioning of the dam. The company’s aim was to maintain the idea that it was in control of everything. This approach is illustrated by a pamphlet that was distributed during demonstrations against the Tucuruí dam, published in the press, and distributed in the area around the dam. Entitled “Urgent, Tucuruí – Everything you need to know about the hydroelectric plant and its consequences,” the document refuted in nine points the critiques commonly made about the dam. All the statements were concisely formulated: “It is impossible that the water of the Tocantins becomes salty,” “There is no poison in the area,” and so on.⁵⁹ The pamphlet concluded with the claim that this information did not originate from Eletronorte, but rather from “the most respected scientific institutions in the country.” As this example illustrates, the assertion of scientific authority to demonstrate the absence of danger was central to Eletronorte’s communication strategy. Thereby, the company denied, or at least minimized, the seriousness of the accusations and risks raised. After having invested in several studies and assessments—either following operational necessities or under pressure from public opinion, as we have seen—the company leveraged these findings to its advantage. Thus, scientific expertise, but not necessarily the studies’ results, became a joker that could be mobilized whenever convenient.

The mobilization of a scientific authority to affirm the infallibility of the Tucuruí dam can be questioned, since it was Eletronorte that hired the research institutions, scientists, and consultants that produced the studies in question. Although most had little-to-no previous ties to the company, and many were public servants, the company had the power to define the scope and approach of the studies, as well as the conditions for data disclosure.⁶⁰ Thanks to the use of “prestige institutions,” the Eletronorte not only bolstered its arguments regarding the dam’s safety but also emphasized the impartiality of the findings. This claim is significant because critics did not question science itself; on the contrary, several opponents were researchers and scientists. Oreskes and Conway identify similar strategies employed by the tobacco industry in their work.⁶¹ The manipulation of scientific standards of proof is a strategy in many corporate communication campaigns to silence critics or, at the very least, to create doubt—a phenomenon Ceccarelli refers to as “manufactured controversies.”⁶² However, in this case, Eletronorte was not aiming to create doubt to delay regulation; its goal was to inaugurate the dam as quickly as possible. The timing of these controversies is central here. Once a hydroelectric dam is put in operation there is little doubt about its impacts, and few ways to hide them. Moreover, once inaugurated, it is almost impossible to go back, both because of the extent of the transformations of the landscape and environment by the works carried out and because of the enormous financial means mobilized. Consequently, it is in the run-up to the inauguration that the stakes were highest for Eletronorte, but also for its opponents.

Tucuruí dam was inaugurated on 23 November 1984, by the last military president, Colonel Figueiredo, becoming irreversible. Conflicts between Eletronorte and the local population escalated afterward, creating a Kafkaesque situation of ongoing negotiations, renegotiations, and intimidation. Despite the initial fears, the anticipated ecological disasters did not occur immediately or on the predicted scale. Many opponents credited their mobilization for the measures taken by the company that helped avert catastrophe. Nonetheless, several journalists retracted their previous criticism, instead publishing articles praising the progress and development brought by the Tucuruí dam.⁶³

After Tucuruí, Eletronorte planned to construct several more dams, of which Balbina dam in Amazonas and Samuel dam in Rondônia were already underway in the mid-1980s. The company faced dual pressures: it needed to repair its image following the conflicts and controversies surrounding Tucuruí, while also using the project—from construction to controversy management strategies—as a blueprint for future endeavors. This was especially significant, as 80 percent of new Brazilian hydroelectric plants were planned for the North region.⁶⁴ For Tucuruí to fulfill its role as an example, it was essential that Eletronorte be able to systematize, interpret, and re-signify the know-how accumulated throughout this process. The *Livro Branco do Meio ambiente em Tucuruí* (White Book of the Environment in Tucuruí) published in 1987 was a crucial part of this

process.⁶⁵ Divided into eight parts, it addressed the controversies and conflicts surrounding the dam's construction. Its most significant contribution was crafting a new, environmentally conscious version of the project's history, portraying Eletronorte's actions as consistent and deliberate. The book also sought to silence opponents and critics once and for all, presenting, justifying, or dismissing the most contentious issues with "scientific proof." In its opening, the company stated triumphantly:

And the disaster did not happen: the drinking water reserves did not become saline, the fish did not die, the loss of animals did not exceed the maximum 2%, the river is navigable again, and life continues its normal course in the green paradise of the Amazon, where tens of thousands of animals have been saved in the operation 'Curupira.' The only new presence is that of progress, of development in its broadest aspects....⁶⁶

In reality, the situation was far from ideal: affected populations continued to mobilize, tons of fish died during the sluices closure, and the much-publicized animal rescue operation faced heavy criticism. Water quality degraded due to the flooding of uncleared organic matter, leading to a mosquito epidemic that forced further population displacements. Despite this, Eletronorte constructed a narrative of the dam as a major success. This version of events, emphasizing environmental management, was carried forward as the company continued building dams in the Amazon. Given the growing concern in this period for environmental issues, this theme came to occupy a prominent place in the institutional memory of Eletronorte, and more generally of the electricity sector.⁶⁷

The proceedings of the creation of the Brazilian Environmental Council (CONAMA), which ran the country's environmental policy after 1986, reveal the significant influence of the Tucuruí dam on Brazil's EIA legislation.⁶⁸ Tucuruí gained attention notably due to the controversies it sparked around large-scale infrastructure in the Amazon. However, when national policies came into effect, the available Brazilian experience with environmental management and EIA was almost exclusively that of the electric sector, which had conducted numerous assessments and produced roadmaps, reports, and memoirs. Furthermore, the consulting firms that dominated the market were those closely linked to this sector.

Conclusion

The experience of Eletronorte with the construction of the Tucuruí dam, which served as an experiment in the field of environmental assessment and management, offers food for thought on the current shortcomings in the application of EIA. Before EIA mechanisms became mandatory, the Tucuruí case demonstrates the significant role that improvisation played in their implementation.

Eletronorte's environmental actions were carried out without a roadmap, relying largely on two expert reports that were presented as EIAs. One of the central elements underpinning the practice of EIA is its potential to provide information and thus to influence the decision-making process. However, in the case of Tucuruí, the EIA was introduced only after construction had begun and was not designed to challenge the dam's construction. Eletronorte prioritized maximizing the dam's life span and continued to present engineering as a separate field that was not linked to or to be constrained by environmental issues.

The inclusion of environmental actions during the construction of the Tucuruí dam was a response to external pressures. Therefore, the analysis of this case sheds light on how different political contexts shape environmental policies. While national environmental policies during this period were heavily influenced by international dynamics, in the Tucuruí dam construction, it was local pressures from social movements and public opinion that were decisive. There is little evidence to suggest that opponents could have stopped the dam from being built. One can assume that, at best, they could have delayed its construction. Their mobilization, however, compelled the company to develop a communication strategy that reflected an emerging awareness of environmental issues as integral to the viability of large-scale infrastructure projects. In this sense, the Tucuruí example also highlights the strategic use of scientific authority in a company's communication efforts. While much of the literature focuses on creating uncertainty—such as in the cases of climate change or tobacco use, where prolonging doubt benefits corporate interests—the stakes are different in infrastructure projects. In these cases, the goal is not to extend uncertainty but to minimize opposition and expedite project implementation. In high-stakes sectors like dam construction, where timing is critical, scientific authority becomes a key tool for legitimizing the project and quelling resistance.

The “know-how” that Eletronorte cultivated, along with the broader Brazilian electricity sector, combined environmental actions shaped by engineering priorities with a strategy for managing dissent. This was the foundation of EIA procedures that were later made mandatory at the national level. Examining this process within the electricity sector adds depth to our understanding of the various influences that shape EIA procedures globally, challenging diffusionist narratives that portray countries in the Global South as mere recipients of policies imposed by international agencies. This analysis suggests that Brazil's policy framework had its own national origins rather than simply being a replication of the U.S. National Environmental Policy Act. Furthermore, the experience gathered by Robert Goodland in Brazilian infrastructure projects and his role at the WB seem to indicate that dam construction in Brazil may have influenced global environmental policies. This conclusion is made more plausible by the fact that Brazilian engineers were also active in international associations, such as the International Commission on Large Dams and the World Waterpower Association, and Brazilian construction firms were responsible for numerous

dams worldwide, suggesting that the Tucuruí case may have had a broader international impact.

Environmental management remains a highly contested area in dam construction, with EIAs themselves often serving as sites of contention. The strategies employed by dam builders, combining the use of EIAs with dissent management, form the foundation of expropriation and environmental procedures in Brazilian dam construction and beyond. Understanding the origins of these strategies and the interplay between science, opposition, and dam construction is crucial for envisioning more effective approaches moving forward.

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Part 3

Business Narratives about the Environmental Crisis



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7 In Growth, Progress, and Technology We Trust

Free-Market Thinking and Neoliberal Environmentalism in Finland from the Mid-1970s to the Mid-1980s

Tero Toivanen

Introduction

At the beginning of the 1970s, the business community in the Western capitalist world felt that it was coming under increasing pressure from several directions. The left-wing wave sweeping through many Western societies seemed to pose an increasing threat to private property, capital formation, and free enterprise.¹ The oil crisis, caused by the Arab oil embargo of 1973, not only triggered a sharp rise in prices and inflation, but also seemed to herald a wider shift in the balance of power in the world economy, with a growing influence for the newly independent states of the Global South, now more aware of their resources.² In addition, the internationally acclaimed 1972 report by the Club of Rome, *The Limits to Growth*, argued that industrial economies based on endless economic growth were causing irreversible and disastrous changes in the ecological systems that sustained societies. Finally, the demands of the growing environmental movement also seemed to be increasingly aimed at seeking to restrict private enterprise in the name of ecological sustainability.

Business actors did not remain passive in this turbulent situation. Instead, as a growing body of historical research shows, in the 1970s and 1980s they organized themselves in novel ways at national and international levels. Their aim was to resist the regulatory requirements imposed on business and more generally to promote the private sector, markets, and free competition as offering solutions both to economic and environmental problems.³ In this way, they also actively promoted the broader but variegated processes of neoliberalization permeating Western societies.

This chapter contributes to the history of business environmentalism by exploring how business responded to the challenge of strengthening environmentalism in Finland, a Nordic country often considered to be an early environmental pioneer. It does so by focusing on the environmental ideas of a

free-market think tank, EVA, Elinkeinoelämän Valtuuskunta (the Council of Economic Organizations in Finland), during its first ten years of operation, from 1974 to 1984. During this period, significant changes took place in the relatively young Finnish welfare state. The Finnish economy was gradually opened up to the global economy and financial markets. The energy crises were followed by growing inflation and unemployment, which brought the post-war expansion of the welfare state to a halt. In this context, private sector competitiveness became the priority of the country's economic policy, with state coordination and planning increasingly replaced by market principles. At the same time, a new generation of social movements, notably the environmental movement, and more individualistic lifestyles, challenged the country's political and cultural elite that had built the welfare state after the Second World War.

Existing research has documented that think tanks, as a part of general business advocacy, have played an important role in shaping the principles and possibilities of modern environmental action. The most widely researched example is the involvement of neoliberal and conservative think tanks in the United States in spreading organized climate change denial since the early 1990s.⁴ In addition, a growing body of research has paid attention to the role of global think tank networks such as the Atlas Network in undermining efforts to tackle climate change.⁵ This chapter contributes to this research by analyzing the earlier history of think tank environmentalism and environmental obstructionism since the 1970s, before the current era of climate policy.

EVA was founded as a business countermovement to resist the threat posed by empowered left-wing forces and the expansion of state power. It aimed to promote a free-market and pro-business agenda in Finnish society. Previous studies by Finnish historians have shown that EVA was a key business actor in the battle of economic ideas in Finland during the economic crises of the 1970s and early 1980s.⁶ EVA took an active part in orchestrating a novel national economic consensus in Finland and rallying the major left-wing force, the Social Democrats, behind it. The increasingly market-oriented consensus prioritized economic competitiveness over other economic or social goals and paved the way for the gradual neoliberalization of the Finnish economy from the second half of the 1970s onwards. Interestingly, this was a few years before the well-known neoliberal revolutions of Prime Minister Margaret Thatcher in the UK and President Ronald Reagan in the US.⁷ The positions EVA took in environmental matters, however, remain mostly uncharted territory.

This chapter analyzes documents from the EVA archives and the think tanks' published reports⁸ and shows how the environmental issue was central to the development of EVA's economic agenda. In the context of the oil crises, the "limits to growth discourse" initially appeared as a fundamental threat to its emerging free-market agenda. However, the think tank soon positioned itself as a defender of economic growth as the source of real social progress as well as of any meaningful environmental policy. In contrast to the purely cornucopian

or anti-environmental agendas of neoliberal think tanks and actors elsewhere,⁹ EVA's environmental agenda can be interpreted as a constrained neoliberal environmentalism as this chapter argues. By adopting this posture, the think tank aimed to marginalize anti-growth forces and proactively integrate incremental environmental protection into the wider societal and economic reform, which EVA called the "new social contract."

Neoliberal Environmentalism(s)

In public debate, the term neoliberalism continues to cause confusion. It is said, for example, to be used as a left-wing pejorative, lumping together phenomena such as markets, competition, private property, and entrepreneurship and portraying them as something fundamentally evil. However, existing academic literature, for all its diversity, points to a fairly clear core meaning of neoliberalism, or what has recently been called its "lowest common denominator."¹⁰ Here neoliberalism is considered an ideology and political practice that regards markets and market competition as superior to any other social organization and seeks to actively use state power to promote the spread of markets in a given society.¹¹ By prioritizing the logic of the market, neoliberalism also distrusts, opposes, or undermines democracy. It aims to shield the markets from the masses: economic institutions should be designed so that they reinforce market discipline in society and remain beyond the reach of politicians, who are viewed as inevitably prone to reckless public spending and thus to increasing the role of the state in the economy.¹² On top of this ideological minimum, the actual forms and developments of neoliberalism vary considerably according to the geographical and national contexts, the prevailing institutional arrangements, as well as ideological and power relations.¹³ The actual expressions of neoliberalism in policy and politics are always, "produced at the intersection of the intellectual, political and bureaucratic realms," producing not one neoliberalism but many neoliberalisms.¹⁴

Following the principle of the lowest common denominator, this chapter is based on a definition of neoliberal environmentalism as an ideological position and political practice that embraces markets and market competition as superior mechanisms for organizing environmental governance and promotes voluntary corporate and environmental consumer action over any state regulation.¹⁵ Investigating the different variations of neoliberal environmentalism is crucial because the neoliberal project has not only succeeded in revolutionizing global and national economic discourses, practices, and institutions since the 1970s. It has also, as Jeremy Walker argues:

most tragically, [ensured] that hydrocarbon-based industry remains (for the most part) free from mandatory constraints imposed in the name of ecological survival and the maintenance of the Earth's heat balance within the range to which life as we have known it can survive.¹⁶

From this perspective, some scholars and writers have seen the 1970s as a missed opportunity for truly ambitious socio-ecological transformation. They argue that although significant environmental regulation, such as the controls of industrial emissions, was introduced in many Western welfare states in the 1970s, it was largely neoliberalism that contributed to the dismantling of the strongest coordination mechanisms that the post-war welfare states could offer, for instance state-led planning and governance of economies that might have helped steer growth-based societies onto a more sustainable path, perhaps already decades ago.¹⁷

Existing research suggests that since the early 1970s, neoliberal environmentalist positions have varied considerably in different contexts. Scholars have shown that the leading neoliberal thinkers of the 1970s and 1980s, for example, attacked the neo-Malthusian idea of resource scarcity propagated by *The Limits to Growth* report. But they also rejected the emerging idea of externalities in neoclassical economics, because controlling and limiting externalities, for example, the environmental damage caused by industrial production and consumption, would require some entity other than the market itself to decide how markets should be regulated.¹⁸ In practice, this other entity could only be the state, which neoliberals could not accept, as the idea of the state-making decisions about what kind of production or direction the economy should take was always anathema to them.¹⁹ Instead, they promoted a cornucopian vision of free markets and unfettered economic growth.²⁰

Since the 1970s, neoliberal thinkers and think tanks, especially in the US, have joined a wider group of business and industry lobbyists in anti-environmentalism to marginalize the voices of both scientists and environmental activists.²¹ In addition, corporate and academic economists have followed the cornucopian trend of defending economic growth as a precondition for any meaningful solutions to environmental protection.²² Finally, scholars have shown that securing the availability of natural resources, especially cheap fossil fuels, and confronting environmental regulation played a crucial role in the emergence of neoliberal political regimes in the UK and the US.²³ More generally, existing research suggests that the threat of command-and-control regulation and rational planning of economies—which were, for example, still a crucial part of the 1972 UN Stockholm Declaration on the Human Environment—were a key reason why the business community rallied behind the neoliberal project, both internationally and nationally.²⁴

Finnish Business and EVA's Neoliberalism in the 1970s and 1980s

In the early 1970s, following the general political trends in the West, Finland experienced a left-wing wave. What seemed particularly threatening from the perspective of Finnish business was the new generation of empowered radical leftists (the pro-Soviet movement) who attacked private enterprise, called for

nationalizations, and pushed the Social Democrats in a more radical direction.²⁵ Throughout the 1970s, the Finnish Social Democrats, at least in their programs, still aimed for a socialist society, calling for state planning, industrial democracy, and the expansion of state ownership and public services.²⁶ Furthermore, the neighboring Soviet Union continued to exert a strong influence on domestic politics and public debate in Finland. The business community largely felt that it was the underdog in this situation: the left was the hegemonic force in society, the public sector, and the regulation of private enterprise seemed to be expanding almost automatically, and politicians and public sector bureaucrats were deciding the direction of the country's economy.²⁷ In addition, a new social force, the environmental movement, was emerging in the public debate, questioning the necessity of economic growth and demanding stricter environmental regulation. In reaction to this situation, the Finnish business community launched a counterattack. It had become clear that only a more united front, bringing together the various sectors and actors of the business community, would be able to withstand left-wing pressure. A new kind of long-term counter-hegemonic project was needed, one that would aim to spread pro-business and free-market ideas in the media, among politicians, and among the people. After a few years of internal discussions among the business elite, the situation led to the creation of EVA in 1974 by six economic interest groups, ranging from industry and agriculture to business associations (other supportive business organizations soon followed).

In many ways, EVA was what the historian Maiju Wuokko has called an "exemplary think tank,"²⁸ in line with many similar contemporary and later neo-liberal organizations in other Western countries. Funded by major business and industrial associations and supported by the most prominent public figures in the business and banking sectors, it conducted its own research and surveys, organized closed seminars for the political and economic elite and open public conferences, and actively participated in media debates, thus shaping public discussion in favor of a more pro-business agenda. It also acted as a behind-the-scenes influencer, bringing together the various interests of the business community and building active relationships with the country's leading politicians. It channeled business association funds to the most promising pro-business politicians and candidates and sought to establish close links with the academic community to strengthen the pro-business agenda in universities. While traditional business interest groups had to deal with sector-specific issues or day-to-day labor market disputes, EVA was able to focus on broader and longer-term societal issues and strive toward a change in economic thinking.²⁹ In this sense, EVA was *the* business actor in Finnish politics that could really steer its resources toward the battle of ideas—including shaping the environmental debate.

With a relatively small and autonomous staff, EVA benefited from flexibility, the ability to brainstorm freely, and the capacity for rapid response and effective communication. Much of EVA's early success was also due to the prominent role

of its leader, former Finnish Ambassador to the United Nations (1965–1971) and to Sweden (1971–1974) Max Jakobson. By virtue of his international career, Jakobson was both experienced in international relations and already a well-known public intellectual in his home country, as well as a respected figure among its business and political elite. Jakobson was supported by six other members, all called “EVA Leaders,” with long backgrounds as experts in business, industry, and banking. The small team brainstormed daily “on new ideas for promoting and defending the market economy and democracy,” as one of the early leaders later recalled about the early days of the think tank.³⁰ This group was able to work more efficiently than the more rigid large business organizations, influencing both emerging issues in the media and directly with top-level politicians.

There are few explicit mentions of neoliberalism or well-known neoliberal thinkers (for example, Friedrich Hayek or Milton Friedman) in EVA’s archival documents, and the think tank never explicitly identified itself as neoliberal. In fact, Jakobson expressed dissatisfaction with the neoliberal agenda of Margaret Thatcher and Ronald Reagan. He found their economic policies too extreme to be adapted to the Finnish context and shunned the nationalism and conservatism in their politics.³¹ On the other hand, Jakobson’s extensive reading of current international political issues must have made him well aware of the key works of authors such as Hayek and Friedman, either by following the major US and European economic journals or by reading their actual works. In his later memoirs, at least, he shows respect for both thinkers.³² A closer reference point to Jakobson than the classics of neoliberalism was the well-known Swedish economist Assar Lindbeck (1930–2020), who played a key role in the marketization of the Swedish welfare state and whose texts EVA also translated into Finnish.³³ Yet, you don’t need to be a self-declared neoliberal to advance neoliberal ideas or policies. As Wuokko states, EVA’s main political objectives were in line with the wider neoliberal tendencies taking root in Western societies: the superiority of markets in organizing societal relations, opposition to the expansion of the public sector, and distrust of the ability of democratically elected politicians to make “rational” decisions.³⁴

Jakobson may also have been the most influential person in Finland who early on and repeatedly used a rhetoric that equated the expansion of the free-market economy with the progress of democracy—which was one of Milton Friedman’s central theses. Importantly, EVA firmly opposed economic planning and, in classical Hayekian fashion, considered it impossible for planners to access all the relevant information needed for making economic decisions. Only the market could convey the thousands of daily investment and consumption decisions made by firms and consumers in a meaningful way.³⁵ Echoing classical neoliberal thinkers, Jakobson considered planning as a civilizational misstep of Western thought:

The doctrine, put forward by the French philosophers of the Enlightenment, that society could be rationally planned and directed for the common good of

all citizens, provided that sufficiently detailed information was available, is one of the most persistent illusions of Western civilization.³⁶

As any form of neoliberal thought, EVA's agenda was determined by the existing historical circumstances. Two factors were especially significant in shaping EVA's actions. First, the proximity of Finland to the Soviet Union limited the spectrum of economic ideas that could be expressed in the country. In general, open criticism of the Eastern neighbor and its economic system was mostly out of the question until the mid-1980s, and advocates of open free-market ideas were viewed with suspicion. In one of the first EVA board meetings this general situation was expressed clearly by Jakobson: "anti-communism is nowadays a forbidden cause."³⁷ The major industrial sectors and companies of the country largely benefited from the bilateral trade with the Soviet Union, and even though these actors committed to finance EVA's operations, free-market ideas were in conflict with their Soviet-connected interests. This problematic relation often caused tensions between the think tank and the large industrialists.³⁸

The second factor limiting neoliberal ideas in Finland was the strong support for the welfare state. Significantly, even the libertarian voices that emerged in Finland after the Cold War tended to support the welfare state.³⁹ For a long time, therefore, the preaching of an overtly pro-market message was a marginal phenomenon in the country. As a result, EVA, like other groups, was tied to the country's post-war model, in which politics were strongly determined by tripartite negotiations between the government, employers, and trade unions. In principle, this was a model that EVA supported, and it was also a model of "societal planning" that it could get involved in. In the context of a strong welfare state, instead of propagating an overtly neoliberal agenda, it embraced the existing consensual model in which comprehensive income policy agreements, first negotiated in Finland in the late 1960s, played a crucial role.

Nevertheless, EVA aimed at transforming the priorities of the national consensus as a whole. Thus, from the very beginning, EVA actively promoted its own model for a new consensus, which at first was called the "National Economic Framework Programme" but was soon renamed in more attractive terms as the "New Social Contract." This contract would contain the necessary reforms to respond to the problem of the "swollen public sector" and the worsening economic situation ignited by the 1973 Arab oil embargo. The rising inflation and historically high unemployment rate of 8 percent were described in 1975 as a national emergency among the political and economic elite of the country. In EVA's vision, saving Finland's economy required that all major parties—politicians, industry, and trade unions—should recognize private enterprise and markets as the real value creators in society, and that the maintenance of national industrial competitiveness should be the country's priority.⁴⁰

As a matter of fact, a new national economic policy consensus was formally reached at the famous conference held at the Korpilampi Hotel in the city of Espoo in September 1977. The conference was convened by the prime minister,

the leader of the Social Democratic Party, Kalevi Sorsa, and brought together 350 participants from the country's political and economic elite, leading politicians, business and industrial leaders, and representatives of trade unions.⁴¹ The meeting was largely based on the principles outlined by EVA, which says a lot about the important role the think tank had come to play in Finnish society in a relatively short period of time.⁴² It was also at this meeting that the Social Democrats made an official turn toward a more market-oriented approach in their economic policies.⁴³

A few years after the Korpilampi conference, the country's economy and economic policies became more market and competition-oriented, and soon terms such as *economic planning* had almost disappeared from the political vocabulary.⁴⁴ By the mid-1980s, EVA was happy to declare that the political atmosphere had changed dramatically: the superiority of the market economy over its competitors was widely accepted in Finnish society. Notwithstanding this development, the challenge posed by the rise of the environmental movement and the "limits to growth discourse" from the outset fundamentally affected EVA's agenda setting. The following subchapters offer an analysis of the think tank's response to these challenges, which took shape in three phases.

The Shock of the Limits

As in many other Western countries and beyond, the late 1960s and early 1970s saw the rise of a new kind of environmental awareness and movement in Finland. The key works of Western environmentalism, such as Rachel Carson's *Silent Spring*, were freshly translated into Finnish (the translation of *The Limits to Growth* was published in 1974). More important for the rise of environmentalism in Finland, however, was the local context, in particular the problems caused by toxic chemicals from forestry and other industries in rivers, lakes, and the Baltic Sea. Thanks to the development of Finnish environmental research modelled on that of neighboring Sweden, awareness of these environmental issues became widespread toward the end of the 1960s.⁴⁵ Furthermore, environmentalism arose as part of a wider activism of civil society, in which the new social movements—focused on feminism, minority rights, and global peace and led by a young generation born after the war—were crucial.⁴⁶ As a result, the "environmental issue" was widely popularized in Finnish society in the early 1970s.

In this context, a significant part of EVA's early environmental positions focused on the issue of scarcity. Although there are only a few explicit references to *The Limits to Growth* report in the think tank's early communications, the idea of new limits to economic growth and business activity due to resource depletion was constantly on the think tank leaders' minds. They estimated that the Arab oil embargo was just the tip of the iceberg in a broader development where the access to oil would become increasingly harder. The oil crisis was just the first indication of what the heads of EVA thought to be a permanent

change in the world's geopolitics: the oil-producing countries had now emerged as major new powers in the global economy by controlling the lifeblood of the Western capitalist economies.⁴⁷ Echoing broader concerns of Western political and business leaders and experts at the time, EVA leaders also estimated that the world would reach peak oil production soon and that in coming decades the total global energy supply would grow only modestly, or not at all.⁴⁸ Despite this, they believed that the world's energy future was heavily dependent on fossil fuels. In the think tank leaders' view, this was because it was not technologically feasible to develop renewable energy sources to meet the world's energy needs in the following decades, and because there was growing opposition to nuclear power. Thus, according to the heads of EVA, only one solution remained: the industrialized countries would have to both drastically reduce energy consumption and invest in other fossil fuels and the technologies needed to extract them, namely coal, natural gas, and shale oil.⁴⁹

For Finland, EVA recommended large-scale energy saving methods (but left the actual means to achieve these efforts unspecified) as well as investments that would make the national energy-system more self-sufficient and less dependent on imports (which in practice meant constructing more nuclear power plants, as other national energy sources were mostly already fully exploited). The think tank spokespeople also estimated that amid the energy crises, Finland was economically in a better situation than the rest of Western Europe as it could lean on oil imports from the Soviet Union, which were not affected by the Arab oil embargo. In general, they would have liked to see this dependency toward the East diminish but did not openly promote this idea.⁵⁰

But it was not just energy scarcity that EVA leaders saw as threatening the conditions for economic growth in the West. Alongside the increasing strength of the Arab world through control of oil supplies, a more dramatic geopolitical shift was taking place: the challenge posed by decolonization struggles. By the mid-1970s, these struggles were also channeled into a process within the United Nations called the New International Economic Order (NIEO), which EVA epithetically called the "New World Order."⁵¹ For EVA, the NIEO represented an unprecedented form of resource nationalism in which the newly independent countries of the Global South had become more aware of the value of their national resources and, through their ability to control them, were now genuinely challenging the hegemony of the North in the global economy. Echoing the fears of leading post-war neoliberal thinkers,⁵² EVA argued that the emergence of resource nationalism not only meant that the industrialized world would have to pay significantly more for the use of natural resources, but also that it threatened the possibility of global economic integration based on the free market.⁵³ This shows the influence of neo-Malthusian ideas, as EVA leaders estimated that population growth in the Global South would mean that resources would be increasingly directed toward local consumption and less would be available for the North.⁵⁴

Finally, the heads of EVA considered that environmental protection would put increasing pressure on business and industrial activity. In early internal discussions, members of the think tank expressed the idea that environmental protection would be more of a burden on business than in all previous decades combined. They feared that it might not be enough for industry to pay for future environmental costs but that it would also be held responsible for environmental damage already caused in the past.⁵⁵ Echoing much broader international business arguments, EVA complained that environmental protection was being imposed on the private sector at a time when it was already subject to massive government regulation.⁵⁶ EVA's line was that the environment needed to be protected, but that there was no need to over-emphasize the issue.

Fighting the Limits

In Finland, economic growth had appeared as a self-evident fact during the 1960s. "Business life was like an escalator that had only one direction, up," Jakobson summed up the spirit of the decade. In the 1970s, everything was different and "the economic charts looked like the Alps."⁵⁷ Yet, EVA leaders did not want to commit themselves to pessimism. After all, the think tank has been established to proactively change the Finnish society. EVA identified the "limits to growth discourse" as one of the key narratives that was contaminating Finnish society with unnecessary pessimism.⁵⁸ This was a discourse that the heads of EVA wanted to reframe. Thus, after the immediate shock caused by the oil crises, they went on questioning the idea of there being any limits to economic expansion.

EVA initially conformed to the limits to growth discourse, but soon began to question it. One EVA leader stated that the "doomsday predictions" that were gripping the public were based on false assumptions, as it was impossible for humanity to over-consume all natural resources and pollute the environment so that "one fine morning, the catastrophe strikes."⁵⁹ Jakobson stated that the Club of Rome that had commissioned the 1972 report represented ideological thinking and that its conclusions were exaggerated.⁶⁰ Despite this heavy criticism, EVA leaders never specified the actual problems they had with the report, suggesting that their reading of it was based on second-hand media sources. Another way in which they challenged the report was by providing examples of how scarcity had been overcome in the past. For instance, they cited Finnish forestry as an example of good resource management, since forests were made to grow so that their use was economically sustainable. Another example they put forward was the Industrial Revolution: although England cut down almost all its forests, this only pushed the country toward technological progress, for instance, the innovation of steam engines that used coal as an energy source.⁶¹ In the end, the oil crisis itself became an illustration of the superiority of the market economy over the planned economy. According to EVA leaders, the economic

systems of the socialist countries of Eastern Europe did not react to the scarcity caused by the crisis but continued on the path of high energy consumption. Only in a market economy would rising costs lead to energy saving and efficiency and push the system toward alternative sources.⁶²

To counter the threat of command-and-control environmental regulation, EVA emphasized the capacity of industries to solve environmental problems with their own voluntary actions. EVA leaders stated that it was, after all, private companies who had the best knowledge on how to make investment decisions based on the information that competitive markets delivered.⁶³ The Finnish Forest Industry was again used as a successful example of such voluntary actions as it had already mitigated pollution to lakes. In reality, this had not been done voluntarily, but only after much pressure from environmentalists. EVA members were aware of the emerging debate in neoclassical economics on the pricing of externalities. The think tank envisioned that in the future many “quality of life” issues, including environmental ones, which at the time remained outside of market relations, could be incorporated into “economic indicators” by adding a price to them. However, EVA did not discuss, at least for the time being, the actual measures for incorporating externalities into the market economy, for instance via taxes or cap-and-trade.⁶⁴

In general, EVA promoted a kind of “environmental realism” or “middle-way environmentalism,” striking a balance between soft regulation and voluntary action. There was a hint of economic nationalism in this: Finnish industry should not be burdened with stricter environmental standards than other countries, as this would only undermine national competitiveness. Not surprisingly, the think tank also stressed that economic crises are not the time to push for more stringent environmental targets. Early on, EVA included environmental protection in its emerging macroeconomic policy vision for Finland, the “new social contract.” However, it was given only a marginal role, often mentioned as the last factor to be considered after a long list of other economic reforms through which the think tank was seeking a path to growth for the Finnish economy.

Building a Coalition of Growth

In the early 1980s, when the threat of left-wing radicalism started to become a distant memory, EVA leaders grew more and more concerned about anti-growth sentiments in Finland. According to them, a new division had emerged in the Finnish society that developed beyond the traditional left-right axis. It appeared as a contradiction between those who believed in “anti-growth ideology” and those who supported growth and technological progress.⁶⁵ According to EVA, the former position, the anti-growth stance, had two different, partly overlapping, manifestations. The first, more harmless, was an orientation that advocated a “soft society” or “soft values,” terms that were common in the Finnish public debate in the early 1980s. They were introduced to the public by a loosely

organized intellectual movement that preceded the green party.⁶⁶ The concepts tried to capture two major trends emerging in Western societies: the search for a less materialistic lifestyle and the shift toward a knowledge society.⁶⁷ EVA warmly welcomed these trends: soft values were an understandable expression of a historical situation in which economic growth had already produced enough material well-being and people were turning to more individualistic, middle-class lifestyles.⁶⁸

However, according to EVA, there was a second, harmful side to “anti-growth ideology.” The anti-growth agenda was also being advanced by more threatening actors: the new social movements (or “alternative movements” in EVA’s terms). In the view of EVA leaders, these movements promoted a wide range of issues, from eco-friendly lifestyles, an anti-nuclear agenda, and nature conservation to feminism, the peace movement, or the empowerment of sexual minorities. However, they all seemed to have one thing in common: a strong critique of capitalism and of a society solely based on economic growth.⁶⁹ EVA estimated that the anti-growth obsession of these movements was already negatively affecting young people’s educational choices, hampering the supply of labor to industry, and pushing for wrong energy policy choices.⁷⁰ However, compared to the earlier working class movements challenging private property rights, these new movements did not pose an equivalent threat. Thus, EVA’s assessment was that they would be politically domesticated over time, and that they had a welcome tendency to support more liberal ways of thinking that also challenged the prevailing forms of statism.⁷¹

For the people engaged in EVA, the battle between the anti-growth and growth camps boiled down to the issue of nuclear power. In their eyes, investment in nuclear power was a near-existential issue for the future of Finnish industry. This was especially the case because, as we have seen, the business community’s reaction to the energy crisis was that nuclear power was the only reasonable option for increasing the country’s energy supply. EVA leaders were frightened by Sweden’s decision to organize a referendum on nuclear power in the late 1970s. They feared that a wrong decision would be taken because both politicians and citizens were not properly informed about the benefits of nuclear power and were under pressure from anti-growth forces.⁷² EVA argued that the nuclear issue no longer followed any meaningful rationality because reason had no place in a debate in which the anti-growth camp was the opponent. The anti-nuclear agenda, promoted by anti-growth voices, was driven by a “religious fundamentalism” that did not care about economic realities and saw nuclear power as fundamentally evil.⁷³

The EVA leaders’ tactic was to use the threatening image of the anti-growth camp as a tool to gain support for a pro-nuclear and pro-growth coalition. They framed the visions of the anti-growth movement as utopian, extreme, and backward-looking. EVA told its potential partners that there was no alternative for any rational person who wanted to maintain the standard of living

and economic activity desired by people in the industrialized world but to press ahead with nuclear investment. To drive home its message, EVA stated that nothing less than the future of Western civilization was at stake. It argued that totalitarian countries (the Soviet Union and its allies) had the power to build as many nuclear power plants as they wanted because they did not have to face the problems of democratic opposition. If reason did not prevail and false voices took over and limited the development of nuclear power, the democratic world would eventually lose the battle for economic progress. This message was explicitly directed at the Social Democrats, with whom EVA had considered it most important to establish close relations. The leaders of the think tank wanted to avoid at all costs that any form of anti-growth ideology might attract Social Democrats. They argued that it was in the interests of both parties, the Social Democrats and industry, to deal with environmental issues in a “realistic way” that did not undermine the conditions for industrial activity.⁷⁴

The pro-growth discourses that EVA helped produce have dominated most mainstream environmental agendas in Finland since the 1980s. A telling example of this is that, at the end of the 1980s, the mainstream of the environmental movement increasingly began to adopt a similar rhetoric to the one EVA had constructed in the 1970s. In this perspective, economic growth and market competition were the main sources for environmental action. A few years after its foundation in 1987, the Green League (the most significant Finnish green party) adopted this outlook as an elementary part of its program.⁷⁵ Moreover, despite its critics, nuclear power has remained central in the national technological imaginary. The defense of nuclear power has united Finland’s industrial, economic, and political elite and has consistently been justified in new ways, most recently as a key energy solution to climate change.⁷⁶

Conclusion

When EVA was created in 1974, the political and economic situation in Finland was anything but favorable to free-market ideas. The empowered left posed a serious threat to business interests. Additional difficulties for business expectations came from the energy crisis and a new kind of environmentalism that challenged the drive for capitalist economic growth. In its responses, EVA did not opt for environmental denial. Especially in its first years, EVA invested a considerable amount of time and energy in assessing what the new situation of depleting natural resources and increasing environmental demands really meant for Finnish business operations and economic thinking.

However, EVA leaders soon set about imagining ways to reconcile the environmental issue with their vision of the free-market economy. By the end of the 1970s, they had built up a fairly coherent set of arguments against the idea of limits to growth and in favor of a version of ecomodernism in which economic growth, technological innovation, and voluntary solutions would provide both

future progress and the necessary conditions for adequate environmental protection. The oil crisis, initially a deeply unsettling event, became a demonstration of the superiority of the market over ideas such as economic planning in solving the problem of resource depletion. EVA was also rarely concerned with specific resource and environmental difficulties. The environmental issue was mostly reduced to its potential effect on increasing production costs. Global environmental problems were signaled only in terms of resource depletion, an issue the think tank took less and less seriously as the energy crises eased and the Finnish economy returned to grow in the late 1970s. During the period examined in this chapter, climate change, for example, was only briefly mentioned in one EVA seminar, when it was stated that the amount of carbon dioxide in the atmosphere from using fossil fuels would, according to “some experts,” impose limits to their use at the end of the century.⁷⁷

With the threat of the radical left gone, EVA went on the offensive against those versions of new social movements that it saw as promoting an anti-growth ideology. In this regard, its main opponent was clearly the environmental movement. The latter’s anti-capitalist orientations represented the possibility of a new form of collectivism and statism that the think tank strove to marginalize. The anti-growth camp was a valuable point of reference when EVA was trying to orchestrate a pro-growth and pro-nuclear coalition and attract Social Democrats behind the new ecomodern consensus. EVA leaders framed the situation as a dichotomous struggle between two schools of thought: one representing an anti-growth, back-to-nature ideology, and the other representing progress, science, and technology. In the so-called “soft society” orientation and part of the social movements, they identified more individualistic subjectivities that might challenge the old-class-based collectivism and statism of the Finnish society. The environmental and economic critiques that emerged from these principles could well be incorporated and tamed to become part of EVA’s free-market perspective.

There are similarities with existing studies of business environmentalism and the environmental history of economic thought in other geographical contexts. Like many of EVA’s contemporaries and later business actors, EVA practiced what might be called early environmental obstructionism.⁷⁸ For example, it portrayed environmentalists as alarmist, religious fundamentalists caught up in irrational emotional behavior. This kind of anti-environmentalism aims to marginalize ecological perspectives and is often accompanied by delaying tactics. It thus contributes to public framings that allow business-as-usual economic development to continue with as little disruption as possible. However, EVA did not embrace the cornucopianism of the leading neoliberal environmental thinkers, and while it disseminated anti-environmentalist arguments, it did not go on to attack the environmental movement outright, as, for example, the later neoliberal think tanks that spread organized climate change denial did.⁷⁹

It looked for ways of dealing with environmental problems through the price mechanism, which could perhaps be managed by some form of government regulation (although the actual solutions were not discussed). Nevertheless, EVA's main environmentalist contribution seems to have been the promotion of the idea that incremental environmental protection measures should be incorporated into the competitive state model. In this model, environmental protection, although increasingly important, remained on the periphery of economic governance for decades to come.

Acknowledgment

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Notes

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8 “Tchernobâle” Reappraised

Technological Risk in Europe’s Post-Stockholm Environmental Politics

Lola Wilhelm

Introduction

In the last quarter century, the field of international public health has come to be dominated by a now ubiquitous concept: One Health.¹ “One Health,” the U.S. Center for Disease Control (CDC) explains, is a “collaborative, multisectoral, and transdisciplinary approach—working at the local, regional, national, and global levels—with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment.”² According to the World Health Organization, this approach is “particularly important to prevent, predict, detect, and respond to global health threats such as the COVID-19 pandemic.”³ The term has risen to prominence in health policy circles in the wake of outbreaks of infectious diseases such as avian influenza, SARS, Ebola, and of course COVID-19. These events, One Health proponents argue, have made painfully clear the urgency of improved communication and coordination between multiple, previously little-connected constituencies: the medical, veterinary, earth science, and social science disciplines; policymakers, scholars, and civil society organizations; and national, regional, and global institutions.

Business elites, too, have endorsed One Health. In the early 2020s, the Swiss-headquartered pharmaceutical giant Novartis partnered with the Italian electricity firm Enel to launch a sensitization campaign for better air quality in cities. The campaign promoted “electric mobility” as part of a switch to a more “sustainable lifestyle for your health and the planet’s” and as a means to “prevent respiratory and cardiovascular conditions.”⁴ As an in-house publication of Novartis’s Italian subsidiary further puts it:

Human health and the environment have an extremely close interdependent relationship. If there were ever any doubts, the pandemic has certainly dispelled them: one cannot live healthily on a polluted planet. This principle, seemingly simple, is at the heart of the One Health approach that defines health as indivisible.⁵

Coming from one of the top firms in the global pharmaceutical sector, this recognition of One Health may be viewed as a significant moment. Novartis was the third largest pharmaceutical company worldwide in 2023, according to *Forbes's* "Global 2000," an annual ranking of the highest-achieving firms based on profits, sales, assets, and market value.⁶ And while its sales revenue of USD 45.4 billion⁷ was modest compared to that of industry leaders Johnson & Johnson and Roche, at USD 89.7 billion and USD 65.3 billion, respectively,⁸ Novartis outperformed other major competitors including the American firm Merck and the French firm Sanofi. Since the turn of the twenty-first century, Novartis has built a reputation as a partner of global health, and has developed programs with non-profit, international, and business organizations in fields such as health inequity, access to essential medicines, and most lately One Health.⁹

Yet on closer examination, Novartis's attitude toward the imbricated challenges of plant, animal, human, and planetary health has been more ambivalent in the past than these recent statements suggest. In fact, segments of public opinion in Basel, Switzerland—the hometown of Novartis and its ancestor firms Sandoz, Ciba, and Geigy—still associate the pharmaceutical industry with environmental degradation and questionable ethical behaviors. This reputational flaw partly harks back to an environmental disaster that took place in the late 1980s. On the night of 1 November 1986, a warehouse owned by Sandoz on the industrial estate of Schweizerhalle near Basel burst out in flames, along with nearly 1,300 tons of agrochemical products stored on the premises. In the absence of an appropriate retention basin to catch the 10,000 cubic meters of water used by the fire brigades to extinguish the blaze, the entire stock was washed into the soil and the adjacent river—the Rhine. Its waters turned an ominous red. Within days, a large portion of the Rhine's aquatic life was wiped out as far as 400 kilometers downriver.¹⁰ Photographs and televised footage of the Rhine's riverbanks, awash with dead eels, made the headlines across Europe. The agricultural, fishing, and drinking-water industries in the downstream riparian countries of the Rhine basin—Germany, France, and the Netherlands—reeled from the disaster. Although there were no human fatalities, the fire at Schweizerhalle or "Tchernobâle," as the accident was nicknamed in reference to the Chernobyl disaster and the French name for Basel, has been dubbed one of the "worst environmental catastrophes of all time."¹¹ Schweizerhalle triggered street protests in Switzerland and diplomatic rebuffs from the neighboring European countries. Emotions ran high: the accident took place only six months after the Chernobyl tragedy. Yet the fact that it had happened in Basel, one of the historic cradles of European industry, was considered especially shocking. It affected one of Europe's major rivers and capitalist economies and involved a world-leading pharmaceutical firm. The irony was not lost on Swiss commentators at the time. How could such a disaster take place in their proverbially "clean and orderly"¹² home country? How could the Basel pharmaceutical industry, with its reputation for state-of-the-art technologies, be embroiled in such dirty business as a chemical spill?

The fire triggered a profound shift in public attitudes to environmental politics in Europe. According to political scientist and environmental regulation specialist David Vogel, it was one of three major regulatory failures—alongside the Chernobyl disaster and the Bovine spongiform encephalopathy (BSE) outbreak—that ushered in a new era of environmental and consumer protection regulation on the old continent.¹³ Yet on closer examination, the timing of this newfound environmentalism is not as clear-cut as it seems. A decade earlier, on 10 July 1976, a fire at a plant owned by Roche—another major pharmaceutical firm headquartered in Basel—had caused the release of a toxic cloud over the Italian town of Seveso. The Seveso accident was the main driver of the so-called “Seveso directive,” a legal instrument introduced by the European Economic Community (EEC) in 1982 aimed at “the prevention of major accidents which might result from certain industrial activities and [...] the limitation of their consequences for man and the environment.” However, it took another serious accident, Schweizerhalle, for tougher controls to be introduced by the EEC and its member states, even though Switzerland was not one of them.

Schweizerhalle spurred the interest of lawyers, environmental activists, and international public opinion. Yet historians have so far shown little interest in revisiting this incident. Perhaps the most detailed account of the accident was penned by polluted-site expert and environmental campaigner Martin Forter and is only available in German.¹⁴ This chapter offers an overview of the events that took place in Basel in 1986 and their far-reaching consequences. Furthermore, it reappraises their significance for our historical perspective on corporations and the environment. Using sources such as the scientific literature produced during or in the aftermath of the event and approaches from public history, this chapter asks what made Schweizerhalle an unusual event in the recent history of environmental politics. The main argument developed here is two-pronged. First, while studies on technological risk since the Industrial Revolution abound, this literature tells us that public and governmental responses to these accidents have tended to focus primarily on the human and economic—not the environmental—costs of these accidents.¹⁵ By contrast, it was environmental considerations that tended to dominate the reactions of the public, corporate circles, and authorities to Schweizerhalle. Second, the historiographical debate on the international environment politics of the last decades has tended to focus on (relatively) long-term trends rather than short-term shocks.¹⁶ Atmospheric pollution, from acid rain through chlorofluorocarbons (CFCs) all the way to greenhouse gases and anthropogenic climate change, is a good example of this. Corporate efforts to orient national and international policies in this field have been well documented.¹⁷ But while air pollution may have stolen the limelight since the 1972 United Nations Conference on the Human Environment in Stockholm, and understandably so considering the seriousness of the threat it represents, this chapter argues that discussions on the role and responsibility of corporations vis-à-vis the environment in this period also resulted from changing attitudes toward a wider set of issues, industrial accidents included.

The bulk of the scholarship on Schweizerhalle hails from two broad fields of research: medicine and the life sciences on the one hand,¹⁸ law and political science on the other.¹⁹ As far as the latter is concerned, researchers have tended to focus on two broad sets of issues: the regulatory frameworks that existed prior to the accident, and their failure to prevent it; and the new governmental and intergovernmental initiatives that were jolted into action in the aftermath of the accident. Some of the most tangible outcomes of the Swiss, international, and corporate responses to Schweizerhalle are discussed in this chapter. Chief among them, new laws were voted by the Swiss parliament to improve industrial risk prevention and mitigation. On the intergovernmental level, scientific programs were set up to monitor water quality. On the corporate side, a voluntary compensation scheme was quickly put in place. What is largely missing from the existing literature, however, is a deeper insight into the behind-the-scenes deliberations that shaped these responses, both within Switzerland and internationally. What measures did the main Swiss political parties advocate for? What political alliances and divisions did the accident trigger, if any, between various constituencies of Swiss political life—especially between the manufacturing sector, farmers, labor, and environmental activists; between authorities in Basel and the seat of power of the Swiss Confederation, Bern; and amongst the different bodies of the Swiss federal government? How did these considerations weigh on Switzerland's crisis management diplomacy? This intricate puzzle undoubtedly constitutes a worthy subject for future research. Solving it would require historical research in Swiss local and federal archives, the archives of the other affected countries, and those of Novartis.

Such an investigation, however, is beyond the scope of this chapter, which has an objective that is both more modest and of a different nature. The findings presented here are part of a preliminary investigation into the history of the role of the Basel pharmaceutical industry in the definition of the One Health agenda. While this chapter reviews the evolutions of environmental regulation before and after the accident, its focus therefore lays elsewhere. Using the history of Novartis and its ancestor firms—Sandoz first and foremost—as a case-study, it prods the public history of an environmental disaster. It hypothesizes that even if the shock of Schweizerhalle may have been an important driver of regulatory change in post-Stockholm Europe, long-term trends mattered in how public opinion and the corporation processed the event, and its implications for plant, animal, societal, and environmental health.

The sources this chapter is based on include the legal and medical scholarship written at the time of the disaster and in the years that followed; articles in the press and radio and television broadcasts; the “gray” literature produced by intergovernmental expert committees and non-governmental organizations; and business publications. Understanding the significance of Schweizerhalle in Europe's environmental politics requires delving into both the more distant past of Switzerland's chemical industry and the history of river pollution as one of the cornerstones of modern environmental regulation on the continent.

This chapter first summarizes the story of the Basel chemical industry and then outlines successive international attempts at reducing pollution in the long-suffering Rhine. How this background colored the public reaction of the Swiss population, authorities, and corporate leaders is examined in a further section of the chapter. Finally, the diplomatic repercussions of Schweizerhalle will be discussed, as well as the ambivalence of the international regulatory response to it.

The Basel Pharmaceutical Industry

As Europe's second-longest navigable river, the Rhine has been one of the continent's main commercial arteries since times immemorial. By the late Middle-Ages the Rhine basin, a vast area straddling the regions of Eastern Switzerland, Alsace (France), South Baden (Germany), and the Low Countries (Netherlands), had become a dynamic economic center, a success it owed in large part to a thriving textile weaving, dyeing, and trading industry.²⁰ The discovery of synthetic dyes in France in the mid-nineteenth century paved the way for further industrialization along the Rhine. The Swiss state (*canton*) of Basel was a particularly attractive destination for would-be chemical dyestuff entrepreneurs. The Swiss legal tradition provided no protection for patented inventions, making it easy to copy new industrial processes and products. Due to its position on the Rhine, Basel was also located within easy reach of Europe's leading textile markets. By the end of the nineteenth century, the locality was home to six chemical dyestuff factories.²¹

Founded in the 1860s as privately owned enterprises, the dyestuff manufacturers Sandoz, Ciba, Durand & Huguenin, and Geigy were all turned into modern, publicly traded corporations around the turn of the twentieth century, with production taking place both in Switzerland and in factories abroad. While dyestuffs continued to be the main source of income of Sandoz, Ciba, and Geigy until the end of the First World War, the Basel chemical industry also entered the booming market of pharmaceutical specialties.²² Historians of medicine commonly view the twentieth century as the age of therapeutic revolution, referring to both the spectacular take-off in the discovery, patenting, and commercialization of new and efficient drugs, and the emergence of modern-day hospitals.²³ The Basel chemical industry was one of many contributors to this momentum. Once again taking advantage of Switzerland's permissive intellectual property environment, in 1887 Ciba started manufacturing Antipyrine, a fever-reducing drug invented by a German company three years earlier. Sandoz followed suit in 1895. Founded in Basel in 1896, the new company Hoffman-La Roche, meanwhile, focused solely on pharmaceuticals. Just like Bayer's aspirin (invented in 1897), Hoffman-La Roche's cough syrup, Sirolin, was one of the modern pharmaceutical industry's first commercial hits. In 1917, the board of directors of Sandoz decided to create a pharmaceutical department dedicated solely to research and experimentation on potentially profitable new drugs. In the following decades,

the Basel industry discovered and produced a host of new medications, with applications ranging from heart diseases to hormone deficiencies and mental health. Like other successful Swiss multinationals, the Basel firms nurtured close bonds with the Swiss medical community, both as a means of conducting clinical experiments in hospitals and of honing its reputation with doctors and Swiss society at large.²⁴ In 1932 a new building, the Hospice Sandoz, was added to the Lausanne State Hospital by bequest of late founder Edouard Sandoz.²⁵

Buoyed by military orders of dyes during the First World War, Ciba, Geigy, and Sandoz decided to pool their purchasing, production, research, and profits by creating the joint business interest Basler IG in 1918.²⁶ During the inter-war period, in addition to dyes and pharmaceuticals, the companies branched out into new fields of chemical manufacture, including plastics, cosmetics, and household products.²⁷ But they also started to make headways in the field of agrochemicals, including synthetic fertilizers, pesticides, herbicides, and fungicides. DDT, a synthetic insecticide discovered in 1939 by a scientist employed by Geigy, Paul Müller, snatched the Nobel Peace Prize for Medicine in 1948.²⁸ The Second World War and post-war economic recovery continued to buoy the Swiss pharmaceutical sector. At Ciba, sales increased four-fold between 1939 and 1951.²⁹ But in the 1950s, Geigy's growth outstripped Ciba and Sandoz, owing especially to the success of its agrochemical branch.³⁰ In 1969, Ciba and Geigy merged, to become Ciba-Geigy; the same year, Sandoz absorbed the ailing dyestuff firm Durand & Huguenin. This growth, however, created new challenges. The "overheating" of the Swiss economy during the three post-war decades brought about labor shortages that hit high-technology sectors particularly hard.³¹

By contrast, the economic crises of the 1970s led to a strategic reorientation of the Swiss pharmaceutical industry toward high value-added productions. According to a study commissioned by the Swiss pharmaceutical industry association, *Interpharma*: "In the first half of the 1990s, adjustments to structural changes as well as a pronounced macroeconomic growth crisis led to the loss of almost one in three jobs in the entire chemical and pharmaceutical industry".³² However, the 1980s also presented new growth opportunities. As the Basel firms progressively shed their less remunerative branches they became a leading global hub for pharmaceuticals and biotechnology.³³ Despite the downsizing of its workforce in the 1980s and early 1990s, the economic weight of the Swiss pharmaceutical sector remained considerable for the Swiss economy, and even more so for Basel. In 1991, chemicals represented 21.6 percent of Switzerland's industrial exports and contributed to 12.5 percent of the country's industrial GDP.³⁴

Business historians of Switzerland typically view the post-war decades as an era of relatively peaceful and mutually beneficial relations between industry, labor, and the various layers of government.³⁵ Owing to a long Swiss tradition of democratic corporatism, private interest groups were closely integrated within policymaking. As a large export-oriented sector, the Basel industry wielded considerable political power.³⁶ With the economic downturn of the 1970s, however,

the atmosphere started to change. New divisions gripped Swiss society, including around the issues of atomic energy and genetic engineering. Against this backdrop, environmental concerns also emerged as a sore point within the Swiss political debate. However, although Schweizerhalle brought these simmering tensions to a boil, concerns over pollution were not new. They had been a constant challenge, not just for Switzerland, but also for the entire Rhine basin. The next section examines some of the important moments for environmental regulation in the region.

Pollution on the Rhine

Industrial pollution in the Rhine was by no means a new phenomenon when disaster struck in Basel on 1 November 1986. Already in the nineteenth century, the chemical pollution caused by navigation and industrial transport was acknowledged as an issue, and international treaties were introduced to regulate the transport of substances such as arsenic.³⁷ Some cities on the Rhine also started regulating water pollution from land-based sources in the nineteenth century; however, it was not until after the Second World War that this issue started to be addressed internationally. Amidst reports of the deterioration of Rhine water quality and of its negative impacts on the fishing, agriculture, and drinking-water industries, in 1950 a new intergovernmental body was established, the International Commission for the Protection of the Rhine.³⁸ The first international convention to address water pollution in the river, the convention concerning the Commission for the Protection of the Rhine Against Pollution (also known as the Bern Convention), was signed in 1963. Parallel to this initiative, the business elites and local authorities in Basel, Alsace, and Baden were also seeking to reinforce their cross-border cooperation outside of the official diplomatic process. In 1963, a transnational, non-governmental association, the Regio Basiliensis, was created in order to promote the economic, political, and cultural development of the Upper Rhine Valley. Cross-border diplomacy between France, Germany, and Switzerland was gaining momentum, and the Rhine was at its heart.³⁹

The Bern Convention, however, did not improve the situation. Chloride, nitrate, and phosphate concentrations continued to rise in the river, and by 1971 long stretches of its waters were stripped of oxygen entirely. Under the aegis of the European Community, in 1976 a new convention, the Convention on the Protection of the Rhine Against Chemical Pollution (also known as the Rhine Chemical Convention), was signed by the parties to the Bern Convention.⁴⁰ Meanwhile, the risks associated with water-based human activities had also started coming into focus on the global scene. Back in 1949, the International Court of Justice had found the state of Albania liable for damages for its failure to warn British ships against mines it knew were planted in its national waters. This ruling established an international precedent for the application of a "duty to warn" between nations.⁴¹ Furthermore, Principle 22 of

the Report of the 1972 United Nations Conference on the Human Environment stated that "States shall co-operate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction."⁴²

The international legal apparatus was further bolstered by European regulations in the wake of an industrial accident that happened in the Italian town of Seveso. On 10 July 1976, an explosion at a small factory owned and run by a subsidiary of the Basel firm Hoffmann-La Roche, Icmesa, caused the release of a highly toxic chemical, 2,3,7,8-tetrachlorodibenzo-p-dioxin. Approximately 30,000 people lived in the area considered to be exposed to the toxic fallout. Hundreds of local residents were treated for acute symptoms resulting from their exposure to the dioxin cloud, including severe skin lesions. The fauna and flora, too, suffered from the disaster. Trees lost their leaves. Within days thousands of wild and farmed animals died, while a further 80,000 had to be culled in order to prevent them from further contaminating the food chain.⁴³ The disaster painfully brought home the inadequacy of Icmesa's safety policies and of local and national regulations in the field of technological risk prevention and management. Despite the immediate and worrying impacts of the incident on animals and humans, it took Icmesa nine days to inform the authorities of the true nature and extent of the chemical release, and another five days for the local authorities to order the evacuation of the worst-affected zones. Critical scholars viewed the incident as a typical example of powerless local populations paying the human price of high technological risks, while capitalist governments and multinational firms reaped its benefits.⁴⁴ It did not help that Icmesa had a history of refusing to comply with environmental rules. Since 1969, the firm had failed to abide by its legal obligation to participate in a wastewater decontamination initiative.⁴⁵

The Icmesa disaster nevertheless had wide-ranging regulatory repercussions. While research into the health impacts of dioxin was still in its infancy, their teratogenic effects were known. Although medical abortion was at that point illegal in Italy, women who lived in the contaminated zone and were in their first term of pregnancy were exceptionally offered the choice to have one. This triggered heated political reactions. Furthermore, local protests took place under the aegis of community-based organizations, some of which were Catholic. Dissenters particularly deplored the lack of information and agency given to the local population in the scientific and political debate over the management of the disaster, which was shrouded in secrecy.⁴⁶ Adopted by the European Economic Community in 1982, Directive 82/501/CEE, known as the "Seveso Directive," was an attempt to address some of the issues brought to the fore by the accident. Its aim was the "prevention of major accidents which might result from certain activities." European regulation now required member states to "adopt the provisions necessary to ensure that... the manufacturer is obliged to take all the measures necessary to prevent major accidents and limit their consequences for man

and the environment."⁴⁷ Because a lack of information and transparency was considered as one of the chief causes of the Seveso crisis, the directive also tasked states with identifying potential technological risks, and with making the establishment of adequate emergency plans mandatory.

In sum, the post-war decades saw a tightening of the regulatory framework governing pollution by states and their national industries in Europe and on the global scene. Scholars have argued that, like most European legislations, the 1982 Seveso Directive and its subsequent revisions was heavily influenced by political and corporate pressure groups.⁴⁸ Exactly how chemical industry associations and environmental organizations participated in the legislative process remains an open question, and one that would deserve further investigation. What soon became clear, however, is that these frameworks proved unable to prevent further serious accidents.

The Accident at Schweizerhalle

It was after midnight on 1 November 1986 when a fire was discovered at a Sandoz warehouse on the industrial estate of Schweizerhalle, in the southern suburbs of Basel, Switzerland. One hundred and sixty firefighters from the company's fire brigade and neighboring towns were quickly mobilized. The blaze was extinguished within a few hours, but not before it sent an enormous, foul-smelling smoke plume over the surrounding conurbation. Local residents woke up to police loudspeaker vans instructing them to stay indoors and keep their windows closed. Three people were admitted to hospital for respiratory complaints. However public health specialists have suspected that many more may have been dissuaded from seeking medical attention, because the official guidelines issued by the Basel authorities in the days that followed the accident reassured the public that any symptoms caused by the air pollution were benign and temporary. As it later emerged, there was no evidence to back up that claim. Nevertheless, retrospective studies have not documented any long-term impacts on human health.⁴⁹

Concerns over air pollution were soon superseded by another threat, however. Approximately 1,300 tons of products were stored at Warehouse 956, although at the time of the accident Sandoz was neither able nor required by law to account for what these chemicals were. The 10,000–15,000 cubic meters of water used to put out the fire washed the entire content of the warehouse into the soil and the nearby Rhine. When the river turned red, Sandoz initially announced that this was due to a harmless red dye. But this public announcement too turned out to be only a partial truth: while the coloring compound itself was indeed innocuous, the chemicals it was designed to mark were not. Later investigations revealed that the materials stored at Warehouse 956 consisted of highly toxic compounds, including organophosphorus insecticides, rodenticides, herbicides, and mercury-based fungicides. Two emblematic fish populations of the river,

the eel and the salmon, were annihilated.⁵⁰ Swathes of land adjacent to the river were also poisoned.

The disaster had a rippling effect in Swiss political life. The initial response by Sandoz and the Swiss authorities caused a public uproar, as contemporary press and media reports attest. Contradictory official guidelines were issued at first: commuting to work was discouraged; attending school was not. Elected and company officials were slow to communicate, and when they did, their reassurances left the public dissatisfied. As the medical journal *The Lancet* put it:

Official protestations that the disaster has had no adverse effects on health do not ring true with hundreds of people who woke on the morning of Nov 1 coughing, nauseated, and suffering from sore eyes. The masses of fish corpses which appeared subsequently must have helped to create a feeling that whatever it was that the warehouse contained could hardly be assumed to be innocuous.⁵¹

According to the daily paper *Neue Zürcher Nachrichten*, 10,000 people, hailing mostly from student, left-wing, and environmental organizations, demonstrated in Basel a week after the accident. Anti-capitalist slogans mushroomed on the city's walls. The NGO Greenpeace called for a prohibition of the production of toxic pesticides.⁵² "Ciba, Roche, Sandoz. 3 firms, 1 trademark," a placard adorned with a skull and crossbones deployed by the organization read.⁵³

The "inertia" of Swiss authorities further stoked the fire of controversy. Two months went by before a commission was established to investigate the causes of the accident, under the jurisdiction of the State of Basel-Landschaft and in cooperation with counterparts from neighboring Swiss states, the Federal Office for Public Health (OFSP), and the Federal Office for the Protection of the Environment.⁵⁴ Tellingly, its report, whose results were made public in July 1987, did not specifically point to failures from Sandoz. Rather, it established that the "potential danger of chemical product storage sites had been largely under-estimated," and that the State's civil and environmental protection systems needed to be reinforced.⁵⁵ In parallel, legal investigations took place to determine the responsibility of Sandoz executives in the accident, but no evidence of criminal neglect was found.⁵⁶

In his 2019 book *Chernobyl: History of a Tragedy*, historian Serhii Plokhyy wrote that "the first Soviet-era organizations and political parties began in the ecological movement," thus highlighting the historical connection between technological disasters and environmental activism in the 1980s.⁵⁷ Coming hot on the heels of the publication of Ulrich Beck's book *Risikogesellschaft*, "Tchernobîle" came to "demonstrate that ecological catastrophes were not restricted solely to beyond the iron curtain."⁵⁸ In his memoir, Swiss Green party co-founder Laurent Rebeaud credits the two 1986 disasters for the success of his nascent political movement at the Zurich State elections.⁵⁹ Yet on closer inspection,

Schweizerhalle's impact on Swiss environmental policy was not as great as might have been expected. As a matter of fact, not everyone was critical of the *de facto* pact of mutual support between industry and government. This pact had been a mainstay of Swiss political and economic life since the early twentieth century, even if the honeymoon that Swiss business, government, and labor had enjoyed since the end of the Second World War started waning in the 1970s.⁶⁰ As a documentary broadcast on the Swiss television channel RTS put it, the chemical industry was Basel's "bread-earner," and many Basel residents were reluctant about biting the hand that fed them. At dinner parties, criticizing "the chemists," as the Basel chemical companies were popularly referred to, was considered "unpleasant," "not chic," and even plainly "rude."⁶¹

The printed press learnt in on what quickly became a national debate on technological risks. The liberal-learning *Journal de Genève*, for instance, recognized that the industry had a duty to do everything in its power to minimize the risk of accidents. However, risk could never be eliminated entirely. "Toxic products," it continued, were "irreplaceable"; without them, there was "no hope for the yields of the land of the third world, no hope for the fight against famine."⁶² The population of Basel had to learn to live with this (very small) risk that, as Charles Perrow put it in his seminal book *Normal Accidents*, "a few have decided the many cannot do without."⁶³ Although the accident, and reactions from part of the Swiss citizenry, threatened the delicate balance that had existed between the economic interest of the Basel region and the health and safety of its population, this ambivalence partly explains the reluctance of Swiss authorities to hold the chemical industry to account. Prompted by a lawmaker in December 1986, the Federal Council affirmed that "the accident at Schweizerhalle will have no direct consequences on our agricultural policy."⁶⁴ *The Lancet* regretted this situation:

Not surprisingly, various local interests have tried to play down the problem. Because most people in Basel are dependent – directly or indirectly – on the chemical industry, an independent inquiry into the health effects of the pollution is obviously indicated. It is therefore sad to learn that a proposal to invite the World Health Organization to convene and conduct such an inquiry continues to meet with determined opposition from within Switzerland.⁶⁵

But while protesters, newsrooms, and political offices all weighed in on the public conversation around the accident, so did Sandoz itself. At first, the attitude of its executives did little to assuage the outrage of the Basel population. In an attempt to restore the public's confidence in the firm, chairman of the board Marc Moret and director of safety Hans Winkler gave public statements and took part in townhall meetings in Basel. But these interventions were met with contempt. As the RTS reported, throwing dead eels at corporate bosses and local politicians became one of the trademarks of the Schweizerhalle protests.⁶⁶ More

needed to be done, if the firm was to withstand the reputational blow that the accident had dealt it.

Just weeks after the accident, Sandoz enlisted the services of consultancy firm Burson-Marsteller in order to “regain control” of the Schweizerhalle story. Burson-Marsteller had a long record of mounting corporate public relation responses to disasters, whether industrial or reputational. In 1986, it masterminded the creation of the National Smokers Alliance in the United States, a “front group” funded by Philip Morris and other tobacco manufacturers whose purpose was to mold public opinion against the regulation and increased taxation of the tobacco industry.⁶⁷ It is also rumored to have counselled Union Carbide in the wake of the 1984 Bhopal disaster, although more evidence is still needed to ascertain its role in this and other industrial accident clean-ups.⁶⁸ Burson-Marsteller’s plan steered clear of any suggestion that accidents were inevitable, and instead focused on positive messages around the firm. “We have never been safer” and “Green Chemistry” became the main slogans of this public relations campaign. The strategy also comprised projects aimed at restoring the Rhine’s fish stock in order to pacify angling clubs; philanthropic donations to scientific and ecological institutions; and cultivating good relationships with “allies” who could act as “filters” through which company messages could be communicated to the public. Major foreign newspapers in this category included *Bilanz*, the *Wall Street Journal*, the *Financial Times*, and *Les Echos*.⁶⁹

Dissenters continued to criticize Sandoz and the chemical industry more broadly for “accustoming the Baslers to living on an unhealthy river” and for commodifying the Rhine as a “refrigerator” that one can empty and then pay to fill again with fish at leisure.⁷⁰ Overall, however, Burson-Marsteller’s mission, which had been to restore Sandoz’s reputation and credibility, was a success. By the first anniversary of the disaster, RTS reported, many Basel residents had grown tired of their hometown being associated with the accident. It was time to move on.

International Reactions

On the international scene, reactions were mixed too. One of the questions raised by the accident was whether Switzerland had failed to fulfill its obligations under the existing international treaties governing pollution on the Rhine. Swiss authorities waited for over twenty-four hours before notifying their counterparts in Germany, France, Luxembourg, and the Netherlands of the disaster. This delay was particularly prejudicial to the Dutch, because it deprived them from a precious opportunity to lock off their northern waterway system in time to limit the damages. Another question was whether Switzerland had enforced appropriate regulations at home to prevent chemical pollution, as international treaties required. Warehouse 956 was not equipped with appropriate fire detectors and sprinklers. The company that owned it, Sandoz, did not release the list of the

products that had been washed into the Rhine until 5 November 1986.⁷¹ None of these things were illegal in Switzerland. The company had, in fact, done its due diligence by performing internal audits and by successfully passing State inspections up to just a few days before the fire. According to the special commission tasked with investigating the disaster in Switzerland, the accident owed to a fortuitous and complex combination of factors, including inadequate early warning and communication systems, a civil protection institution in need of reform, and the absence of additional resources to deal with environmental issues within the State administration.⁷²

These multiple failures, in turn, cast doubts over Switzerland's compliance with international law. Had the Confederation breached existing treaties by neglecting to enforce appropriate legislations at home? While heated, the question was to remain unanswered. France and Germany initially hinted that they intended to sue Switzerland over its failure to warn them in a timely manner; however, their threat never materialized. There were several reasons for this. First, Swiss federal authorities and Sandoz leaders worked hand in hand to soothe the international outrage. Despite the anti-government, neoliberal tones that had tinted the discourses of part of the Swiss business elite in the 1980s, they now acknowledged that the "time of cooperation" between the public and private sector had come.⁷³ "The credibility of Switzerland is at stake," one newspaper further remarked, ahead of an emergency meeting in Zurich of the environment ministers of Switzerland, Germany, the Netherlands, and France.⁷⁴

On Sandoz's side, this meant making amends. Within days of the accident, the company declared that it would compensate its victims, even though there was no such thing in Swiss law as the "polluter pays" principle. The company's insurers, Winterthour and Gerling, declared that they would be ready to cover up to 100–500 million Swiss francs in damages.⁷⁵ Scholars estimate that Sandoz paid 43 million francs in compensations to France, Germany, the Netherlands, and Switzerland. The recipients comprised fishing and agrarian organizations, other industries, *ad-hoc* private groups of claimants, and public institutions.⁷⁶

Sandoz's willingness to pay probably helped mellow Switzerland's critics abroad. But another consideration mattered. As observers noted, the governments of the other riparian states catered to profitable chemical enterprises at home too. Seeking redress from an international court would potentially lead to calls for stricter restrictions on the chemical sector in the entire Rhine basin, and this was a risk that no government was willing to take. This, according to some of the legal scholars who analyzed Schweizerhalle, is why the issue of the catastrophic pollution of the Rhine was settled through private compensation and the introduction of new intergovernmental cooperation measures, rather than in international courts.⁷⁷ Left-wing observers and environmental activists criticized this approach, claiming that the Rhine basin states and industry had coalesced against the interest of the river's population and wildlife.⁷⁸

Nevertheless, in the wake of the disaster new measures were introduced to improve the international prevention of and response to pollution of the river. Deliberations took place within the constellation of intergovernmental organizations that had powers over the question, including the European Union, the International Commission for the Protection of the Rhine, and the Upper Rhine Conference (a German-Swiss-French commission created in 1975 and dedicated to addressing cross-border issues between the three countries). In 1987, the first modification of the European Union's Seveso Directive was introduced.⁷⁹ That same year, the ICPR announced the launch of a "Rhine Action Programme" aimed at fighting water pollution and rehabilitating the Rhine ecosystem, and Sandoz simultaneously unveiled the creation of a fund of 10 million Swiss francs to clean the river.⁸⁰

As the periodic reviews conducted by the intergovernmental working groups on the Rhine attest, national and international regulations too were revised. Some of them aimed at setting up better early warning systems, at improving the international exchange of information, and at coordinating the response to industrial emergencies. Rules on the inspection of industrial infrastructures were tightened.⁸¹ Provisions were made for the funding of improved scientific monitoring of the river's water quality and biodiversity. However, the Rhine Action Programme's flagship objective was to accelerate the recovery of the salmon and eel populations, species that were prized for their commercial and gastronomic value. Propped by mass reintroductions, these populations recovered faster than anticipated. In fact, such was the success of the Rhine Action Programme that part of the institutional and academic literature considers that Schweizerhalle was the shock that European governments needed to clean up their act. As one optimistic article put it in 2014: "from being the sewer of Europe in 1970, the Rhine has developed into one of the cleanest international rivers."⁸²

Framing its commitment to the cleaning of the Rhine as a "question of honor," Sandoz reaped the benefits of a successful crisis management plan.⁸³ The accident had little impact on its financial health. Dividends were paid for the year 1986.⁸⁴ In 1987, a member of the board of administrators who wished to remain anonymous told the *Journal de Genève*: "Financiers do not have the same reaction as people from WWF. They are not going to sneeze at a handsome profit just because a fire broke out here, not there."⁸⁵ Nevertheless, although the clean-up of the Rhine after 1986 has sometimes been touted as a success story, the corporate strategy that it set in motion had wide-ranging consequences for human health and the environment beyond the Rhine basin.

In 1987, Sandoz announced that it was stopping the production of mercury-based insecticides in Switzerland, in an apparent concession to the demands of the environmental NGO Greenpeace. However, in an interview he gave to environmental activist and contaminated-site expert Martin Forter in 2011, a former director for the environment at Ciba-Geigy, Peter Donath, commented that "Schweizerhalle" had "no lasting impact" on the environmental practices

of the Basel chemical industry. Instead companies, Donath explained, relocated the production of toxic chemicals to China and India, where the cost per kilogram of product related to compliance with environmental regulations was 10–15 percent lower than in Switzerland.⁸⁶ According to Forter and Donath, there were multiple issues with this decision. First, due to the environmental costs of rapid industrialization and under popular pressure, Asian nations have started tightening their environmental regulations, diminishing the returns of the industry's attempts to externalize the costs of pollution abroad. Next, this strategy disincentivized the industry from modernizing its practices at home. Since the 1980s the Basel end-of-pipe technologies designed to deal with pollution, such as waterworks and waste management infrastructures, have not been used and have fallen into a state of disrepair. Finally, Greenpeace has argued, the industry's attempt to save costs by relocating abroad and by focusing on end-of-pipe technology rather than on the prevention of pollution at its source is ultimately a false economy. According to the NGO, the hidden costs of pollution have already come back to haunt the Basel chemical industry. In the 1950s and 1960s, the Basel firms dumped industrial waste at several locations in Switzerland, France, and Germany. Over the following decades, these disposals started to contaminate local drinking supplies. In 2000, under popular and official pressure, a consortium of the Basel chemical industry was coerced into paying for the clean-up and rehabilitation of the site, at an estimated cost of 350 million Swiss francs.⁸⁷

Conclusions

This chapter set out to examine the significance of an industrial accident for the environmental politics of Western Europe in the 1980s. Through its examination of contemporary sources and an array of legal, medical, and corporate texts, it identified three areas where the disaster's impact was most strongly felt.

First, the disaster at Schweizerhalle (and, to an extent, Seveso before it) focused Swiss and international minds on the ecological consequences of industrial accidents. The death of symbolic animal populations such as salmon and eels, and in the case of Seveso the culling of thousands of heads of livestock infected by dioxin, sparked a public debate on the interconnectedness between plant, animal, and human habitats. In truth, these debates were not entirely new. Rachel Carson's 1962 book *Silent Spring*, considered by many historians as a foundational text of the global environmental movement, had been an indictment of DDT.⁸⁸ DDT was widely used in post-war efforts to eradicate mosquito-borne human diseases, including as part of the World Health Organization's Malaria Eradication Programme.⁸⁹ Yet as *Silent Spring* revealed, the product also had ricocheting impacts on plants, wildlife, and human health. Despite attempts by the DDT manufacturing industry to discredit Carson, and the inertia of academic and political circles, the product was eventually banned by governments

worldwide in all but a few exceptional circumstances.⁹⁰ The ban, which was passed in 1972 in the United States and a few years later in Europe, led to a temporary lull in environmental concerns over pesticides. At the same time, and in the wake of the 1972 United Nations Conference on the Human Environment in Stockholm, the extractive, energy, and automotive industries were coming under heightened scrutiny. As we have seen in this chapter, however, Schweizerhalle put the agrochemical sector back at the heart of the environmental debate, even if the chemical disasters in Seveso (1976) and Bhopal (1984) had already started doing so. The question of the agrochemical sector's entwined ecological impacts on plant, animal, and human health has continued to feed a lively historiographical debate ever since.⁹¹

Second, Schweizerhalle epitomized the embeddedness of sudden industrial accidents within a long historical timeframe and wide geographic landscape. Seen by contemporary observers as a capitalist answer to the Chernobyl disaster, it illustrated the limitations of decades of attempted European coordination in the field of water pollution and industrial safety. It galvanized national and European Community efforts in the field of environmental regulation. The decades since the accident at Schweizerhalle have been rhythmized by commemorative scientific conferences and ongoing reviews of the progress achieved by the Rhine regeneration and monitoring programs put in place since 1986. Their conclusions have been largely positive. The ecosystem of the Rhine has recovered and is healthier and more diverse today than it had been in the previous century. The safety record of the industry has improved. However, the question of the Basel chemical industry's environmental record continues to divide opinions. In November 2016, an artistic performance took place at Theater Basel in commemoration of the thirtieth anniversary of the disaster. A roundtable discussion comprising artists, elected politicians, and civil society representatives was broadcast live, but one chair remained empty: Novartis declined to participate.⁹²

This brings this conclusion to its third and final point, namely that the accident afforded a glimpse into Sandoz's attitude toward its environmental impact. One way Sandoz, and its successor Novartis, handled the reputational and economic challenges posed by the incident was to outsource the manufacture of more problematic chemicals to less stringently regulated economies. But the firm did not stop here. In a recent anniversary publication, Novartis in-house historian and archivist Walter Dettwiller writes that Novartis's "brilliant start" in 1996 owed to management's decision to center the new firm's strategy on "innovative" human medicine. The company shed many of the branches that it had inherited from its predecessors: in 1999, seed and agrochemical activities were outsourced to a new spin-off company, Syngenta, which merged with British-Swedish firm Astra-Zeneca the following year. Novartis also closed down its animal drugs and vaccines branches. Ironically, this trend has also had its critics. One recent publication of the University of Zurich questioned whether Novartis was skirting its responsibility toward the One Health agenda by focusing only on the highly remunerative corners of human medications and

biotechnologies.⁹³ And so the debate on the risk-benefit balance of agrochemistry continues.

Notes

- 1 The research for this chapter was conducted as part of the project *The Case of Syphilis. An Interdisciplinary Project: Searching for an Integrated Model to Explain Never Ending Infectious Diseases*, funded by the Swiss National Science Foundation (Grant number 186394).
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- 9 Walter Dettwiler et al., *25 Years of Novartis – 250 Years of Innovation*, newly revised, extended and enhanced edition (Profile Books Ltd, 2021), 98–100.
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- 11 Deveraux F. McClatchey, “Chernobyl and Sandoz One Decade Later: The Evolution of State Responsibility for International Disasters, 1986–1996,” *Georgia Journal of International & Comparative Law* 25, no. 3 (1996): 659.
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- 15 For an overview of sociological and historical discussions of industrial accidents, see the classic texts, Charles Perrow, *Normal Accidents: Living with High-Risk Technologies* (Basic Books, 1984); Gerald E. Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution* (University of California Press, 2002); and the more recent discussions in Arwen P. Mohun, “Constructing the History of Risk. Foundations, Tools, and Reasons Why,” *Historical Social Research / Historische Sozialforschung* 41, no. 1 (155) (2016): 30–47; Sean Kheraj, “A History of Oil Spills on Long-Distance Pipelines in Canada,” *Canadian Historical Review* 101, no. 2 (May 2020): 161–191.

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9 Capitalist Fictions

Environmentalism and the Swedish Industry's Effort to Educate for Optimism and Uncertainty, 1968–1988

Kristoffer Ekberg

Introduction

In the late 1960s Swedish industry and employer organizations began a concerted effort to counter what they saw as pessimistic doomsday scenarios.¹ This chapter traces this effort to sway public opinion and counter the radical proposals for societal transformation emerging from the environmental and social movements of the time. By following the campaigns and educational endeavors concerning environmental protection and energy by industry-affiliated actors in the period from the late 1960s to the late 1980s, this chapter identifies a strategic ambition to “educate for optimism and uncertainty.” This educational project is analyzed through the archives and published material from the Swedish Public Relations (PR) firm Kreab, the Swedish Confederation of Employers (SAF), and the Confederation of Swedish Industry (SI or Industriförbundet). Together with the physicist Tor Ragnar Gerholm, this network of organized business interests created a stream of PR material designed to change the perception of what kind of future awaited the world and particularly the youth. The analysis of these futures, constructed by the Swedish industry and employer organizations, allows a better understanding of how business and capital in general has responded to environmental issues.²

The chapter studies how optimism and uncertainty were key values for industry as they enabled what sociologist Jens Beckert calls imagined futures. With this concept, Beckert turns our attention to the fictional aspects of capitalism.³ He argues that: “While fictions help in ‘overlooking’ uncertainty in decision-making by providing *seemingly* good reasons for specific decisions, they are at the same time also a source of the uncertainty they are responding to...”⁴ In other words, fictions both respond to, and create uncertainty. This same uncertainty is a condition for capitalism as it is fictions that mobilize and attract capital. Based on the case of Sweden, this chapter analyzes how the dire futures predicted by publications such as the 1972 *Limits to Growth* (LTG) report or popular science books produced certainties and risks that countered

a capitalist expansionist logic.⁵ Beckert argues that “fictional expectations find no application under conditions of certainty and risk.”⁶ Thus, rather than analyzing fictions as useful *tools* for business and capital at large, it is argued here that the Swedish industry from the late 1960s and onwards acted as if uncertainty and optimism (growth) were a *necessary condition* for such capital fictions and therefore, that citizens had to be educated and embrace an uncertain, but still optimistic idea about the future. Indeed, “[g]iven that futures are fundamentally uncertain, collectively held fictions allow economic actors to free themselves from paralyzing doubt. Fictions – be they stories, narratives or imaginaries – lead investments [...]”⁷ Uncertainty about the future was therefore not only a way to counter scientific findings on environmental harms, but also a way to protect capitalism as a system.⁸ Characterizing the efforts of Swedish industry as “education of optimism and uncertainty” connect to the utopian concept of education of desire, in which utopian ideals are realized through a process aimed at directing desires toward a different, better world.⁹ In the context of increased knowledge about pollution and limits to growth in post-war Sweden, an emphasis on uncertainty contributed to protect the status quo and the possibility of future returns on investments.¹⁰

The chapter contributes to three partly interconnected bodies of literature: first, it relates to the literature on historical futures and the rise of futurology; second it connects to the literature on prometheanism as part of an anti-environmental tendency from the late 1960s and onwards. And last, it relates to discussions on business strategies of compliance and opposition to environmental regulation, specifically in Sweden.

The mobilization of the future for societal change is often situated in the utopian tradition where ideas or blueprints are used as future references by which one could steer society.¹¹ The rise of systems thinking and scenario planning during the 1950s and 1960s bears some resemblance to this tradition in its ambitions to guide society toward what is perceived as a safe and good future despite the many dangers ahead.¹² Intellectual historian Jenny Andersson states: “it can, in fact, be argued that what futurists or forecasters do is not so much create new forms of knowledge about the future but pave the way for distinct forms of action.”¹³ Andersson continues by arguing that expertise on the future, and especially the construction of uncertainty and ignorance regarding future trajectories became a way to preserve the present and status quo.¹⁴

In existing literature the optimistic counterattack on environmentalists is usually thought of as part of a promethean discourse.¹⁵ Studies of contemporary and historical prometheanism have predominantly focused on developments in the United States, and on a number of key actors, namely, influential economists and intellectuals.¹⁶ Moving beyond the North American context and into the workings of these ideas in shaping public discourse and governmentalities can provide new perspectives on how anti-environmental (neoliberal) ideas gained traction among citizens.¹⁷ A staple in the promethean discourse is to set-up

environmentalists as being against the working class and therefore mobilizing fear of downward mobility among these groups. Exaggerated threats to livelihoods of working-class families and individuals have been used and promoted through the jobs vs. environment frame, often using economic doctrine and calculations to support this argument.¹⁸ The framing of environmentalism as elitist is visible in neoconservative responses to environmentalism in the 1970s as well as the idea built around the existence of a New Class incompatible with working-class interests.¹⁹ In contrast this chapter traces how since the late 1960s, Swedish business and industry organizations and their affiliated partners cultivated not just fear of loss, but also optimism regarding capitalist and industrial development which in turn would supposedly benefit all. Researchers have shown how the emerging crisis narrative in relation to energy and the environment created new fault lines in the political and cultural landscape and aided the emergence of neoliberal politics in the United States.²⁰ Analyzing how anti-environmentalism emerged in relation to questions of optimism and uncertainty in a welfare state like Sweden will therefore also provide important knowledge on coeval developments separated in space. This further corrects an important omission in the ongoing literature on neoliberalism in Sweden where environmental themes are conspicuous in their absence.²¹

Compared to the United States, Swedish business is often described as having a history of relative compliance toward environmental regulations. Business historians have considered the 1960s to 1980s as a period of consensus and unity between business and state-regulation regarding environmental pollution in Sweden.²² But the 1970s contained a fair amount of discussion among economists around the issue of limits to growth with strong dismissals of the environmental movement and the idea of limits.²³ Similar conflicts between industry and worker organizations have also been noticed by historian Magnus Linderström.²⁴ As such we can talk about a division in the literature between those who have identified a conflictual relation with regards to environmental regulation and the values and workings of industry, and those who have emphasized compliance. This divided image of the Swedish post-war period substantiates the plausibility of complying with regulations whilst at the same time contesting the claims made by the environmental movement or the foundations of environmental governance. From the literature we can deduce that this practice of parallel and opposing tactics lessened in the 1980s as business influence in environmental governance grew. This growing influence was itself the result of a decade-long struggle over economic growth and environmental protection throughout the 1970s.²⁵ Related to this difference in strategy, historical scholarship on anti-environmentalism and industry responses to environmentalism has increasingly turned its attention to the role of PR firms. The media and communication scholars Aronczyk and Espinoza have for example shown how an emerging green PR sector tried to shift the narrative on industrial pollution, environmentalism, and energy using what they refer to as “technologies of legitimacy.”²⁶ Such technologies could

include shifting responsibility,²⁷ invoking the idea of a balanced approach,²⁸ or making the claimant doubt their original statement.²⁹ Situating the educational efforts of Swedish industry as part of this rise of green PR thus adds another layer to how we can understand the tension between business compliance and opposition.

Thus, this chapter investigates how industry actors actively promoted a specific narrative, its content and framing, as well as what they sought to achieve through its dissemination from the late 1960s until the late 1980s. The arguments and the content within the documents are important, but also the actors and networks producing them and the events to which these were a response. To reconstruct narrative strategies and business networks, this chapter draws on published material as well as archival documents from SI, SAF, and the think tank *Timbro*.³⁰ For the analysis, it is important to bear in mind that there was a specific division of labor among the main actors involved. For some time, an agreement existed between SAF and SI that SI dealt with the “external” environment, in other words with effects on nature such as industrial pollution. SAF on the other hand focused on the “internal,” social, and material conditions for workers. This specialization changed in the late 1980s.³¹ As a result, the material produced by SAF dealt less with issues such as pollution, environmental degradation, or regulation but instead with values such as democracy, trust, class conflicts, or entrepreneurship which were seen as enabling or disabling for the future of industry. Consequently, it is the values surrounding the role of industry and capital to provide and secure a livable and environmentally sound future that are specifically discussed here, rather than issues of compliance with regulation or levels of pollution.³²

Countering the Prophets of Doom with Optimism and Uncertainty

In 1967 the environmental question really entered public awareness in Sweden as several publications began to caution against the excesses of the modern industrial society.³³ In the same year the Swedish Environmental Protection Agency was established, and Sweden proposed to host the first United Nations Conference on the Human Environment to take place in 1972.³⁴ When referring to those years in his autobiography from 2005, the former information director at SAF, Sture Eskilsson, mentioned that he saw the need to counter the “prophets of doom.”³⁵ What he most probably referred to was the proliferation of popular science books warning against different environmental and social catastrophes.³⁶ In 1968 Eskilsson reported to SAF about a shift to a more critical sentiment toward industry in public opinion, especially noticeable among university students. This led to the call to educate youth on the importance of industry and private enterprise by freely distributing educational material to schools.³⁷ In March 1971 a document from SAF, at the time called “the secret memo,” was leaked and caught public attention. In this memo, Eskilsson re-stated his ambition for a

long-term strategy shaping public opinion: "We need to counterbalance the huge inflow of leftist literature in the form of articles and books. This is a challenge given the lack of suitable authors." He continued by stating that the efforts would come with some expenses but that they had, "under great discretion" aided the production of some books. Such books and educational materials were thus seen as key to swaying young people away from the radical new social movements.³⁸ This ambition to counter the new social and environmental movements by mimicking their strategies to target youth and influence popular opinion is also identified in US literature as a conservative strategy as well as an important shift in PR.³⁹ As stated in Eskilsson's memoirs, "luckily, there was a Swedish man who, with facts and intellectual brilliance, could show on point after point that the doomsday prophets were wrong."⁴⁰ This man was Tor Ragnar Gerholm, nuclear physicist and public intellectual.

In 1969 it was decided that SAF and SI would produce a traveling exhibition about the future, later called *Framsyn* (Foresight). In June 1969, SI expressed its concerns regarding the educational efforts on environmental and development issues produced by public service media. SI considered these programs a defamation of industry and enterprise.⁴¹ In July 1969, SAF and SI reached out to Tor Ragnar Gerholm and a few other actors to be "...drained on future related information."⁴² Gerholm was recruited to provide insights and the final scientific assessment of the exhibition.⁴³ The exhibition targeted a young audience in line with the ambitions of the 1968 memo from Eskilsson. The fight over the future was on, and as historian Gustav Holmberg has argued: "During a few years at the end of the 1960s, private business became an organisational hub for future studies."⁴⁴ The increasing interests and activity around the future was not confined to business. In 1971 the government-initiated "future studies" emerged with a focus on social equality, sustainable development, and international solidarity.⁴⁵

In the exhibition catalog for *Framsyn*, an inclusive tone was used. Humanity was portrayed in universalistic terms and the individual or mankind was depicted as the solution to the maladies of industrial society. It stated: "Development simply doesn't 'materialize' by itself, it is decided and created by man. It is us who shall do the wish list and make sure it comes true."⁴⁶ The catalog continues by constructing a "reasonable" position by stating "One thing we think is obvious: regardless of who owns the means of production, entrepreneurship is a prerequisite for all of our development, a means of achieving certain goals both for our own and society's good." Moreover, the reader is instructed to "not be tempted to believe that we can live off something beyond our own work."⁴⁷ Continuing, the text posits the youth as someone who has never experienced the hardships of previous generations and therefore lashes out [supposedly in an unjustified fashion] against a materialist way of life.⁴⁸ The idea that young generations spoke from a position of privilege and naïveté would later be strongly expressed by Gerholm looking back at the radical early 1970s.⁴⁹

In a nutshell, the catalog for *Framsyn* highlights a productivist ethos of persistence in which the ambitions of the entrepreneurial working man will solve what seemed at the time as insurmountable problems. Simultaneously, *Framsyn* aimed at instilling a sentiment of openness to the visitors, thanks to the inclusion of many voices. This openness was most visible through the inclusion of young people discussing their view of their future life. Countering the idea of a predestined future of scarcity and limitations, *Framsyn* envisioned a more optimistic fiction, one made possible by, and including a prosperous industry sector. While environmental issues were part of the topics covered by *Framsyn*, just one page was dedicated to them. The text referred in universalist terms to an undifferentiated humanity that has degraded the environment and emphasized that international efforts were needed to correct past wrongdoings.⁵⁰ As such the text shifted the immediate responsibility for environmental harms away from the Swedish state and industry diffusing it into the global arena.⁵¹ The exhibition visited eleven cities in Sweden during late 1970 and early 1971 and represented the first serious coordinated attempt by the industry and employer organizations to counter the tides of the time.⁵²

Countering Limits, Opening for Uncertainty

In 1972, SAF and SI advisor for *Framsyn*, Tor Ragnar Gerholm, published his book *Futurum Exaktum*.⁵³ The book anticipated the intense debate that would arise following the *LTG* report scheduled to be published about a month later. Gerholm lashed out against the will and the belief among a specific strand of future studies, which assumed they could predict the future with computer models, and that those predictions would have relevance for societal planning. As historian Elodie Blanchard has argued in relation to the responses to *LTG*, the environmental movement and their dystopian visions “could be ignored, the model [in *LTG*], with its scientific authority, could not.”⁵⁴ As in other countries the report sparked a renewed and intensified effort to counter not only the specifics of *LTG* but also the very notion of certainty and scarcity produced by the text. Such a certainty would strongly impact the fundamentals of capitalism, which required the possibility of calculating a return on investment.

Quoting Mao Zedong, Gerholm began his book by saying: “The problem today is that many people consider it impossible to accomplish things that could be accomplished if they exerted themselves.”⁵⁵ Only days later, on March 7, 1972, as preparation for the Stockholm United Nations Conference on the Human Environment was underway, the Swedish prime minister, Olof Palme, picked up on the heated debate in a discussion at the house of the Worker’s Educational Foundation. Palme denounced both environmentalists who advocated a system change and people like Gerholm who argued for minimal action, believing that both would lead to the inability to solve the problem. When depicting

the Prometheans, Palme stated that “such an attitude can easily be used as an alibi for allowing current developments to continue,” reaffirming a sentiment that “it will always be ok.”⁵⁶

Gerholm’s continued participation in this debate would be ensured through another educational effort launched by business actors. In the summer of 1972, Peje Emilsson, one of the founders of the PR firm Kreab, had according to his memoirs attended a conference in Dalarö, a small community just south of Stockholm. There he had been impressed by Gerholm’s presentation on the historical improvements in society and the bright future that awaited.⁵⁷ Gerholm was recruited by Kreab and SAF, who saw him as an asset, who could help them produce and disseminate educational material for schoolchildren.⁵⁸ In 1973, the folder *Vad kan vi vänta oss av framtiden?* (What to expect of the future?) was published nationally. Accompanying the folder was a study leaflet with exercises and minor assignments. The material was popular, and a second pressing of 89,500 copies was produced in late 1973.⁵⁹ In 1985 when yet another future-oriented publication, in many ways a new edition, was printed, it was reported that they had distributed 150,000 copies of the original.⁶⁰ This was something Emilsson later retold with pride.⁶¹

The folder, which had the prime symbol of global environmental awareness, “The Blue Marble” on its cover, contrasted the critique of industry with the importance of personal responsibility and the ability to look to the future in confidence. Rhetorically, the folder tried to instill a sense of balanced reporting by positing voices from diverse sources, not all sympathetic to the capitalists at SAF. Importantly, the “optimistic” voices came from both the syndicalist paper *Arbetaren* and from the US magazine on foreign policy *Foreign Affairs*. What emerges is a narrative where the environmentalists seem to be exaggerating.

In a telling section of the folder titled “The possibilities of Man,” the ambition to unite working-class interests with industry (and liberalism) against environmentalism is especially explicit. It stated: “‘Men,’ says Karl Marx, ‘make their own history’ Ask not: Do I dare have faith in the future? Ask instead: Do I dare have faith in Man?”⁶² Certainly, the bastardized Marx quote served to please the radical youth. However, it also connected the aims of SAF with those of the workers’ movement. The section continues stating that: “Despite their many contradictions, capital and work has always united in a faith in humanity and her capacity to create a better future.”⁶³ This sentence clearly echoes how the question of the ownership of the means of production was downplayed in the exhibition *Framsyn*. As long as the future was kept open and seen with optimism, the possibility to produce the fictions needed for capitalism remained.

The text in the folder is highly anthropocentric in that it fails to acknowledge degradation in ecosystems unless they are perceived as such by humans. In contrast, ecologists are depicted as misanthropic, seeing humans as parasites. In a concluding remark signed by Gerholm, he says that: “The future destiny of humankind is not shaped by the unrelenting laws of nature but by man himself.

To dare to believe in the future is to dare have faith in man."⁶⁴ What is crucial in both this text and what the quote from Mao in *Futurum Exaktum* communicates is a renewed faith in the individual man, not a collective striving for a common cause, even though it is expressed through the words of working-class ideologues. Arguably, it represented a way to balance the radical youths' hope for a better alternative future with the hopes of industry for a future open to innovation and investment. In the separate leaflet with assignments, students were supposed to compare the rise in productivity in grain for a few countries, reflect on demographic transitions, and do surveys on personal experience of change in material wellbeing. Ending on a similar note as the folder, students were left with this closing remark: "We will all be part in shaping the future. Therefore, we all have a responsibility not to distort the debate."⁶⁵

While the narrative in *What to expect...* certainly plays on the well-known idea of jobs vs. environment to scare working-class voters and opinion toward aligning with industry interest, it also shows how this alliance was strategically pursued thanks to the idea of optimism. Instead of solely emphasizing the conflicts inherent in this new political field of environmental regulation and governance, the material reflected an ambition to harmonize workers' interest with those of their bosses through a shared faith in technological progress and entrepreneurial spirit sparked by the scientific and industrial revolutions. Here the industrious working (individual) man took center stage as a producer of economic growth rather than as a citizen demanding redistribution. It was capital promoting its very foundations, flattering the source of its power. Previous research in Sweden has emphasized that there was a backlash to the LTG report and that this was a fight primarily waged by economists.⁶⁶ But what this educational effort shows is that coupled with the opposition from neoclassical and neoliberal doctrine came a long-term effort to shape public opinion and the narrative around environmental pollution and degradation. While business was largely compliant with regulations as Swedish business historians Bergquist and Söderholm argue,⁶⁷ these publications show how business and industry-affiliated actors began changing the discourse around large-scale environmental problems.

A key concern in these early publications was nuclear power which in theory would provide society with an abundance of energy. In turn this could overcome many of the problems in other areas such as de-salinization of water in poor regions with warmer climate. The promotion of nuclear energy was not a coincidence since Sweden had invested heavily in the related technology since the early 1950s. Gerholm, as a nuclear physicist himself, was the perfect character to embody such a positive vision. Moreover, in the eyes of its promoters, nuclear power exemplified the successful deployment of advanced scientific research for techno-industrial development.⁶⁸ The Social Democrats became increasingly divided on the issue over the course of the 1970s. Among voters, anti-nuclear tendencies emerged, bringing about a more and more cautious stance from the party.⁶⁹ When opposition grew in the public, industry leaders felt they had no

choice but to launch a counter-offensive. A clue to how such an offensive would take shape is found in an undated strategy document, most likely from 1973. By means of surveys and information campaigns, industry would “analyze, criticize (ridicule)” what they saw as anti-intellectual and technology skeptical feelings and opinions.⁷⁰

In the mid-1970s, Gerholm became engaged in the nuclear power debates, and along with SAF, was tasked with providing arguments for the pro-nuclear camp (called *Linje 3*). In 1975 the short book *Varför kärnkraft?* (Why Nuclear?) authored by Gerholm was published by Kreab.⁷¹ Gerholm had previously only been working as a consultant, contracted author, and speaker in various SAF-funded projects. In 1978 he became scientific advisor to the new Ratio publishing house, alongside environmental economics pioneer Erik Dahmén.⁷² Both Ratio and think tank Timbro were part of SAF’s ambitious drive toward shaping public opinion, modeled on its neoliberal and conservative counterparts in the US. Furthermore, Ratio was one of the stated potential authors to counter anti-intellectualism in the strategy document discussed above.⁷³

At the SAF congress in 1977, at what is often considered to be the organization’s definitive turn toward a more aggressive PR offensive, Gerholm was one of the speakers.⁷⁴ In the following years SAF published several of Kreab’s texts to be used as ammunition in the debate and upcoming referendum on nuclear power through the jointly created organization *Näringslivets energiinformation* (Business energy information).⁷⁵ Among them was a reissue of *Why Nuclear?* This time it was accompanied by educational material targeting students in upper secondary school.⁷⁶ Shortly prior to the referendum on nuclear power in March 1980, *Energi och välfärd* (Energy and Welfare) written by Gerholm emphasized the relation between welfare and energy. By arguing that nuclear power in Sweden had a long history starting in 1964, the dangers were acknowledged but seen as manageable through domestic policy and statecraft, in contrast to the risks connected to oil. A quote from a doctor and conservationist in the paper from the Swedish Trade Union Confederation (LO) stated that nuclear power was at least a necessary bridge technology. One of the arguments in favor of nuclear energy was the alternative risk of increased coal use and hence climate change.⁷⁷

In the campaign material from *Näringslivets energiinformation*, optimistic narratives were less prominent even though it was clearly stated from the outlook that the campaign would be based on positive discourse and would avoid a defensive strategy.⁷⁸ As in the United States, industry framed the debate more as an issue of energy price and security, and not as a matter of environmental impact. In 1979, talking about the withdrawal from nuclear energy, Gerholm stated: “Sweden would become a province, an increasingly backwards society where a lot of the things we have come to see as granted will disappear.”⁷⁹ With the nuclear power-plant Harrisburg accident occurring just a year prior to the referendum, a too optimistic approach might have backfired as naïve. Again, energy and welfare was an appeal to the working class pointing to the risk of

increased energy prices, of closing and relocating the uncompetitive paper and pulp industry as well as 20,000 SEK in costs for each “wage earner.”⁸⁰ This coupling of energy and welfare by SAF was to a large degree a shared endeavor with the LO that promoted a careful deployment of nuclear power to ensure “quality of life.”⁸¹

1980s and the Networks of Prometheanism

With the energy issue at least temporarily off the table after the referendum in March 1980, SAF, Kreab, and Gerholm could return to broader environmental issues and the idea of an open future. Already in the 1970s, Gerholm had introduced Kreab to Herman Kahn, an American physicist and futurist. Kahn in turn had visited Sweden in 1963, and as historian Eric Bergelin shows in his dissertation, Kahn’s work was highly influential for *Försvarets forskningsanstalt* (Swedish National Defence Research Institute, FOA).⁸² Kahn’s publication *The next 200 years* was translated to Swedish in 1978. In the original he stated that “we need” a future “that opens possibilities rather than forecloses them.”⁸³ Ratio in turn published his next book and in 1979 he was favorably interviewed in Timbro’s magazine *Opinion för marknadsekonomi* (Opinions for a market economy).⁸⁴ The connection to Gerholm brought Kahn into touch with Kreab and they would collaborate in multiple projects.⁸⁵ Gerholm had also fostered connections with US scholars through a number of scientific conferences from 1974 and onwards initiated by the South Korean anti-communist *Unification Church*. At these conferences, he became acquainted with among others, Fred Singer. Singer would later become infamous for his contrarian position on climate change and involvement in what is usually described as a Climate Change Counter-Movement.⁸⁶

Multiple threads of the thinking that appeared in the Swedish debate from the 1970s coalesced in Herman Kahn and Julian Simon’s *The Resourceful Earth*. The book targeted the *Global 2000: Report to the President* and what Kahn and Simon saw as pessimistic future studies that motivated “calls for subsidies and price controls, as well as government ownership and management of resource production, and government allocation of the resources that are produced.”⁸⁷ They proclaimed that the *Global 2000* was a frightening read, “but it is dead wrong.”⁸⁸ In 1984, the same year *The Resourceful Earth* was published, Kreab together with SAF produced the short information pamphlet *What about the future* co-written by Gerholm and the late Kahn and which appeared in at least three languages.⁸⁹ In internal documentation, the pamphlet was described as a new edition of *What to expect* from 1973.⁹⁰

In *What about the future*, the ideas about human ingenuity and the power of the individual that had appeared in the early 1970s publication re-emerged, this time strengthened by the international salience of the promethean narrative and the rise of corporate environmentalism as a response to environmental

degradation.⁹¹ When discussing environmental issues, some parts reappeared verbatim from *What to expect*. In contrast to a growth-oriented economy and industry, environmental movements are portrayed as not able to get any results. They are waved off as anything from “anti-intellectual romantics and Marxist class-struggle theoreticians to eastern mystics and hippie drug liberals.”⁹² Thus, in contrast to such romanticism and theory, the pamphlet gives what they considered a more realistic outlook based on the optimism that the future, despite its uncertainty, is destined to be better than the past.

History provides us with literally hundreds of examples where human intervention has turned a “problem-prone” situation into a “problem-controlled” one. We have every reason to believe it will be no different with the emerging post-industrial society. [...] This booklet will help explain why an optimistic outlook is also a realistic one.⁹³

As historians Bergquist and David forcefully show, the mid-1980s was a period when the debate shifted toward one where industry was not seen solely as a polluter and problem but also as the creator of environmental improvements. This shift was codified through industry’s engagement with the Brundtland report and the concept of sustainable development.⁹⁴ In the Swedish case, this is evident in the way Gerholm became consultant for *Kreab Development*, and engaged in what seems to be a collaborative program together with Kahn and the Hudson Institute.⁹⁵ Aided by conceptualizations of environmental degradation following an inverted Kuznets curve, growth was seen as a prerequisite for environmental performance.

Strengthened by such conceptualizations, SI engaged in the campaign *Miljönytt för lärare* (Environmental news for teachers) where the environmental problems in industry were understood as solved.⁹⁶ As Linderström shows, this idea gained traction also among the Swedish labor movement in the mid-1980s.⁹⁷ Swedish business actors like SAF had been strengthened both by the outcome of the nuclear referendum and by their success in blocking the suggestion of socializing the economy in wage-earner funds. They engaged in heavy promotion of the idea of individual responsibility and growth as the main ways to mitigate environmental destruction from the mid-1980s to the early 1990s.⁹⁸ But as the head of information at SAF stated in July 1988 reflecting back on the developments since the 1970s: “How do you communicate an understanding of the free enterprise and a positive attitude to working in the private sector if there is a skeptical attitude toward this sector’s relation to the environment?”⁹⁹ The environmentally attuned youth once again had to be convinced.

In the late 1980s, industry and LO joined forces to defend nuclear power once again, and to counter the Greens and the green branch of the Social Democrats.¹⁰⁰ Here they argued that energy security for the industry was a prerequisite for a prosperous and industrious Sweden. Future prosperity and nuclear

power were also the industry's response when climate change became more widely debated. In 1990 the Swedish chairman of the newly established IPCC, Bert Bolin, suggested investments in research on renewable energies to meet the challenge of climate change. Gerholm responded that the world would rely on fossil fuel for the next fifty years at least and that: "We have to, and will probably, learn to live with climate change. It won't happen faster than we can adapt."¹⁰¹

Conclusion

The pushback against the rise of the New Left and environmental movements that was needed according to SAF in the late 1960s and early 1970s took many expressions. As this chapter has demonstrated, one of the key aspects of this counterattack was to educate for optimism and uncertainty.

This educative effort was a top priority from the very beginning for SAF, SI, Kreab, and later the think tank Timbro's PR work as they specifically targeted school youth. Swedish historiography usually describes this counterattack on the social movements and radical politics of the time in general terms, seldom mentioning the role of issues like the future, energy, and the environment. However, as this chapter has shown, even the foundational text of SAF's shift to public opinion work, the so-called "secret memo," begins with a reflection on the successful collaborative exhibition *Framsyn*. This research illustrates the importance of environmental issues in explaining the rise of neoliberalism in Sweden. Additionally, this timeline of events in Sweden distorts the well-established narrative of anti-environmentalism as emerging in the United States and then disseminated around the world.

Educating and inoculating against pessimism and what these business actors viewed as anti-intellectual tendencies became a major concern in the 1970s, especially after the 1972 *LTG* report. The importance of optimism and a radical openness for the business community could in turn maintain the fictional aspects of capitalism. Building on works by Jens Beckert and Jenny Andersson, this chapter has argued that the openness propagated by the Swedish business community at the time represents something more than a legitimizing tool for specific companies and sectors. Instead, the production of these educational materials and campaigns became a way to foster uncertainty and optimism, which provided capitalism with renewed legitimacy while preserving one of its essential foundations. A pessimistic future or one too certain (especially one with limited resources) would have foreclosed the possibility for speculation and returns on investments.¹⁰² The focus on educational materials shows that this was more than a debate between different viewpoints, but rather, it was an effort to shape cultures.

Business engagement with environmental issues goes beyond regulation and policy as it also relates to societal values and norms. Moreover, this chapter has

shown the importance of not considering business compliance and obstruction to regulation as mutually exclusive logics. Instead, the tensions between internal and external strategies in meeting new demands and changes in public opinion have been emphasized. The fictional expectations of capitalism have shown to be a fruitful way to understand the strong counterattack on the idea of resource scarcity in the early 1970s in Sweden. This attack or anti-environmentalism was ultimately something more far-reaching than a discussion about regulation considering environmental pollution. Energy and the environment were also at the very center of a reconfiguration of the power relations between business, workers, and social movements in post-war Sweden.

The tendencies discussed in this chapter grew stronger in the following decades. With the emergence of promethean proponents such as Julian Simon, Bjørn Lomborg, and Johan Norberg in the 1980s and 1990s, the counterargument against eco-catastrophe, and in Norberg's case the concept of "openness," uncertainty, and optimism continued to be heavily promoted in neoliberal think tanks and organizations as a defense of capitalism.¹⁰³

Notes

- 1 I would like to thank the contributors to the two workshops on Nordic business and the challenge of environmentalism held in Copenhagen in 2022 and 2023 for all the useful comments and questions. I would also like to thank Martin Arnsten for his aid in locating some of the discussions analyzed here.
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Epilogue

Glenda Sluga

How and why was “business” involved in environmental regulation in the last crucial decades of the twentieth century? The question all but asks itself when we recall that international climate negotiations first initiated by an international public body—the United Nations 1972 Stockholm Conference on the Human Environment (UNCHE), as it was known—were launched under the supervision of a self-styled “businessman” and oilman, Maurice Strong. Half a century later, the UN’s annual Conference of the Parties (COP) is led by similar actors who simultaneously preside over private companies and public bodies—there is no lack of conflict-of-interest concerns. In 1972, it was the Canadian Strong, in 2023, the Arab Emirates’ Sultan al-Jaber, the CEO of the government-controlled Abu Dhabi National Oil Company. In 2024, the COP held in Baku was presided over by Mukhtar Babayev, who worked for several years at Azerbaijan’s state oil company SOCAR. Now it seems the pattern is likely to continue, in ways that are increasingly eating at the meat of any of COP’s potential, at all.

There are lessons in this history not only for historians, and other social scientists, but also for studies of the sites of capitalism we call “business” and “its” involvement in environmental regulation, whether in the setting of public international or national organizations, associations, think-tanks, or companies themselves. Fifty years ago, businessmen—the most prominent of them simultaneously oilmen—well understood the stakes. In 1975, Strong wrote that the decisions they were then making would decide the future fate of the world. In a letter written on United Nations Environment Programme (UNEP) letterhead, Strong explained he had taken on a job with Petro-Canada

in the hope that it will provide the opportunity to advance and apply many of the concepts and ideas we have been working for in the environmental field during the past several years. In fact, I am convinced that the environmental battle will be won or lost in the tough decisions that now must be taken in the areas of energy and resources use.¹

In many ways, he was right. His roles in intergovernmental organizations resonate the persistent choice of public bodies to give the lead to private actors in international settings of environmental regulation. Strong's appointment as Secretary-General of the UNCHE was just the beginning of that work. He went on to establish Stockholm's institutional legacy, the UNEP, and, two decades later, he sat in the main chair at the 1992 Rio de Janeiro UN Earth Summit that established climate change as a priority, and principles of biodiversity and sustainable development. The jury is still out on the extent of his influence or its direction, especially given the UNCHE mandate of reconciling environmental and development priorities. In all his UN roles from the early 1970s, he deftly brought western industrial concerns into the center of international work, fostering alternative versions of development known as "eco-development," investment in alternative energy resources, and, what he knew best, oil and gas.

As the essays in this volume show, there were multiple sites at which "business" influenced or could influence decisions about environmental regulation, in national and international settings, and not only in formal ways. This influence grew over the period in which awareness of creeping existential environmental challenges posed by modern industrialization and global investments in that version of development also grew. The chapters in this volume add substantially to our understanding of how this history *progressed*—a verb that should only be loosely applied and not presumed to reflect the kinds of transformations in thinking and policy that took place. The studies range across both international and national contexts, entangled public and private efforts, examining close-up the anticipation, management, and forestalling of environmental damage and existential disaster over decades, as well as evasions of responsibility, and provocations of climate denialism. There are two distinctive ways in which this historical work makes a difference. From a more inward-looking perspective, at a moment when historians like other social scientists are debating a planetary *turn*, the range of this work not only brings together histories of the environment and capitalism, but it also implicitly poses the question: What difference can the intersection of these historical fields make for the discipline at large?

In the last few years, the two historiographies that dominate this volume's discussions of the last half century have increasingly converged. Business and environmental history have both moved from the peripheries to the center of historical research agendas. In anglophone and francophone contexts, for example, business and environmental historians are consulting each other, or they are changing the parameters of their analyses in relation to methodological shifts in other sub-fields. The trend among those shifts is to highlight power and agency across public and private institutions—national and transnational—and among and between public and private actors. The editors of this volume explain that they focus on "corporate actors" involved in (public) environmental regulation in three main ways: Firstly, those actors might launch a political counteroffensive, or they might engage in the battle of ideas, and they might act as experts

and influence the science on pollution or global warming, as well as its public reception. Increasingly, we are learning more about the latter, and the evidence for the period from the 1980s is damning. That said, however, the more we learn about how businesses—and self-identified businessmen—were incorporated into international public roles, and bodies, the more we find out too about their variety of motivations, expectations, and ambitions. Then, there is the importance of different periods in this history, such as the transition of energy focus to oil in the mid-twentieth century, and the oil crisis of the 1970s. There are also the shifting contours of debates around development as the foundation of economic growth and post-colonial state-building to be considered. These contours often followed the tracks of questioning of industrializing models that pulsed through the postwar period, across western and eastern divides. This questioning itself reached a crescendo in the 1970s, in combination with the new attention to their environmental and social consequences. In all these cases, a global view onto the history of business—by which I mean a view that looks onto more places in the world than the “Imperial West,” and more corporations than those headquartered in the “Global North”—has been crucial for expanding our nuanced and careful understanding of the past. There is some evidence too that the seeking out and integration of this historical research is bringing it to bear on other kinds of thematic concerns. Not least, our new studies of business and the history of international organizations, environmental regulation, environmentalism, and climate change are not only transforming our general understanding of political and economic developments in the past, but they are also changing how we think about the political and economic as categories ordering our historical analyses.

Environmental history now sits squarely in the mainstream of considerations of politics and power. Historians have increasingly embedded the significance of the environment in a longer historical memory, not only of the history of capitalism—whether as industrialization or the “Capitalocene”—but also as integral to the history of politics. Just as economics has returned to the center of historical work in the form of the “new history of capitalism,” the environment now sits at that same critical intersection of ideas, in the expanding discursive and evidentiary base of what a history of the Anthropocene—let alone planetary histories—might be.

In recent discussions among European historians about the future of history, specifically in the context of the potential turn to planetary histories, Iris Borowy has underscored the importance of studying business.² This was also the point in the early 1970s, “business” was imagined by all sorts of environmental as well as international actors to be an alternative source of institutional legitimacy and alternative private funding. At the same time, in this earlier self-consciously planetary period, the private and public actors who often styled themselves “businessmen” were as likely to take the lead in questioning the dominance in

economic thought of markets as ends in themselves, rather than of markets as means to other social ends—here the Club of Rome’s Aurelio Peccei particularly comes to mind. One need only revisit his many texts, some of them offered up in UN settings such as Stockholm in formal capacities to note this striking theme. By 1972, businessmen were already in the sight of international organizations facing expanding agendas, and persistently depleting financial resources. The women who lead some of these planetary and international organization discussions too, such as the anthropologist Margaret Mead, and the economist Barbara Ward, reinforced the importance of having businessmen involved.³ The early 1970s was a period in which development more generally aroused the interest of economists from the North and South in re-imagining paths to prosperity.⁴

In this same earlier planetary period, the same Maurice Strong who presided over the UNCHE and UNEP used his positions to draw industry into conversations about how and where to enact environmental policies and to what economic ends, saw himself as an international public servant who had gone into the business of oil and gas investment and development from an early age ultimately to get wealthy enough to be able to earn a place in the work of international organizations. Indeed, he would be remembered—in the main—as a crucial supporter of environmental programs, despite later in life being investigated for the fiscal abuse of those international positions.⁵ The archives (especially his own voluminous papers housed at Harvard University) suggest the complexity of his double-life, and efforts to corral the often-conflicting imperatives of development and environment that he was put in place to calibrate. The existing evidence of the extent of Sultan al-Jaber’s commitment to his public international role when he presided over the COP in 2023, or that of his Azerbaijani successor, do not seem complicated by any conception of international duty. Both contemporary businessmen are currently best known for melding their business and environmental roles with apparent little self-consciousness of any potential damage to their international obligations. That is the point. We are not always able to predict the influence or ideas of capitalism in general or business and businessmen more specifically in environmental regulation. In part, this is because even the idea and identity of “business” has its own history, and the framing of certain issues can have unintended consequences. As Odinn Melsted notes, and Audrey Loetscher shows in this book, the historical record before the 1990s is complex. Even after the 1990s, Strong’s own generation of businessmen might continue to see the world through the lens of the 1970s. Certainly, at Rio, in his reprised role as head of a major UN environmental conference, Strong reiterated the planetary language and outlook we now associate with that earlier Stockholm period.⁶

Business is no longer just part of the history of business, just as the environment is no longer simply the domain of environmental historians. New ways of thinking about the past, new imperatives for re-imagining the contours of the stories

historians and social scientists tell, and how they tell them, have become the daily focus of much historical debating. In those discussions, capitalism is both regarded as the critical core of any rethinking of the past, and as too abstract a category; politics and the economy are re-connected in ways that capture nuance and agency.

It is also true that, as the essays here show, historians and other social scientists come at their studies of the past, including business and the environment, distinctively, with more or less emphasis on the evidence of individuals and specific institutions. Political scientists focusing on the bigger collective picture and institutional evidence trace more general developments. This is one explanation for the diverse chronologies of the place of business in the history of environmental regulation, or on its relative influence and impact, a difference the editors note in their introduction. One way of understanding conflicting chronologies is to trace them back to the difference disciplines make in the perspective we have, in our understanding of power, and what matters more: Intentions, motivations, or outcomes; successes and/or also failures. Historians have tended to deem significant evidence of the role of individual businessmen, their ideas and motivations, as well as the publications of think-tanks, including those the latter often funded. That evidence, they might argue, tells us that this entanglement stretches back in time to the beginnings of international environmental regulation.

The history of “business” in all these institutional and personal landscapes, and from whatever disciplinary view, tells us that the status of business has changed over the last century, as has the formal institutional promotion of business globally, particularly through national and international associations and organizations. Through the twentieth century history of institutionalized international environmental regulation, the amorphous group who might call themselves, or who we might refer to as, businessmen (and most often they were men) ran the gamut of entrepreneurial and management roles. Their individual and collective interests in, and motivations for engaging environmental questions substantially shifted too across this period, just as perceptions of the role of business, the mixing of private and public interests altered, and were altered in the context of the international business-environment milieu. Of course, national histories matter here, perhaps even more so. Some of the intersecting histories of “capitalism” and environmental regulation are focused on international organizations, others on national organizations (which can also be simultaneously transnational in their networks and operations), sometimes in ways that synchronize, in others that do not. Benjamin Waterhouse’s foray into the United States’ context, for example, gives us a way of dissecting contemporary debates that witnessed the sidelining of green politics in an age of existential environmental crisis, even when the world is closely interconnected.

It is precisely because of these entanglements of the private and public, national and international that business historians have become increasingly and profoundly interested in transnational settings, and international organizations.

For example, the International Chamber of Commerce [ICC], the foremost international body for business, was famously set up in 1919 by linking itself to the aims and ambitions of the form of internationalism represented by the League of Nations. New work on the ICC by Thomas David, Pierre Eichenberger, and Ann-Kristin Bergquist is exposing just how through the twentieth century, it developed as a shadow organization, both copying the committees and agenda of international organizations such as the League and later the UN, as well as seeking formal representation on behalf of “business”—smaller businesses at first, then corporations and multinationals. In 1919, the League of Nations was loathed to formally recognize the ICC as an *international* non-government organization; in 1945, the League’s successor, the United Nations, had no such qualms. Until the second half of the twentieth century, the ICC tended to represent business across sizes small and large; by the 1950s, it was much more a body that represented corporations. The ICC had become a crucial conduit linking the UN with representatives of “business” in not only the funding of public initiatives, but also in the investigation and resolution of international problems.⁷ This was the reason why in 1972 putting an oilman in charge of environmental regulation seemed unproblematic and even worthwhile. Now, as the stakes have risen, it seems *both* more likely, and more problematic, to harness the influence of business, itself a radically altered phenomenon, in crucial global conversations about the climate change crisis.

The business history undertaken here shows the extent to which this is also the history of everyday life, of everyday people, making choices, choosing ambitious agendas to rethink economies, and resolving to continue in the existing grooves of markets and money. Determining what influences those choices, and what changes minds, is the historians’ crucial work in our current era, given that intersecting histories of capitalism and climate change are now at the heart of the most fraught and ambitious discussions regarding the future of history. The focus of this volume on the role of “business” in environmental regulation in the last decades of the twentieth century is a telling foray into the stakes of those discussions, and the tools we currently have to make history matter.

The question I started out with is what difference do the intersections of histories make for the discipline at large?

As I have tried to argue, the picture historians are increasingly painting, here and in other studies of how individuals, associations, and all manner of private actors have moved in and through national and international organizations, is that the study of politics is ultimately also the study of economics, and economics includes business. The history of business is inevitably part of the history of capitalism, just as the history of environmental regulation is rewriting how we think about the history of politics. We should note this is no accident. Increasingly, the bringing together of these histories is not a question of choice

but of necessity, so closely entangled are the trajectories of the Capitalocene/Anthropocene past and present.

Of course, the most important lesson is the broader shift of business involvement: From an earlier and disrupted sense of responsibility for the environment, to strategies of evasion, denial, and purposeful disruption itself. Just how and why that shift occurred is still not well understood. Neither is the question of how and why the environment became enmeshed in the changing status of business, and in the longer trend in the history of capitalism now known as neoliberalism, which is itself increasingly studied across the period that is the focus of this volume. The lesson here is that avoiding teleological assumptions is crucial to understanding how change takes place.

All of this matters because it resonates through how we think of the world we have inherited and in which we live. For historians in particular, it brings us back to questions such as: What is the work that history should do? What difference can we make with the stories we tell? Can these stories change the way we approach the regulation of the environment, even how we read the significance of the most recent attempts by international bodies to give business the responsibility for changing business? At the least, they should remind us that where we are was not always inevitable, and change can go in unexpected directions.

Notes

- 1 Maurice Strong to Jack Raymond, 17 November 1975, Harvard Library, MFS001 Box 23, Papers of Maurice F. Strong, 1948–2000. IV. UN Conference on the Human Environment/UN Environment Programme years, 1970–1975; Chronological file: 1973 July–1976 January.
- 2 See Antoine Acker and Laurent Warlouzet, “Conversation with Debjani Bhattacharyya, Roberta Biasillo, Iris Borowy, Claudia Leal, Christof Mauch, Gregory Quenet: From the Globe to the Planet? New Challenges of Global and Environmental History,” *Monde(s)* 1, no. 21 (2022): 21–46.
- 3 See Glenda Sluga, “‘Sleepwalking’ from Planetary Thinking to the End of the International Order,” *EUI Working Paper HEC* 2 (2021), <https://hdl.handle.net/1814/71574>; Glenda Sluga, “Climate and Capitalists: Barbara Ward, Margaret Mead and the 1972 UN Conference on the Human Environment,” in *Rise of the International*, edited by Richard Devetak and Tim Dunne (Oxford University Press, 2024), 310–329.
- 4 Ben Huf, Glenda Sluga, and Sabine Selchow, “Business and the Planetary History of International Environmental Governance in the 1970s,” *Contemporary European History* 31, no. 4 (2022): 553–569.
- 5 See, for example, the *New York Times* obituary, “Maurice Strong, Environmental Champion, Dies at 86,” 1 December 2015.
- 6 Texts from Strong’s presentations are publicly available online at mauricestrong.net.
- 7 See Thomas David and Pierre Eichenberger, “Business and Diplomacy in the Twentieth Century: A Corporatist View,” *Diplomatica* 2, no. 1 (2020): 48–56; Glenda Sluga, “Business Transnationalism, Looking from the Outside in,” *Business History* 65, no. 2 (2022): 382–388; Ann-Kristin Bergquist and Thomas David, “Beyond Planetary Limits! The International Chamber of Commerce, the United Nations, and the Invention of Sustainable Development,” *Business History Review* 97, no. 3 (2023): 481–511.



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