

Just how different are business attitudes and strategies toward the environment in Europe and the United States? Pre-Kyoto responses to climate change suggest an oceanic divide, with European companies generally adopting a more progressive stance than U.S. companies. More recently, though, there appears to be a trend toward convergence in industry responses to this issue. A close examination of other issues, such as ozone depletion and genetically modified (GM) foods, suggests that corporate strategies in Europe and the United States are not as polarized as they may first appear.

This article looks at the reasons why companies on each side of the Atlantic adopt the positions they do, focusing on the sociocultural and political environment in which they operate and the corporate strategies they adopt. The increasingly common institutional and economic business environments in Europe and the United States account for the growing similarity in their responses to environmental concerns.

Understanding business responses to global environmental issues is critically important to policy makers and environmentalists. Government negotiating positions in Europe and the United States have tended to track the stances of major industries active on key issues, such that the achievement of global environmental accords is impossible if important economic sectors are unified in opposition.¹

Moreover, the effective implementation of international environmental agreements requires the active cooperation of large multinational companies that possess adequate financial, technological, and organizational resources to innovate and commercialize new technologies.² To borrow a phrase of Michael Lipsky, professor of political science at the Massachusetts Institute of Technology, these large companies are the "street level bureaucrats" on whom policy makers rely, like it or not, for successful implementation.³

Although U.S. companies, such as Exxon and Texaco, have expended a

considerable amount of energy in aggressively challenging climate science, pointing to the potentially high economic costs of greenhouse gas (GHG) controls and lobbying against the Kyoto protocol, European companies, such as BP Amoco and Shell, have proclaimed their acceptance of the need for precautionary action and have announced substantial investment plans for renewable energy. This example typifies a wider perception that European businesses are generally more sensitive than U.S. businesses are to environmental concerns.⁴

The conventional wisdom concerning these differences is that deep-rooted cultural, political, and economic differences drive Europe and the United States. Many people believe that Europeans demonstrate their considerable concern about environmental issues in their behavior as voters, consumers, corporate managers, and policy makers. The same people believe that people in the United States are more individualistic, more concerned about their lifestyles than about the environment, and more ideologically averse to regulation.⁵ Werner Pollman, vice president and chief executive officer of DaimlerChrysler, says, "A lot of people are asking for environmentally friendly cars, but nobody is willing to pay money for this [in the United States], so it's a challenge for the engineers."⁶ Corporatist forms of business-government relations in Europe encourage companies to negotiate and compromise rather than adopt the antagonistic adversarial stance engendered by the more pluralist political system in the United States.⁷ This corporatist arrangement is evident in the different approaches to consulting with business interests about the Convention on Biological Diversity adopted in Europe and the United States, in which European countries were involved from the start.⁸

The contrast between progressive European and recalcitrant U.S. businesses is a stereotype that does not hold across a range of environmental concerns. Indeed, the United States is home to several large industrial companies, including Dow, DuPont, and 3M, who are members of the progressive World Business Council on Sustainable Development and have championed the notion that environmen-

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tal innovation and pollution reduction can generate substantial returns.

This article examines three high-profile issues, in particular climate change, ozone depletion, and the genetic engineering of food. The climate case best fits the stereotype of a transatlantic divide.⁹ However, on the ozone issue, U.S. companies, such as DuPont, were ahead of their European competitors in calling for action to restrict the trade in and use of ozone-depleting chemicals. The more recent issue of genetic modification of crops illustrates a different dynamic again, whereby companies in both regions have adopted the same basic stance on the issue, but political and social factors have forced them to adopt different strategies in engaging with popular concerns about the technol-

ogy. Business strategies are primarily driven by perceptions of economic interests, filtered through particular national lenses, and constrained by specific political and social contexts that vary by issue and over time. Economic, political, and cultural forces interact in complex ways to produce the outcomes on each of the issues. Overall, however, the evidence indicates that the economic opportunities and threats presented by each issue constitute the main drivers of business responses. Cultural and political factors play a secondary role, influencing how business perceives its economic interests and helping to shape the specific tactics that businesses adopt.

In addition, business responses to environmental issues appear to be increasingly converging within global industrial sectors, a trend well illustrated by events in the automobile industry since the Kyoto Protocol. Such convergence should not be surprising given that the companies involved are large multinationals engaged in each other's markets, are actively involved in the process of globalization of production and management structures, and are frequently active in the same industry associations.¹⁰ As former U.S. Labor Secretary Robert Reich, has argued, the question of national ownership and national identity in international business is increasingly moot as companies pursue their economic objectives internationally.¹¹ This convergence is also driven by a wave of international mergers, joint ventures, and the growth of international institutional structures for business coordination, such as the International Chamber of Commerce and the Trans-Atlantic Business Dialogue. The differences between business responses to environmental issues are often more in form than in substance. For example, despite U.S. auto compa-

nies' antagonistic public stance toward the Kyoto Protocol, they are beginning to invest in a range of low-emission technologies, sometimes even in joint ventures with European partners.¹² Compared with the convergent pressures of technological and market strategies, the more nationally based influences of culture and politics are often of only secondary importance in shaping and constraining the behavior of corporations.

Empirical studies of corporate environmental management practices do not support the notion that companies on each side of the Atlantic differ substantially. A survey of transnational corporations, conducted by the United Nations Transnational Corporations and Management Division in 1992, indicated that U.S. companies had gone further than European ones in adopting assessment practices, such as annual environmental statements, audits, and monitoring.¹³ However, a more recent survey, conducted by KPMG Environmental Consulting, which focused on environmental reporting of large companies, found that the percentage of U.S. companies publishing external reports had actually declined from 44 percent in 1996 to 30 percent in 1999, while European firms had increased their rates of reporting in the same period.¹⁴ The actual rates varied widely in different European countries. Norway, the United Kingdom, Sweden, and Germany are at the high end, with rates ranging from 31 percent to 36 percent. Only 4 percent of French companies provided such reports. These data suggest the difficulty in generalizing about environmental responsiveness, even within the countries of Europe. Social-cultural, political-institutional, and corporate market-based factors are important in explaining the differences and similarities among the strategies businesses have adopted in Europe and the United States in relation to climate change, ozone depletion, and GM crops.

Social-Cultural Factors

Some writers point to social and cultural differences as the primary explana-

tion for the relatively progressive European position on climate change in particular. Willett Kempton, a professor in the School of Urban Affairs and Public Policy at the University of Delaware, and Paul Craig, a professor in the department of applied sciences at the University of California at Davis, have argued that Europeans expressed more concrete concerns about environmental impacts on future generations and viewed their responsibility for sustainability as part of their national identity and heritage.¹⁵ People in the United States demonstrated concern about economic costs of regulation and were optimistic about technical solutions. Europeans, on the other hand, tended to express more concern about impacts on developing countries and were more likely to invoke caution regarding unforeseen risks. Some writers have pointed to the different ideological outlooks, arguing that in Europe the notion of ecological modernization—the idea that economic growth and environmental protection are compatible goals—pervades the debate, whereas in the United States, businesses tend to view the relationship between growth and environmental protection in more traditional zero-sum terms.¹⁶

The starkly different reactions to the introduction of GM food manifest these influences. In Europe, GM food has aroused deep-seated concern about the potential to disrupt the natural order of things—a concern largely absent in the United States.¹⁷ The British public, in particular, has been susceptible to activists' characterizations of GM goods as "Frankenstein foods." After the arrival of the first shipments of soyabeans from the United States to Europe in autumn 1997, a public outcry ensued concerning perceived government irresponsibility in subjecting the public to unknown risks without public information or debate. This caused particular alarm in the United Kingdom, coming as soon as it did after the scare over bovine spongiform encephalopathy (BSE, popularly known as "mad cow" disease), the disease that contaminated British beef. In this case, the government was accused of negli-

gence and companies were viewed as putting profit before health. Sir John Gummer, U.K. Minister of Agriculture, Fisheries and Food and Secretary of State for the Environment in the United Kingdom, dismissed public concern about GM crops in tones reminiscent of his attacks on scare-mongering over BSE. He argues that, "There is no reason to believe that genetic modification of maize will give rise to any adverse effects on human health from its use in human food."¹⁸ Unsurprisingly, his reassurances offered little consolation for a public susceptible to food scares and concerned about the effect of commercial pressures on food safety.

Despite caricaturing these concerns over GM foods as "Luddite superstition," biotech company Monsanto was forced to confront public fears that proved to be more entrenched than they had suspected. Monsanto Europe entered the public debate by engaging in extensive media advertising campaigns. The strategy was intended to quell the European public's unease about the secretive manner in which GM foods were introduced into the European market. Instead, it exposed the company to a barrage of criticism (see the box on page 12).

Monsanto employed a unique strategy to introduce GM crops into the United States. In the absence of public opposition, the company introduced GM crops quietly and without an advertising campaign. The company threatened to sue states that wanted to let companies label dairy products as free of bovine growth hormone (rBGH). Major grain traders, such as Cargill and Archer Daniels Midland, followed Monsanto's line that the segregation of transgenic soyabeans from conventional ones was not necessary, and the food authorities agreed.¹⁹ Unlike in Europe, major environmental nongovernmental organizations (NGOs) in the United States did little to alert the public on the issue, and skepticism about the U.S. Food and Drug Administration (FDA), the main regulatory body, was less acute. As the *New York Times* noted, "Because most consumers are

unaware of the amount of genetically engineered food that is available . . . it is hard to judge their resistance to such products."²⁰ Despite recent calls for companies to label food products containing genetically modified organisms (GMOs), consumer ignorance and the lack of any counterchallenge has allowed biotech companies to proceed with the production and marketing of their products largely unquestioned.

Timing is critically important to understanding corporate strategies, as social concerns with environmental issues wax and wane over time.²¹ Ozone depletion hit the public agenda in the mid-1970s at a time when environmental organizations in the United States were enjoying booming membership and were able to undertake substantial public campaigns. A highly effective communication initiative quickly led to calls for a boycott on aerosols, whose use in antiperspirants and hairsprays was portrayed as frivolous in comparison with the potential damage to the Earth's ozone layer and consequent risks of skin cancer. The consumer boycott led Johnson Wax to voluntarily cease using chlorofluorocarbons (CFCs) as propellants for household aerosols, and other companies quickly followed suit.

By contrast, the issue of climate change reached the public agenda in the late 1980s, at a time when the ideological winds of the Reagan-Bush years in the United States left the public more suspicious of regulatory government and skeptical about claims from environmentalists. Despite the spike in media attention to climate change in the United States in 1988 during a hot, dry summer on the East Coast,²² many people in the United States were apathetic, seeing it as a dim and distant threat and often confused the issue with ozone depletion.²³

To the extent that the nation's public was aware of the climate issue, it was perceived as profoundly threatening to their way of life. People in the United States are among the highest consumers of energy per head in the world because of their large cars and homes, cheap fuel, and heavy use of space heating and cool-

ing.²⁴ Indeed, the imagery of cars, freeways, and unlimited frontiers is closely bound up with U.S. conceptions of freedom and national identity. Industry associations representing the fossil fuel industries have stressed the implications of higher fuel prices for U.S. lifestyles in their public campaigns. The climate issue has also stirred a deep anti-internationalist chord in U.S. culture. Industry associations in the United States have attempted to challenge the legitimacy of the Intergovernmental Panel on Climate Change (IPCC), the body established to advise policy makers on the science of climate change, in a manner that would be regarded as almost unthinkable in Europe, given the widespread acceptance of the body's findings.²⁵

However, some caution needs to be taken in using sociocultural explanations for corporate responses to environmental issues. Although companies are sensitive

to their stakeholders, they are sometimes prepared to take actions that defy widely held values when their core economic interests are at stake, as in the case of Shell's cooperation with the former military regime in Nigeria.²⁶ The increasing internationalization of these companies and their top management teams suggests that national cultural influences might be weakening; sensitivity to societal concerns regarding environmental issues, as expressed in annual corporate environmental reports, appears equally strong on both sides of the Atlantic.²⁷ Finally, some people argue that top corporate managers and shareholders of large companies around the world are beginning to recognize their common interests and are developing their own set of values and norms independent of their national location or origin.²⁸ However, sociocultural factors do force companies to adjust the way they seek to pre-

GM Food: The European Reaction

Some supermarkets sought to profit from public concern by marketing some of their products as "GM free," and more than 200 food companies have called for a moratorium on genetic engineering of food. Distrust of government food agencies has run high. A study of U.K. attitudes toward genetically modified organisms (GMOs) showed that consumers have mixed feelings about the integrity and adequacy of present patterns of government regulation and in particular about official assurances of safety. A Mori poll in 1998 found that 77 percent of those questioned would like to see an end to experimentation with genetically engineered crops in the United Kingdom.¹ Opposition in Europe is not restricted to the United Kingdom. Direct action, normally in the form of uprootings of crops from test sites, has taken place in Germany, the Netherlands, and Ireland. Non-governmental organization networks,



such as the Genetic Engineering Network and GeneWatch, have sprung up. There have also been legal actions taken by private citizens against biotech companies and government regulatory agencies over field trial sites in each of these countries.

1. Z. Goldsmith, "Who Are the Real Terrorists?" *The Ecologist* 28, no. 5 (1998): 312-17.

sent themselves and to market their products when there are peaks of public concern and active social mobilization surrounding environmental problems.

Political-Institutional Factors

Relationships between business and government differ radically in Europe and the United States. Many people believe that the U.S. political system is pluralist (i.e., open to a range of competing interest groups that jostle for policy influence). In Europe, many countries adopt more corporatist arrangements, which means that key stakeholders (traditionally businesses and labor organizations) enter into a process of bargaining with governments. Europe's process is also said to be more collaborative and conciliatory, in contrast to the aggressive, adversarial lobbying style that many U.S. interest groups adopt.²⁹ One of the major differences between Europe and the United States is that the institutions of the European Union (EU) (as distinct from those of member states) are more insulated from popular opinion and public scrutiny, given that the European Commission (EC), which sets the policy agenda, is not publicly appointed or accountable. From the U.S. perspective, this allows the EC to take a tougher stance on environmental issues in setting stringent (and often unrealistic) targets that businesses have to adopt.

However, although European and U.S. business-government relations might appear very different on the surface, in practice, it becomes clear that business influence over policy in Europe is also strong. The lack of public participation and transparency in the process of formulating policy means that business interests have significant scope to define the policy agenda (see the box on page 14).³⁰ The large degree of access and extensive consultations with key business players are unsurprising, given that

the goal of the European Economic and Monetary Union is premised on creating a market in which Europe can compete with the United States and others.³¹ The aim of such integration is to improve the competitiveness of European firms.³²

Although U.S. business-government relations are often characterized as adversarial and pluralistic, the cases of climate change, ozone depletion, and GM foods suggest that government has generally given priority to business interests. The confident position taken by Monsanto and other agrobiotech

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companies in the U.S. market stems from the institutional and political support provided by government agencies, combined with public ignorance or disinterest. The influence of the biotech companies with the U.S. government, derived from their increasing importance to the U.S. economy, has coincided with the desire of successive administrations to support the growth of the biotechnology industry to maintain the United States's position as a world agricultural leader in the face of global competition.

Particularly in the context of the deregulatory agenda pursued by Ronald Reagan and George Bush, government officials in the Office of Management and Budget, the Departments of State and Commerce, and the White House Office of Science and Technology were

anxious not to stifle the development of biotechnology.³³ A 1992 FDA policy exempted corporations from having to test bioengineered foods for safety or getting FDA approval before the foods are put on the market. Voluntary private consultations with the agency before marketing the product were considered adequate. It is merely recommended that developers of genetically modified food consult with the FDA before commercialization.³⁴ The Environmental Protection Agency (EPA) accepted the biotechnology companies' lab and field studies, which showed no occurrence of harm, as a basis for policy.³⁵ Jennifer Ferrara, writing in *The Ecologist*, identifies a "revolving door" that exists between key figures in the U.S. FDA and employees at Monsanto as at least partly responsible for this laissez-faire form of regulation.³⁶ Much of the driving force for biotech development in the United States has also come from the President's Council on Competitiveness's Biotechnology Working Group, which sits above all the regulatory agencies that are responsible for biotechnology policy.

Biotech companies also enjoy cozy relations with the U.K. government, even if the degree of popular concern about GM foods has forced the government to call for independent field trial sites to test for possible effects of cross-pollination. The personal commercial interests that leading government officials have in GM crops has raised questions about the appropriateness of their role as regulators of the technology. Minister for Science, Lord David Sainsbury, who has financial interests in the GM sector, recently prefaced a report on biotechnology clusters with the demand that the "government must do all it can to support the success story of the U.K. biotechnology industry and ensure that we maintain our lead in Europe."³⁷ The sectors for which biotechnology holds

the most promise account for almost one-quarter of all the United Kingdom's industrial output, employment, and export earnings, including pharmaceuticals, agriculture, and food.³⁸ The government's determination to promote the life industries means that public alarm and interest group mobilization may modify the public stance of the biotech companies but is unlikely in the long term to derail the growth ambitions of the GM food industry.

One point of disparity is the legal contexts in which biotech companies in the United States and United Kingdom operate. This variance explains the difference in their positions toward regulation through the international Conven-

tion on Biological Diversity. British firms were less troubled by the treaty's provisions on intellectual property rights (IPR) than their rivals in the United States, who bemoaned the "highway robbery" of biotech firms.³⁹ U.S. firms fear that U.S. courts will find something in the treaty that would, for example, force companies to transfer technology through compulsory licensing. Accordingly, President Bill Clinton sought to reassure biotech companies on signing the agreement by providing interpretative statements that reflected industry concern over provisions on IPRs and biosafety that would guide any interpretation a U.S. court might offer.⁴⁰ Conversely, the flexible style of U.K. regula-

tion allowed firms to be less concerned. Consistent with a more corporatist style of governing, U.K. biotech companies were less opposed to the Convention on Biological Diversity because of attempts by the government to involve them in policymaking from the start and assurances that language contained in the treaty was not a threat to their interests.⁴¹

In both cases, it is interesting that governments have felt the need to appease the concerns of their biotech companies by working closely with them and allaying their fears about possible detrimental impacts. The potential for a trade war between Europe and the United States over restrictions on imports of GM soya from the United States further demonstrates the commitment of government on both sides of the Atlantic to the expansion of their biotech industries. Despite procedural and institutional influences on the way businesses have pursued their interests and different degrees of exposure to social and political concerns about GM foods, biotech companies in both Europe and the United States have maintained similar positions.

In the ozone case, it has been amply documented that governmental negotiating positions closely followed the interests of major firms in the United States and Europe.⁴² Of course, CFC producers in the United States did feel some pressure to change from regulatory agencies. Reflecting the fractured nature of governance in United States, EPA was threatening domestic regulatory action at the same time as the State Department and the White House were supporting DuPont and the CFC industry in opposing international controls, before the mid-1980s. During the mid-1970s, as concern about the effects of CFCs on the ozone layer grew, bills to regulate CFCs were introduced in 12 U.S. states, and congressional hearings were held to consider banning the use of CFCs in aerosols. EPA banned CFC use in aerosols in 1978 and by 1980 was proposing to extend the ban to other uses. Not surprisingly, DuPont invested heavily in substitutes in the late 1970s, though this research effort virtually

Business Lobbying in Europe

Supranationally as well as at the national level, businesses tend to enjoy good relations with the most influential government departments or directorate-generales. The Commission of the European Union possesses very little technical capacity relative to the U.S. federal administration and, therefore, it is largely dependent on outside sources for information and analysis. The commission undertakes business roundtables on a regular basis to consult with leading industrialists. The European Roundtable of Industrialists, made up of chief executive officers from 45 leading European companies, is "arguably the most influential interest group in Brussels."¹ Business groups are the predominant category of European interest group: One survey finds that they constitute 63 percent of all European level interest groups.² Although environmental groups may exercise influence in setting the agenda, when the point of decision is reached, large multinational companies and the organizations that represent them have key access to members of the commission, ministers, and heads of government in member states. In Europe, chief executive officers have acted as "legitimizers for Commission officials who, as appointed officeholders, held no direct

political legitimacy of their own."³ David Coen, a professor at the London Business School, forecasts that "the trend will continue towards increasing partnership between firms and the commission at the European level."⁴

Not only is business influence in the European Union pervasive, it is also increasingly influenced by the European subsidiaries of U.S.-based companies. According to Coen, U.S. firms have brought to Europe a propensity to establish complex alliances and issue-specific policy networks as a result of which "the government-business relationship in Brussels has developed many similarities to the type of lobbying observed in Washington, D.C."⁵

1. C. M. Green, "The Changing Architecture of Big Business, in J. Greenwood and M. Aspinall, eds., *Collective Action in the European Union* (London: Routledge, 1998), 108.

2. M. Aspinall and J. Greenwood, "Conceptualising Collective Action in the European Union: An Introduction," in J. Greenwood and M. Aspinall, eds., *Collective Action in the European Union* (London: Routledge, 1998), 1-30.

3. Green, note 1 above, page 130

4. D. Coen, "The Impact of U.S. Lobbying Practice on the European Business Government Relationship," *California Management Review* 41, no. 4 (1999): 27-44.

5. Ibid.

ceased with Reagan's election in 1980 and the influx of new political appointees into government agencies. DuPont resumed its research in the mid-1980s as new scientific evidence about CFCs emerged, and EPA called for an 85 percent cut in output. By 1986, DuPont was in a strong enough position to support international proposals for a 50 percent production cut. It was only then that the presidential administration and the Department of State shifted toward active support for an international treaty.⁴³

In Europe, ICI (the United Kingdom's biggest producer of CFCs) and Atochem (in France) were the key players in the ozone debate. European industrialists, many of whom served officially on European national delegations throughout the process, "believed that American companies had endorsed CFC controls in order to enter the profitable EU export markets with substitute products that they had secretly developed."⁴⁴ Movement in the European Commission's negotiating position during the summer of 1987, which allowed the Montreal Protocol to come about, stemmed from a relaxation of the U.K. attitude following ICI's development of substitute chemicals. Competitiveness concerns had been at the heart of EU decisionmaking throughout the history of ozone diplomacy and their importance is manifested in the continuing efforts to agree to cuts in hydrofluorocarbons (HFCs) and hydrochlorofluorocarbons (HCFCs), thought to be the best alternatives to CFCs. Companies in the European Union have found it difficult to come to a common position on reducing the production and consumption of these chemicals because substitutes are not yet readily available and some European producers want to create export markets for HCFCs in developing countries.⁴⁵

As for climate, large sectors of U.S. industry waged an intense campaign

against international mandatory emissions controls, challenging the scientific basis for action and pointing to the high cost of curtailing carbon emissions. Nevertheless, government relations could hardly be described as adversarial. Indeed, industry has secured powerful allies in the U.S. Congress and has been subject to little political or regulatory pressure for change. Contributions to party funds provide a key channel of

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influence for U.S. energy companies. The fossil fuel industries donated \$130,000 to Clinton's campaign in the 1995-96 cycle and made political action committee (PAC) contributions to members of the Senate Energy and Natural Resources Committee totaling approximately \$200,000.⁴⁶ Greenpeace International estimates that between 1991 and 1996, the oil and gas sector donated \$53.4 million to U.S. election candidates and their political parties.⁴⁷ Margot Parker, director of the General Motors political action committee, says, "It's important that we be involved in the political process." She listed regulatory reform, fuel-economy standards, and global climate change as three issues debated in Washington, D.C. that "could radically change our industry."⁴⁸ At the national level, the Bush and Clinton administrations favored voluntary approaches to reducing greenhouse-gas emissions and

were unwilling to countenance mandatory emissions until the policy reversal announced by Tim Wirth in Geneva at the Second Session of the Conference of the Parties (COP-2) in July 1996.⁴⁹

By the late 1980s, the reinventing government agenda of partnerships and voluntary agreements had also reduced EPA's appetite for regulatory mandates, and instead it developed a series of cooperative, voluntary programs with industries such as Climate Wise and Energy Star.⁵⁰ Leading up to Kyoto, U.S. climate policy became mired in technical conflicts within an interagency task force examining the economic costs of various greenhouse gas policies, and a final report was never published.⁵¹ Even following the U.S. agreement at Kyoto to a 7 percent reduction in emissions from the 1990 baseline, the chances for Senate ratification are generally regarded as remote in the short term, and Republicans have trimmed funding for any programs that resemble backdoor implementation.⁵²

European industry faced a different political environment. European policy makers accepted the reports of IPCC on the latest state of scientific knowledge about climate change almost without question, and industry generally considered efforts to challenge the scientific basis for regulatory action as futile. European companies were also wary of the perceived counterproductive effects of the aggressive lobbying stance of the Global Climate Coalition (GCC) (the key umbrella group representing U.S. industries in the debate), which, although suited to the Washington, D.C. policy style, were out of step with the attitude of European governments. Michael Brand, Shell's senior environmental policy advisor, was said to have been appalled at the "out and out Congressional lobbying set up by the GCC."⁵³ In Europe, the debate has

moved on to what sort of response is more appropriate. No major European industry federation formally opposes the Kyoto Protocol. Some European oil companies, such as OMV, have even gone as far as supporting the EU proposal for a 15 percent reduction in carbon dioxide emissions.⁵⁴ European industries are more resigned to the inevitability of climate action and are keen to play a proactive role in shaping policy responses.⁵⁵

That it makes strategic sense for these companies to take this stance does not imply that business enjoys substantially less influence with European governments than with U.S. governments. European business associations have clearly demonstrated their ability to veto climate policy developments that threaten their interests and to resist, at the implementation stage, measures of which they disapprove. For example, the successful lobbying campaign against the proposed EU carbon tax was described by *The Economist* as the "most powerful offensive against European Commission proposal ever mounted by Europe's industrialists."⁵⁶ Nevertheless, European and U.S. industry now appear to be converging in a strategy of accommodation to gain a seat at the climate policy table. As the process moves toward implementation measures such as emissions trading and the Clean Development Mechanism, U.S. and European companies are closely coordinating their position statements and technical papers through industry associations that are becoming more global in scope.⁵⁷

Corporate Market-Based Factors

A third set of factors in explaining company stances relates to companies' strategic commercial objectives in relation to their market position and technology choices. These factors are critical to understanding the positions of companies in Europe and the United States toward environmental problems. The ozone case provides the clearest example of corporate strategic interests out-

weighing any social or political factors that might be expected to make U.S.-based companies more hostile to international action. DuPont's story is well known. With CFCs becoming low-margin commodities and the domestic market stagnant due to unilateral regulation in the United States, the company was more than willing to support an international treaty that would encourage a market for the CFC substitutes that it had developed.⁵⁸ The more interesting question is why DuPont was willing to invest in substitutes in the first place. In addition to domestic regulatory pressure, DuPont's dominant market position, extensive distribution channels, and expertise in chemical engineering and production led the company to expect that it could gain a strong position in CFC substitutes.⁵⁹ European producers, on the other hand, opposed CFC controls because they enjoyed growing export markets, lacked domestic pressure for controls, were more fragmented, and lagged in the development of substitutes for CFCs.

It is important to note that even in the CFC case, these divergent reactions were relatively short-lived; European and U.S. producers were united in opposition to international action until September 1986, when DuPont reversed its position. By the summer of 1987, ICI also weakened its opposition to controls. European producers saw that they could achieve some cutbacks quite easily by replacing CFC aerosol propellants and began to recognize the commercial opportunities offered by substitutes.⁶⁰

When economic interests are clearly defined, companies generally view environmental concerns in a similar way and are likely to adopt similar response strategies wherever their headquarters are located. For example, the threat to coal, the most carbon-intensive of all fossil fuels, from GHG controls is clear and immediate, and coal companies' reactions from around the world have been uniformly hostile. Nuclear, gas, and renewable energy industries, on the other hand, see opportunities in emissions controls and have broadly support-

ed international negotiations. Transatlantic differences in corporate responses to the climate issue have been most noticeable in the auto and oil sectors.⁶¹

The U.S. oil industry's hostile position is quite predictable from economic and strategic perspectives. Higher prices would reduce demand by encouraging fuel switching and by stimulating investments in alternative energy and efficiency. In contrast to the situation facing CFC producers, oil companies face a much more difficult challenge in developing such energy substitutes as renewables. Indeed, the 1990s have seen U.S. oil companies, such as Mobil and ARCO, divesting solar business units after incurring substantial losses. Renewables represent a radical technological threat to oil companies because their core expertise is in geology and hydrocarbon refining rather than in silicon for solar energy or wind turbines. The more distributed nature of solar and wind energy would also cause a disruption of supply chain relationships. Moreover, with multiple competing technologies for solar, and with no single dominant company to create a standard, investments in renewable energy are extremely risky.⁶²

Under these circumstances, the bigger mystery is why BP Amoco and Shell have moved, since 1997, toward supporting the Kyoto Protocol and have announced significant investments in renewables.⁶³ BP Amoco has the lowest ratio of gas to oil reserves of any of the major petroleum companies, making it particularly dependent on oil's fortunes, though recently it has been aggressively expanding its gas business. However, it is important to note that neither company is planning to abandon oil anytime soon, and both are still investing the lion's share of resources in oil exploration and related activities. Shell's long-term strategic planning does not envisage renewables taking off and capturing significant market share from oil until around 2020.⁶⁴ In this light, people can view recent moves by BP Amoco and Shell as a toe-in-the-water, long-term technological hedge strategies

rather than as a major redirection of capital allocation.

Nevertheless, it is likely that because of their location in Europe's social and political environment, BP Amoco and Shell view the future market prospects for renewables more optimistically than their U.S. counterparts.⁶⁵ From a European perspective, ratification of the Kyoto Protocol and the momentum toward mandatory emissions controls appear unstoppable given the volume of new policy initiatives at member-state and community levels. Moreover, BP Amoco and Shell lack the history of

losses that U.S. companies have experienced with renewables, and they could anticipate that European public policy and consumers will create more favorable market conditions. In other words, the social and political environments, as well as individual company histories, may have an important indirect effect on corporate response strategies by shaping perceptions of their economic interests.

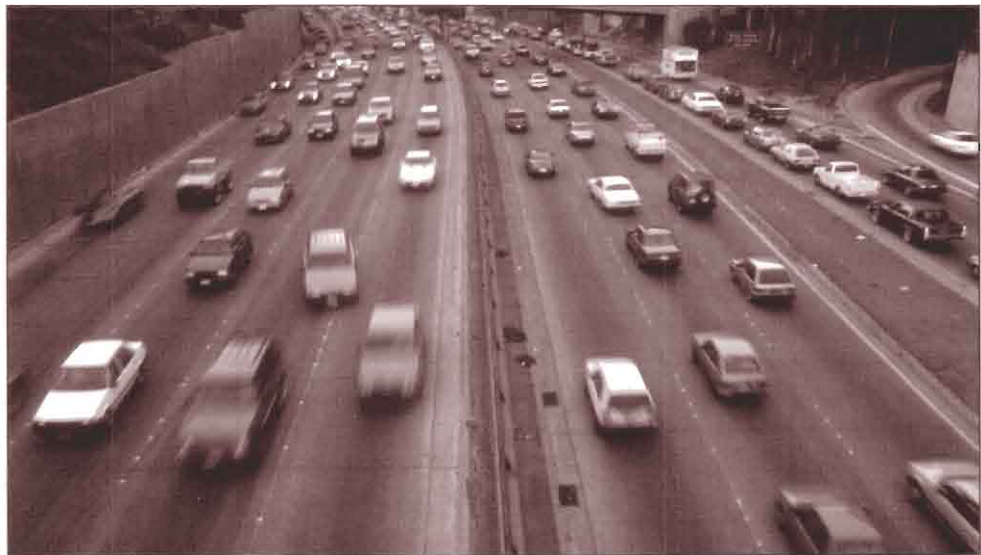
Climate change presents somewhat less of a strategic threat to the auto industry than to the oil and coal industries; companies will be under pressure to improve fuel efficiency but will con-

tinue to manufacture and sell cars. To understand why the U.S. auto industry has joined oil and coal in opposition to the Kyoto Protocol, one must examine the particular market conditions the industry faces (see the box below).

Since the Kyoto Protocol, the strategies of U.S. auto companies are shifting toward accepting the science of climate change and investing in a portfolio of low-emission technological options, although neither Ford nor General Motors has yet committed to gearing up for volume production of a low-carbon vehicle.⁶⁶ These moves signal a process

Corporate Strategy: The Case of the U.S. Auto Industry

The main problem confronting the U.S. auto industry is that it has traditionally derived most of its profits from larger vehicles, light trucks, and, more recently, sport utility vehicles.¹ With the majority of their sales still flowing from the U.S. market, U.S. car manufacturers have developed strategic strengths to fit the national environment. Low fuel prices provide little incentive for U.S. consumers to care about fuel consumption, and U.S. companies have rarely enjoyed much success with smaller, fuel-efficient cars. The main concern, then, for General Motors and Ford, is less about their expertise in low-emission technologies, such as advanced diesel or hybrid-electric drive trains, and more about their ability to integrate these technologies into smaller vehicles and successfully mass produce and market them.² Moreover, holding the U.S. car companies back appears to be a pervasive internalization of pessimistic perceptions and expectations concerning the market for low-emission technologies.³ For example, companies appear convinced that U.S. consumers would not accept high-efficiency diesel technology because they remember these cars as noisy, dirty, vibrating, and slow. European companies, on the other hand, are trusting that a new generation of clean-



er, smoother, quieter, and more powerful direct-injection diesel cars will go a long way toward meeting emission reduction targets negotiated with the European Union. Similarly, U.S. companies are locked on the idea that low-emission vehicles will not find consumer acceptance if there are any tradeoffs with other vehicle attributes, such as size, range, comfort, or safety, which places all the burden of emission reduction on power train technology development.⁴ In Europe, by contrast, car companies anticipate that consumer tastes and behavior patterns may evolve to accommodate smaller, lighter, low-emission vehicles, allowing greater flex-

ibility in achieving emission reductions in the medium term.

1. K. Bradsher, "Making Tons of Money, and Fords, Too," *New York Times*, 14 February 2000.

2. Industry insiders say that General Motors's experience with electric vehicles has given it a lead in electronic controllers for electric transmissions. K. Naughton, "Detroit's Impossible Dream?" *Business Week*, 2 March 1998, 66-88.

3. D. L. Levy and S. Rothenberg, "Corporate Strategy and Climate Change: Heterogeneity and Change in the Global Automobile Industry," Global Environmental Assessment Project working paper (Kennedy School of Government, Harvard University, Cambridge, Mass., 1999).

4. These assumptions are embedded in the targets for the Partnership for a New Generation of Vehicles joint research program.

of convergence in transatlantic responses. One important driver for such convergence is the increased level of international mergers, joint ventures, and other forms of interfirm coordination. The most prominent example is Daimler's acquisition of Chrysler, which, due to its lack of research and development capacity, had been the most outspoken opponent of the Kyoto Protocol.⁶⁷ The Ford-Daimler-Ballard joint venture to develop fuel cell vehicles not only represents a commitment of approximately \$400 million by each car company but also opens a institutional channel for interfirm strategic coordination. Similarly, General Motor's new alliance with Toyota to develop a range of low-emission technologies is likely to induce a convergence in strategic thinking and action. Some internal organizational changes are also reducing the transatlantic gap. Efforts to integrate and rationalize management structures on a global basis, such as the Ford 2000 program, combined with the increasingly international face of top management in Detroit, have increased the visibility of European and Asian market conditions.

Companies producing GMOs face a fundamentally different situation than those facing ozone and climate issues. Rather than being incumbents threatened by new regulatory constraints on old products and by radical technological change, GMO companies are themselves the innovators seeking regulatory approval for new products that dramatically change industry practices. Consequently, GMO businesses on both sides of the Atlantic have developed similar strategies to gain the support of regulatory agencies and establish the safety of the new products.

Therefore, it is no surprise that GMO companies have been quick to develop transnational institutional linkages. The Trans-Atlantic Business Dialogue was

created to remove regulatory barriers to trade, with one working group specifically focusing on the creation of a European counterpart to the U.S. Food and Drug Administration to speed up and harmonize the approval of new products. There is also an EU-U.S. biotechnology group that meets under the umbrella of the Transatlantic Economic Partnership. Moreover, to counter the effective mobilization of environmental and consumer groups within Europe, an informal group

Companies producing GMOs face a fundamentally different situation than those facing ozone and climate issues.

of 14 leading food and biotechnology companies, the Food Biotech Communication Initiative (FBCI), has been launched "to improve levels of understanding on the introduction and use of modern biotechnology in the food chain."⁶⁸ Transnational business alliances such as these help to dilute the impact of different sociopolitical influences in Europe and the United States by allowing businesses to push for common approaches to policy, similar patterns of regulation, and coordinated corporate marketing and policy strategies.

Nevertheless, continued public opposition to GM foods in the European Union and the prospect of mandatory labeling or even bans could push companies in different strategic directions. U.S. agriculture is already heavily committed to GM crops, accounting for half

of U.S. soybeans, one-third of corn, and nearly two-thirds of processed food.⁶⁹ Monsanto, having divested much of its nonagricultural chemicals business (which was viewed as a low growth, low margin commodity business) will not give up on this new market easily.⁷⁰ Kenny Bruno, campaign coordinator for EarthRights International and research associate with Transnational Resource & Action Center, claims DuPont may also shift its focus away from its traditional chemical businesses to further concentrate on biotechnology.⁷¹ In Europe, however, some GMO firms are considering concentrating on the pharmaceuticals side of their operations and selling off their agricultural divisions. Anticipated synergies in the research between pharmaceutical and agricultural products have not materialized for the most part. Instead, it may make sense for some companies to consolidate gains in the immensely profitable drug market. Agriculture is inherently less rewarding than pharmaceuticals, with profit margins of around 10 percent—about

one-third of what drugs earn.⁷² Companies working in both agriculture and pharmaceuticals fear that the consumer backlash against GM foods in Europe will negatively impact their reputation in the drug market.

In contrast, the United States provides a more hospitable environment for the biotech companies. Tim Lang, food policy specialist, claims,

There is little doubt that the United States is the epicentre of the new [biotechnology] movement. Only it has had the right combination of corporate coffers deep enough to make the necessary investments, ample stockmarkets, entrepreneurialism, armies of suitably qualified scientists and farmers locked into the intensification treadmill, to be prepared to risk planting the products.⁷³

For this reason, Novartis, the Swiss biotech company, threatened to relocate

to the United States when the Swiss government announced that there would be a national referendum in Switzerland on excluding GMOs from food products. The company already has a research center in Raleigh, North Carolina, and it is developing a gene mapping facility in San Diego. It has also successfully captured a share of the U.S. market with its insect tolerant GM maize and herbicide resistant GM soya.

Recent developments suggest, however, that the Europe-United States divide in terms of consumer concern and activism around the issues may be becoming less clear. U.S. activists have also begun to mobilize around demands for labeling and segregation of GM from non-GM foods, and there is support for such a position from the Corn Growers' Association and other farming groups in the United States who want to regain public confidence in their foods as well as get access to European markets. Clearly, however, given the levels of investment in GM crops and the degree of government backing demonstrated by the examples above, biotech companies are sticking to their guns for the time being and will adapt their public relations and marketing strategies in whatever ways are necessary to gain acceptance for their products in what remains a potentially lucrative global market. Many companies also express confidence that the current public furor will pass and that current popular opposition is merely a temporary setback.

Conclusions

Clearly, social-cultural, political-institutional, and corporate-strategic factors interact and reinforce one another in shaping the positions and responses of businesses across a range of sectors in Europe and the United States. Sociocultural explanations provide an understanding of the context in which businesses make decisions, the social and cultural forces that shape their investment decisions, and the public stances they adopt toward environmental issues. Political-institutional expla-

nations center the public's attention on the importance of different contexts of business-government relations that determine the access and representation of business concerns in decisionmaking. Although social and political pressures have traditionally been locally differentiated and nationally embedded even in these spheres, regional differences are becoming less significant, partly as a result of the globalization of corporate production and political activities. However, economic and competitive considerations appear to be the most powerful factor in shaping business strategies toward these international environmental issues. The economic environment is globalizing and companies facing these issues are more multinational in their structures and outlooks; not surprisingly, there is a trend toward convergence in the stance of industry on either side of the Atlantic. The other political-institutional and social factors play more of a role in shaping the specific tactics and styles of engagement and in mediating perceptions of economic interests. National and regional differences are most prominent during the earlier phases of the policy process for each issue. However, over time, the economic pressures come to dominate industry positions and strategies.

None of the explanations can be excluded from a complete understanding of how businesses respond to environmental issues. Emphasis upon the differences that exist in the social and political environment in which companies operate obscures a trend toward convergent strategies in approaches to environmental issues, on either side of Atlantic. Even in the hugely different case studies of climate change, ozone depletion, and GM foods, there is an underlying similarity in the way businesses have been able to accommodate challenges from government and interest groups, successfully managing the effects of different institutional environments or levels of popular concern in pursuing their corporate strategies. Attempts to coordinate their responses through transnational dialogs suggest that the process of con-

vergence will continue for the foreseeable future. Understanding these issues is critical to predicting or identifying future opportunities and obstacles to environmental action in Europe and the United States in the future.

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