

Same Science, Differing Policies; The Saga of Global Climate Change

Eugene B. Skolnikoff*

Introduction

An international negotiation is presently underway on an issue unique to human affairs in terms of its scope, its possible consequences, and its direct relevance to the interests of the planet's entire population. That is the issue of climate change, which is unique in another significant respect: the role of science. The global warming that it is feared may lead to climate change is not yet observable in everyday life. It is the research and assessments of scientists that has placed it on the agenda of nations.

The results of a large, extraordinary international panel of scientists form the basis for the negotiation, but their seemingly straightforward conclusions receive mixed reactions from their peers, and governments draw differing policy conclusions. Many, both scientists and policy-makers, believe the outcome of the negotiations will determine whether nations will intervene in time to prevent large, perhaps catastrophic, damage to the global ecosystem. Others are more cautious, believing the scientific analysis does not yet adequately define cause and effect, and though the risk may be real, there is time to determine its dimensions and to avoid excessive intervention that may be costly and prove to be unnecessary. Still others decry the whole issue, arguing the scientific analysis is severely exaggerated and that the issue presents at best only a minor problem for the future.

Why are there such differing responses and what can be expected to emerge in the next few months as the current negotiations reach their climax in Kyoto, Japan, at the end of 1997? It is in many respects a seemingly obvious story, based on commonly understood political and economic factors. Yet, the actual pressures that have led to the different responses are more complex, and likely more changeable, than this observer expected or that are generally appreciated. In the pages that follow a comparative analysis will be presented that explores the forces at work in the major countries of Europe and the U.S. on this issue. It is necessarily an impressionistic analysis, based on general knowledge of the countries involved and the progress of the negotiations, buttressed by a series of intensive confidential interviews conducted during the Spring of 1997 in the U.S. and major countries of the European Union (E.U.). The primary focus is on the U.S., France, Germany, U.K., Belgium, Netherlands, and the E.U. itself.

The possibility of global warming that raises this fear of unacceptable levels of climate change results from the increasing accumulation in the atmosphere of long-lived anthropogenic greenhouse gases. Those gases, notably carbon dioxide, methane and nitrous oxide, occur naturally, but their accumulation beyond previous levels is a product of growing emissions of the gases from the activities of humans as population grows, as economies prosper, and as individuals seek to improve their standard of living. Carbon dioxide (CO₂), a product primarily of the burning of fossil fuels to produce usable energy, is the most important of the greenhouse gases released by human activity, accounting for more than one-half of the total in terms of their greenhouse effect in the atmosphere. These gases are almost transparent to incoming solar radiation, but absorb radiated

* Professor of Political Science at the Massachusetts Institute of Technology

heat from the surface, emitting it back to the surface and thus warming the Earth. Though only present in trace amounts, the increasing concentrations are sufficient to raise questions about resulting temperature increases at the surface that might have significant effects on many variables important to the planet's ecology: precipitation, cloud cover, sea level, temperature extremes, storm frequency and violence, and ocean currents. In turn, these changes raise concerns about implications, among others, for food production, species destruction, and inundation of coastal lands, and for larger consequences that could include economic decline, increased migration and conflict over scarcer resources.

Scientists have been analyzing and debating this issue for many years, but only in the 1980s has it been more generally accepted as a pressing matter requiring early attention. In 1988 the U.N. Environment Program and the World Meteorological Organization established, at the behest of governments, the Intergovernmental Panel on Climate Change (IPCC). Responding to the analyses of this body and to the forecasts of other scientists concerned about the issue, 165 nations have ratified the Framework Convention on Climate Change (FCCC) that resulted from the "Earth Summit" in Rio de Janeiro in 1992. That treaty included ambiguous commitments for nations to reduce their emissions of greenhouse gases. But at the first meeting of the Conference of the Parties to the Convention (COP 1 in U.N. jargon) in Berlin in 1994, it was agreed that there should be a protocol to the treaty mandating specific target reductions (requiring ratification and thus legal commitment) that would be negotiated in time for the Kyoto meeting of the Parties in December, 1997. Dubbed the "Berlin Mandate" it is those negotiations that are presently underway.

It might be expected at first blush that the large industrial countries of the West, with equivalent scientific competence to evaluate the IPCC assessments and reasonably similar vulnerability, would take comparable positions in the negotiations. In fact, that has not been the case, and at the time of writing (summer 1997) there are considerable discrepancies among European and American national positions and, in the case of the U.S. particularly, what appears to be substantial differences between the Administration and the likely reaction of the Congress.

The positions of the countries vary in the details, but the most significant aspects can easily be summarized. The governments of all these countries agree to the idea of mandated quantitative reductions in emissions by the year 2010 measured from the base year of 1990, with those commitments to be formally enshrined as a treaty obligation.¹ The U.S. has, however, not yet indicated what level of reduction it is willing to accept or, more appropriately, propose in the negotiations. Presumably, it will present its position closer to the time of the Kyoto meeting. The E.U. has developed a Union-wide position of a 15% reduction in emissions from 1990 levels by 2010 (7.5% by 2005). That proposed reduction has been "allocated" within the E.U. (actually only 10% has yet been allocated, the rest to follow when the negotiations are farther along), so that Germany would have a target of -25%, the U.K. -10% (unilaterally increased by the new British Government to -20%), France 0% (a result of the lower emissions in France because of its extensive nuclear power generation of electricity), and Belgium and The Netherlands -10%. It is interesting that treating the E.U. as a whole, and recognizing the different economic status of some member countries, results in Greece having a target of +30% and Portugal +40%. (How individual countries could sign a treaty requiring percentage reductions, while the E.U. as a whole allows

¹ A new word has entered the language in these negotiations: QELRO (pronounced KELRO), meaning quantified emission limitation and reduction objective. It is used in everyday conversation by the negotiators; it will not be used in this paper.

them substantial increases, is not yet clear. Presumably, that can be worked out as a “technicality.”)

It is important to note that all of these countries made a non-binding commitment to reduce their emissions to the 1990 levels by the year 2000. It appears that only Germany and the U.K. will meet that commitment, in both cases primarily, though not entirely, for extraneous reasons (unification and economic decline in the former East Germany in the case of Germany, reduction of coal subsidies and switch to natural gas as part of industrial policy changes in the U.K.).

In addition to the targets, there are also differences in approach. The E.U. position includes a call for common national policies among the Annex I countries (most countries of the Organization for Economic Cooperation and Development (OECD) and the transitional economies of Central and Eastern Europe) in order to avoid trade distortions.² It is not clear whether those common policies (such as regulations on energy efficiency or carbon taxes) are to be mandated, or simply agreed and coordinated; differing views were expressed on that issue in interviews in E.U. countries. The U.S. position strongly promotes an emissions trading approach to achieving emissions reductions in the most cost-effective manner, *i.e.* relying dominantly on market mechanisms. The U.S. also proposes a “budgetary” process in which countries make commitments for budget periods, and have some flexibility to move commitments if necessary between those periods. All emphasize the importance of a capability for monitoring, national reporting, review and data collection, with the U.S. putting heavy emphasis on that aspect of its position. There are other differences in the positions, especially with regard to developing countries, but these are the highlights and sufficient for the purposes of this discussion.

What are the explanations for these different positions? Do they all accept the scientific conclusions of the IPCC, but draw different implications from them? There are obviously many variables involved, not all that can be probed in a brief analysis made in the midst of the negotiations. A reasonable simplification of an extremely complex phenomenon is to focus on four primary interlocking relationships: the treatment accorded the scientific evidence; the most significant drivers of policy; the role of national policy structures; and the role of the international negotiating process.

Clearly, these can be analyzed only in a suggestive, if informed, manner, with limited evidence to judge relative importance; no conclusions here can be taken as “proved.” Moreover, other potentially significant variables have not been included; for example, the role of charismatic personalities which at times can play a surprisingly important role in international negotiations. Even with the caveats, however, the analysis can provide food for thought, and perhaps genuine insight into the current and future state of the negotiations.

The Scientific Evidence

The *Second Assessment Report* of the IPCC, completed in 1995, stated in its *Summary for Policymakers*: “The balance of evidence...suggests a discernible human influence on global climate.”³ This was the first time the IPCC had stated that the “signal” of human influence could be detected from the “noise” of normal climate fluctuations. Ministers at the second Conference of the Parties in 1996 agreed, quoting the IPCC conclusion, that “quantified legally-binding objectives for emission limitations” should be “completed in time for adoption at the third session of the

² Annex I countries enumerated in the original treaty are given in the Appendix.

³ WMO, UNEP, *Climate Change 1995: The IPCC Second Assessment Report*, Cambridge University Press, 1995.

Conference of the Parties [in Kyoto in 1997].” Negotiations to that end were already underway under the rubric of the Berlin Mandate.

It is striking that the conclusion of the IPCC with respect to the influence of human activity on climate change is now the clear basis for government policy deliberations in all of the countries under review.⁴ Some scientific voices are heard outside governments in Europe questioning the report, but only in the U.S. and to a lesser extent in the U.K. is there significant doubt among scientists working in the field about the conclusion that the influence of human activity—an anthropogenic “fingerprint”—has now been firmly established. Those scientists reflect what is seen as a disconnect between the body of the evidence presented in the full IPCC report, with all its qualifications, and the *Policymakers Summary* that leaves out the qualifications and presents the bald statement as an agreed conclusion.⁵ In effect, they believe the *Summary* is tantamount to a statement of policy by its authors rather than an exposition of the state of scientific knowledge.

There are also, especially in the U.S., some skeptics who vocally and vehemently deny the validity of the IPCC analysis altogether. That skepticism, though it undoubtedly reflects only a tiny segment of the scientific community, is already being used by Congressional opponents and interest groups in the U.S. that would suffer economically by constraints on emissions. That extreme view of the issue is likely to become more politically relevant when the Senate is asked to ratify whatever agreements are reached.

Essentially, it can be said that for the European countries examined in this study, the scientific conclusion of the detection of a human signal in the climate (not the effects of that signal) is now a settled matter. Governments have accepted the view that whatever the uncertainties, the danger is real, human influence on climate has been demonstrated, and the precautionary principle should apply. The IPCC has come down on the “safe” side of the question, so there is little point in further debate. If the forecast proves to be incorrect, little damage will have been caused; if correct, action today may help prevent a catastrophe tomorrow.

This attitude permeates the thinking of the E.U. and of the countries studied, with some variations. In France, the existence of a scientific challenge to the IPCC was given little attention in official circles. The actual policy process simply uses the IPCC report as an unchallenged base for deciding the national position.

In the U.K., several leading government scientists inside the “Establishment” had long been committed to the prediction of serious global warming; the nature of the British policy process resulted in those inner circles having had overwhelming influence in the policy outcome. Some critics likened the role of those scientists to a “crusade” that, employing shaded scientific presentations, had successfully convinced former Prime Minister Thatcher to be a believer in the dour forecasts.

In Germany the issue is also settled inside the government, with Chancellor Kohl publicly committed to a leading role on the subject in the E.U. and globally. However, concern has risen in the country and in the government over unemployment, the financial drain of reunification with East Germany, and the costs of measures necessary to qualify for the common European currency. Evidence of scientific skepticism is increasingly being examined in financial and economic

⁴ By contrast to the basic science of global warming, the IPCC work on impacts is neither well developed nor accorded similar authority. “Working Group II of the Second Assessment Report,” WMO, UNEP, *Climate Change 1995: The IPCC Second Assessment Report*, Cambridge University Press, 1995.

⁵ For a summary of this scientific debate and a proposed strategy for global warming see: Henry D. Jacoby, Ronald G. Prinn and Richard Schmalensee, “Needed: A Realistic Strategy for Global Warming,” MIT Joint Program on the Science and Policy of Global Change, Report 21, July 1997.

Ministries as offering possible levers for delaying or reducing the onerous economic implications of policies to reduce emissions. Only a few prominent German scientists, however, are intimately involved in government deliberations, largely because of the preference of scientists to avoid political and policy issues and remain in their scientific institutions. The result is that scientists are not major players in policy discussions. There will be little policy change in the short run—Germany, and the Chancellor in particular, have much too large a political stake as an E.U. leader on the issue—but the mood may change after Kyoto, or if Chancellor Kohl is not returned to office in the 1998 elections.

The situation is roughly the same in Belgium and The Netherlands. The latter, in fact, has been playing a major role in the E.U. context (it has been President of the European Commission for the first six months of 1997 and is acting as a chief adviser, along with the U.K., to its Luxembourg successor), with a clear internal and international position that action must be taken and that the scientific uncertainties, which admittedly exist, should not be a barrier to decision. That country has been willing to take internal actions on its own such as fuel shifting, voluntary agreements with industry on energy efficiency, and even encouraging “green” products for which consumers are willing to pay higher prices. In fact, it has also modified its standards for construction of dikes, with the requirement that they withstand a sea-level rise of 20 cm.

The U.S. Administration similarly accepts the IPCC report as the justification for proceeding to mandated reductions, but in that case the judgment is largely a decision made at high Executive Branch levels. It is the certainty of that judgment that raises eyebrows within some government agencies, as it does among many of those working directly on the subject in the scientific community outside. These scientists question whether the anthropogenic fingerprint emerging from the noise has in fact yet been demonstrated, or that the temperature rise in the near term can confidently be predicted to be substantial and dangerous. Some question the rationale for substantial and costly mitigation measures at this time. As noted, there are also other scientists that are skeptical of the whole basis for the IPCC forecasts, though these extreme so-called “greenhouse skeptics” are not broadly representative of the American scientific community. For now, the scientific debate has little significance for the U.S. position as expressed by the Administration, but undoubtedly it will have in the ratification process.

It might have been assumed that a major part of the policy debate, and of the scientific assessments, would be an estimation of the impacts of global warming to indicate the severity of the effects that have to be protected against. In practice, though there is a growing body of research on that question and it is a part of the IPCC *Second Assessment*, the question of impacts has received little attention in Europe. In effect, it is argued that though impacts are important, the level of uncertainty involved, and the potential for danger, justify a “generic” view about impacts that those risks should simply be avoided. The precautionary principle dominates. Some question has been raised in the press in the U.K. about whether a Mediterranean climate would be all that undesirable in Birmingham, but it is not (yet?) a serious part of the debate.

That pattern is unlikely to hold in the U.S., where there is much more of a tendency to ask for the specific level of costs when deciding on measures intended to avoid them.

One aspect of the IPCC report that has and will play an important role has to do with the final target for CO₂ stabilization (*i.e.* for leveling off concentration of CO₂) in the atmosphere. That target is crucial to determining the extent and timing of intervention. The E.U. is aiming at a target of 550 parts per million (ppm) (the present concentration is of the order of 360 ppm) to be reached by the end of the next century. There is no scientific or economic reason for adopting this target, other than it is roughly twice the pre-industrial revolution concentration, and would, presumably,

limit the temperature rise to a presumably acceptable 2 degrees Centigrade (4 degrees Fahrenheit). The optimal “path” to reach that concentration, or any other, is a source of much debate among economists and others. Most modeling exercises indicate slow reductions in emissions that grow over time are most cost-effective, but that is a hard sell politically since it implies a deferral of responsibility to the next generation. Moreover, it can also be used as a “cover” for a do-nothing policy. The E.U. is assuming the desired path is a straight line reduction of emissions that grows linearly year by year. The U.S. has not yet taken a position on the ultimate target or on the preferred intervention path, as it has not on specific targets, but it would probably be more inclined to the slow approach for economic reasons at least.

In general, even in the U.S. where the scientific debate is most in evidence, it can be said that the public is largely unaware of the IPCC, let alone the questioning of the IPCC’s conclusions. The debate has received some attention as a result of Congressional hearings and occasional pieces in the media. Nevertheless, there is as yet little public discussion. In Europe, where there is more awareness of the issue itself, the fact that there is an underlying scientific debate is essentially unknown to the public. However, as will be discussed later, there is reason to believe that the U.S. public would be in any case less amenable to intervention than is the European public or the U.S. Administration.

It is interesting to speculate as to why the scientific evidence, as presented by the IPCC, is to a first approximation readily accepted in Europe but receives a varied reception in the U.S. Perhaps the single most important reason is the substantially different scale of the scientific communities working in the relevant subjects, with the U.S. clearly dominant in numbers of scientists.⁶ The result is that there are simply more scientists involved and thus more who have some detailed knowledge of the subject, more scope for differences of view, more opportunities for expression of varying policy and scientific biases, and more incentives for personal gain through controversy.

Another factor is the generally more open character of the American system, heavily dependent for research and development (R&D) and for advice on scientists in the private sector, and with little capability for the conduct of controversial discussions in secrecy. By contrast, as noted later in policy areas more generally, the European tradition still is characterized by confidential governmental policy deliberations with relatively less participation of scientists, or others, from outside the government.

Moreover, a larger proportion of the science supported by governments is conducted in government laboratories in Europe than in the U.S.⁷ As a result, scientists inside the government cannot with impunity take public views that may conflict with the official policies of the government, and there are fewer knowledgeable scientists outside the government to comment. The structure of the U.S. government, examined in more detail later, also allows more opportunities than European counterparts have for expressing independent views.

Finally, it can also be said that there is, 50 years after the end of the Second World War, more of a tradition of scientific involvement in policy matters in the U.S. than in Europe. Throughout that war and even more intimately during the Cold War, the American scientific community was deeply engaged from the White House on down in the analysis and formulation of policy. Many of the scientists most involved remained in the private sector in universities and industry. Others,

⁶ The cynical charge has been made that the IPCC is an “American scientific advisory committee” because of the large number of Americans involved in the IPCC.

⁷ In the aggregate, about 25% of U.S. Government R&D is carried out inside the government, while for the countries considered here the comparable figure is in the 35–40% range. “Science and Technology Indicators,” Meeting of the Committee for Scientific and Technological Policy, OECD, Paris, September, 1995.

sometimes the same individuals, also had little compunction against disagreeing publicly with policy, and organizing themselves and the public at large to attempt to change policy. This accepted pattern is much less developed in Europe, with the U.K. a halfway house. It goes a long way to explain the mixed reception in the scientific community of the IPCC *Policymakers Summary* and the likely controversy in the offing over the specifics of the U.S. position in the Berlin mandate negotiations.

The Drivers of Policy

It is not possible to differentiate definitively among the many drivers of policy that range across economic and political interests, public concern, bureaucratic goals, scientific evidence, non-governmental organizations, energy industries, and others. All are relevant in each country to varying degrees, but on a national basis a few have proven to be of particular importance and can serve to highlight the larger influences at work.

Industry

Clearly, the interests of the industrial sector, particularly energy industries, play a role in the policy process in every country. But that role varies greatly. In the U.K., it was the decision in the Thatcher era to reduce the subsidies to the coal industry (and in the process break the power of the miners union), that had the ancillary effect of removing the coal industry from an influential role in the setting of emissions policy. In fact, it is the resultant “dash to gas” that has been largely responsible for the fact that the U.K. will meet the 2000 commitment to reduce emissions to 1990 levels. It was also a key factor in allowing the U.K. to commit in the E.U. context to a further reduction of 10% by 2010, a commitment doubled to 20% by the new Labour government.

In Germany, the politically painful decision to gradually reduce subsidies to the coal industry will result in declining use of coal and thus lower CO₂ emissions from that most carbon-intensive fossil fuel. That has made it possible, along with the decline of energy-inefficient industry in former East Germany, for Germany to continue to play a leadership role in the E.U. on this issue and to pledge a 25% reduction in emissions by 2010. There is considerable question within the government as to whether the 25% target can be reached, a target that appears to have been set more on the basis of political enthusiasm than analysis. However, it may not be necessary to reach that target if the final agreement at Kyoto waters down the E.U. commitment, a likely outcome because of the probable U.S. position.

Industrial influence in Germany has been minimized in another way. The German government engaged industrial representatives directly in the inner debates on climate policy. Once a decision was reached, industry had become a party to the policy and was constrained from disagreeing publicly with policies they had had a hand in crafting.

In The Netherlands, the close relationship between industry and government, and the relatively homogeneous society of that country, allow a degree of cooperation and trust beyond that available to most others. Thus, industry has a role in the setting of policy, but is attuned to general public and governmental pressures, and willing to trade a commitment to achieve greater energy efficiency in return for lesser demands in other issue areas. The oil sector, economically important to the Dutch, is beginning to accept the reality of the global warming issue, and to consider measures in response. The statement to that effect, made in May, 1997, by John Browne, CEO of British

Petroleum, was raised repeatedly in many interviews (in Holland and elsewhere) as appearing to represent a major shift in that industry.⁸

In all the E.U. countries, the first concern of manufacturing industry is to maintain competitiveness, which translates to pressure to insure equitable regulatory or tax burdens among trading partners. This is the primary reason the E.U. wants to include, as an integral part of the treaty, policies and measures that would be adopted by all Annex I countries.

For the U.S., the eventual role of industry is too early to assess, with the beginnings of some industrial support for the Administration's position in evidence. So far, however, it is only those industries that see themselves as suffering losses as a result of a commitment to reduce emissions, notably the coal industry, that have lobbied hard with the Administration and the Congress. It is not evident that they have had much influence with the Administration, but the story is until now quite the opposite with the Congress.

The role of nuclear power as a source of energy that emits no CO₂ might have been expected to make that industry a major player in policy formulation. Aside from France, which produces 77% of its electricity from nuclear power, and to a lesser extent Belgium with 50% from nuclear power, that industry is not a substantial factor. In fact, even in France, the primary effect of the commitment to nuclear power is to make France determined that there be "differentiation" in any agreed reductions, not a flat rate common to all countries. In short, France wants credit for its lower CO₂ emissions that are a result of its use of nuclear power. The E.U. has accepted this position, so that France would have a 0% reduction requirement (from the 1990 level) by 2010 as part of the overall E.U. reduction of 15%. In Germany, the U.K. and the U.S., the nuclear industry is essentially moribund.

It is worth mentioning that around 2010 France will have to begin decommissioning its earliest nuclear plants. No decision has yet been made as to whether to replace them with nuclear or gas-fired plants, with gas an attractive option because of its lower costs. If gas were to be substituted, that would make more difficult a French reduction in emissions after 2010, especially since France has little scope for reducing emissions at low cost below their present level. In fact, it will not be easy for France to make the 1990 emissions level by 2010 that is its current E.U. commitment.

Politics and the Public

A quite different and obvious driver of global warming policy is the political situation in each country that is also closely related to public attitudes. In general, it can be said that political forces in most European countries, with the exception of France, are in the direction of pushing governments to a strong stance in the negotiations. This is especially true in Germany, where the Greens have become a more potent political party in the Bundestag than the Free Democrats, the junior partner of Chancellor Kohl's Christian Democrat (CDU) government. Green positions have infiltrated both major parties—the CDU and the Social Democrats (SPD)—with concomitant resonance in the public at large. The Chancellor himself has been a major figure in committing Germany to a substantial reduction in emissions and in taking the lead in the E.U.

However, there is reason to believe that the high unemployment rate and the fiscal situation occasioned by reunification and by the constraints of the pending common European currency have become sources of greater concern to the German public and to working levels of the government.

⁸ John Browne, "Climate Change: The new agenda," a presentation to Stanford University, The British Petroleum Company *p.l.c.*, 19 May 1997.

Were Kohl to leave the Chancellorship after the 1998 election, it is not at all clear that his successor would have the same level of commitment, nor that the public or government agencies would be as supportive. Such a development would obviously have a major effect on E.U. positions on this issue, and possibly affect German ratification of any agreement reached at Kyoto.

Environmental issues were not a major part of the election campaign in the U.K., in part because the Tory government was a supporter of global warming concerns, and in part because it was not a high visibility issue to the British public. However, the Labour Party manifesto included a commitment to double the intended 2010 British reduction in emissions from 10% to 20% below 1990. The new Prime Minister, Tony Blair, fulfilled that plank when he announced the additional commitment at the U.N. Special Session (Rio +5) in New York in June, 1997. Though there cannot be said to be a direct relationship, Mr. Blair also demonstrated his European credentials by that step, especially as it was announced so vigorously and publicly in the U.S., accompanied by criticism of the U.S. silence on a commitment. In any case, the environment enjoys much increased political support in the new government, with at least five senior members, including the Prime Minister, the Deputy Prime Minister and the Foreign Secretary, with strong green credentials and interest.

The situation has also changed somewhat in France with its new Socialist government. For the first time a Green party candidate was elected to the National Assembly and was given the environment portfolio in the Cabinet. However, that Ministry is not a powerful one in the French government. With relatively little discussion in the public of the issue, the political pressure for action is not likely to be strong. More important to France, assuming differentiation of commitments is maintained, is to follow the lead of Germany on this issue in support of the larger political imperative of Franco-German leadership in Europe.

The smaller countries of Europe tend to have strong public opinion on the side of environmental issues, with the added incentive to be pro-active in E.U. councils as a way of maximizing political influence. Hence they, especially The Netherlands, have been a force driving E.U. policy.

The role of political and public opinion in the U.S. is necessarily unclear, mainly because the issue has not yet been fully joined. As noted earlier, the subject is not a major issue on the public's agenda, though the small group of more extreme greenhouse skeptics from the scientific community has been able to be heard through friendly Congressional Hearings. The Administration at the same time has begun an "education" campaign with public sessions to be held around the country and a star-studded White House meeting in July of the President and Vice-President with prominent scientific proponents.⁹ The results are obviously not clear at the time of writing, but it seems likely to be an uphill battle to generate the political support that will be necessary to commit the nation to mandatory measures to implement any substantial reduction in emissions by 2010.

Perhaps the most important political factor in the U.S. is the position of Vice-President Gore. He is on record with his book, written while he was a Senator, that took a particularly strong position in support of slowing emissions of greenhouse gases.¹⁰ Though he has been publicly quiet on the issue through the Clinton Administration, all indications are that he is the key figure in determining and orchestrating Administration policy. Moreover, he is actively seeking, and will be

⁹ July 24, 1997. Unfortunately for the Administration, the event received no mention in the *New York Times* and a tiny paragraph the next day at the foot of p. 9 of the *Boston Globe*, though it was well-covered by National Public Radio.

¹⁰ Albert Gore, *Earth in the Balance: Ecology and the Human Spirit*, Boston: Houghton Mifflin, 1992.

likely to gain, the Democratic nomination for President in 2000. Inevitably, this issue will be an important factor in the campaign, especially if the extent of the U.S. commitment is controversial. It is even likely that any protocol agreed to at Kyoto will, by design, not reach the Senate for ratification until after the 2000 election, thus making it a key issue in that election. In substantial measure, then, the position of the U.S. on this issue may well be determined by the politics of the next Presidential election.

Fiscal Consequences

One of the curious aspects of the whole issue is that measures to reduce CO₂ emissions can also serve as a way to raise government revenues. Taxes on fossil fuels or carbon in general can be an effective way for governments to raise revenues needed for other purposes. Thus, economic and financial ministries in governments have sometimes seen the impetus for reducing burning of fossil fuels as a route to raising revenue. In fact, in Germany, the need for revenue to offset the high costs of reunification was a major factor *inside* the government for settling on the 25% emissions reduction target. Apparently, it was only after that decision within the government that the recommendation made by the Bundestag's Enquete-Commission, based on ecological not fiscal grounds, was accepted.

The reverse side of that coin is that for nations with already high fossil fuel taxes (all European countries in contrast to the U.S.), the prospect of attempting to use tax increases as a major means of reducing consumption of fossil fuel becomes proportionally less effective, and likely more onerous. In Germany, officials in economic or financial ministries are now becoming more skeptical of Germany's forthright stand on emission reductions and are more receptive to skeptical views of the scientists. This view is enhanced by the need for reform of the German tax system which is seen as a serious drag on the competitiveness of the economy. The major parties are at a standoff on tax reform proposals, which makes any new taxes even more problematic.¹¹ That is another indication that the political environment for large commitments to fend off potential global warming could well change if and when Chancellor Kohl leaves the scene.

In the U.S., of course, taxes in the current "climate" continue to be political anathema. Whatever the advantages there might be from a budgetary and deficit perspective—becoming less relevant as the economy prospers and the deficit declines—to higher fuel taxes, neither party will call for any substantial increase in fossil fuel taxes. Instead, the Administration position is to advocate reliance on other market mechanisms through an international emissions trading proposal that is the centerpiece of the American negotiating position.

The strong American advocacy of emissions trading took the European countries by surprise when the proposition was prominently included in the American draft position introduced in January, 1997, with an initial negative reaction. The idea is now more palatable in the E.U.—the U.K. was always more comfortable with the notion than others—but with considerable skepticism of its political viability (and moral acceptability, see below), and little sense of the details of how it would be introduced and implemented. There is more interest in Europe, and some experimentation, with joint implementation, a process that also emphasizes maximizing cost-effective investments in energy efficiency, but not requiring the extensive international structure an international trading scheme would entail. Few detailed studies of an international emissions

¹¹ Alan Cowell, "As Bonn Fails at Tax Reform, German Businesses Study U.S.," *New York Times*, Aug. 1, 1997, p. A4.

trading system have yet been carried out, though the U.S. has instituted a sulfur dioxide permit trading system on a national basis that is widely viewed as successful.¹² The need for elaboration of how a trading system would be organized and operated may be one of the arguments used by the Administration to delay a ratification vote in the U.S. Senate until after the next election.

Non-Government Organizations (NGOs)

Environmental organizations have been playing an increasing public role on the issue of global warming, but more in Europe than in the U.S. Particularly in Germany, organizations such as Greenpeace have become significant political actors on a wide variety of international environmental issues. Greenpeace's political clout was demonstrated in Germany when it called for a boycott of Shell Oil products to protest the plans to dispose of a decommissioned oil platform, the Brent Spar, in the Atlantic Ocean. The boycott was so successful in Germany—less so in other countries—that Shell abandoned its plans for offshore disposal of the platform.

The possible reasons for the influence of NGOs in Germany are discussed below, but it is clear that at least in that country, they are a political force of some importance. They have less influence in other countries of Europe, but remain one of the significant molders of public opinion. It is of interest, however, that in few of the interviews conducted in this study were NGOs mentioned as major players. In the U.S., environmental organizations are significant factors on domestic environment issues, but have yet to play a major public role on international questions, though they have been consulted by the Administration in the formulation of policy.¹³ The public role may change, for the Administration will certainly enlist their support for its position in the current negotiations. Nothing more specific about NGOs can be asserted at this time, except to note that they may be important subsequent to Kyoto as public “monitors” of the implementation of any international commitments that are reached.¹⁴

Culture/Traditions

The role(s) of culture and traditions necessarily play some part in the responses of nations to the same evidence of risk, especially the disparate responses on the two sides of the Atlantic. Deep analysis of these roles would call for a quite different study, while superficial comments carry the danger of “pop-psychology.” Nevertheless, there are a few observations made during the interviews and in the literature that are suggestive and worth repeating even at the risk of oversimplification.

For example, it was often stated that Europeans as a whole are more risk averse than Americans, more willing to accept the costs of avoiding risks without insisting on definitive assessments of the benefits and the costs. Hence, the straightforward European acceptance of the precautionary principle when confronting the possibility of global warming, notwithstanding the high level of uncertainty, while Americans are more interested in reducing those uncertainties

¹² “Reducing Sulfur Dioxide Emissions Through Market-Based Regulation,” *E-Lab*, MIT Energy Laboratory, January-March, 1997, p.1.

¹³ Greenpeace announced in the summer of 1997 that it was closing several of its offices in various U.S. cities due to shortfalls in fund-raising: Jim Simon, “Greenpeace in money battle,” *Boston Globe*, Aug. 12, 1997, p. A3.

¹⁴ See David G. Victor, Eugene B. Skolnikoff, Kal Raustiala, eds., *The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice*, MIT Press (forthcoming), for more discussion of this point. NGO attitudes toward “monitoring” will depend heavily on costs, which is one reason they argue for simple targets and timetables.

before assuming burdensome costs.¹⁵ The U.S. Administration, in agreeing to accept mandatory emissions reductions in the face of the large uncertainties, is obviously not conforming to that generalization, or assumes it can counter it by fanning public concern about global warming.

Similarly, the argument was made that Europeans are more anxious to preserve nature as is, while Americans are more willing to accept transformation, depending primarily on the costs of preservation. That generalization would seem to be belied by the considerable costs Americans are willing to shoulder today in the interest of environmental preservation domestically. It might be borne out with regard to global warming, however, if the question of the impacts of warming becomes a more salient issue in the U.S. than it has been in Europe.

Another factor is the presumed European preference for a community approach to large-scale international issues, with all nations acting together, while the U.S. traditionally has preferred to act independently whenever possible. Again, there are many examples that would refute this generalization, even reverse it (*e.g.*, NATO), but there are also many historical and economic reasons why the U.S. has, in fact, preferred unilateral action. Whatever the deeper reality, or the “global” rhetoric commonly employed by the Administration, it appears to others that the U.S. is quite prepared to dominate the international debate and to resist measures that would tie it too closely to the domestic policies of other nations. Agreed reductions would be acceptable, but with each nation free to meet those reductions any way it saw fit. The Europeans would prefer a common-policy approach.

Another traditional difference is the attitude toward the appropriate role of government. On the Continent, there is still a strong assumption of ultimate governmental responsibility rather than the individual or the market in social policies, and certainly when confronting a societal risk. This view has become less prevalent in the U.K., and certainly is much more of a question today in the U.S. This difference plays out in the nature of the policy options considered, and especially in the strong preference in the U.S. for emissions trading as a market approach to minimize governmental management responsibility and maximize the cost-effectiveness of emissions reductions. Europeans look to governments to ensure a level playing field.

The emissions trading proposal raises another set of moral or ethical issues that appears to have more resonance in Europe than in the U.S. Aside from the many detailed technical and political questions associated with emissions trading, it would require distribution of “emissions permits,” which would presumably have to be issued to those countries or industries presently producing the emissions. Those permits would have value, possibly a great deal of value. Many, not only in Europe, would see this as an unacceptable distribution of wealth weighted to those countries or companies already wealthy, in effect a “reward” for pollution. There may be ways to mitigate this ethical problem, but it is one raised quickly by Europeans. It is not far from the more general problem of how to “compensate” third world countries who will be asked to minimize emissions, and thus possibly forego some economic growth, to avoid a problem created up to this point by the industrial nations.

Finally, the special situation of Germany deserves mention. There, in addition to sharing other European attitudes toward risk and the role of government, the argument was made both inside and

¹⁵ A typical example is a speech by Roman Herzog, President of the Federal Republic of Germany, which includes, in a few paragraphs on global warming: “...Scientists can carry on arguing about the consequences of CO₂ emissions and about when they will occur, but we cannot afford to wait until different schools of thought have ended their quarrel. If we did, it would be too late to prevent the damage. Let me repeat what I have said many times before: risk averse inaction may be more risky than timely action in full awareness of the risks involved. So it would be better for us to act now.” Speech at Georgetown University, Washington, D.C., July 23, 1997.

outside Germany that one of the major drivers of German policy on this issue is the lingering sense of guilt over the Hitler era on the part of the German public. After long experience, it is argued, they have a greater willingness to sacrifice, fear risks more than others, and are more security minded. But, the key pressure is seen as the “need” for a moral issue to support out of the sense of guilt that remains in that country. The strength of this sentiment and whether it will continue in the face of other financial and economic pressures, especially after the Kohl era is over, cannot be answered today.

National Policy Structures

Whatever the drivers of policy, issues and options have to be considered in the national policy framework of each country, a framework determined by constitution, by statute and by custom. These frameworks necessarily have important influences on policy processes and outcomes.

The most obvious example is the U.S. where the separation of powers between the Executive and Legislative branches severely constrains the freedom of action of the Administration in formulating policy. As noted, any formal treaty commitment at Kyoto will require ratification by the U.S. Senate, with a two-thirds vote necessary. Given the Republican majority of that body, the general conservative caste of the current Congress, and the resistance to new taxes or to increased spending, the Administration will have a major problem in obtaining ratification of any agreement that contains a substantial commitment. As noted, the campaign to sell an agreement has started, but so, too, has the opposition. On July 25, 1997, the Senate voted unanimously urging the Administration not to pursue a treaty of emissions limitations unless developing countries were required to control their emissions at the same time.¹⁶ Clearly, the prospects for ratification will have an effect on the actual position the U.S. is prepared to agree to at Kyoto.

It is worth noting that the difficult requirement for ratification in the U.S., involving more than one major arm of government, also means an agreement is likely to carry great weight: it would be hard not to comply if once approved. Correspondingly, parliamentary systems with easier ratification processes, may also be easier to manipulate when lack of compliance is at stake.

Another of the important policy implications of the structure of the U.S. government is the many levers it provides for interested parties to influence the policy process. Particularly is this so in the Congress, but the structure of the Executive as well, especially in the relationship of Cabinet departments to their clients in the Congress and in the public, provides many opportunities for intervention. The openness of the government, partly a product of its structure, adds to the opportunity for intervention. For the subject of global warming, which touches on so many central issues and interests in the nation, the likelihood of a cacophony of strident policy debates is very real.

The policy process within the government is also a factor bearing on outcomes. The scale of the U.S. government, the involvement of a multitude of agencies in the issue, the inevitable disagreements among agencies on substance or on turf, the varying priority given to the subject, the interpretation of necessarily uncertain results of research, the role and access of scientists, the commitment of senior officials and their effectiveness as policy managers, the relationships to Congressional oversight or appropriations committees, all (and others) have a role in determining policy positions.

¹⁶ “Senate Urges U.S. to Pursue New Strategy on Emissions,” *New York Times*, July 26, 1997, p. 8.

It is not legitimate, except perhaps through retroactive analysis several years later, to single out one process factor of primary importance in the U.S. However, at the moment, it appears that the single most critical element in organizing and shaping an aggressive U.S. position is the commitment of the White House, and especially the Vice-President, to the issue. Without that, it is unlikely there would be as much relative coherence within the Administration, nor would there have been the decision to agree to a mandatory international treaty. Even the State Department, which would normally not see an environmental issue as deserving high status on the agenda, has accepted this issue at that level in words and deeds. Whether it will be enough to deliver agreement at the end obviously cannot now be known.

The situation is quite different in Europe, and of course varies from country to country. By and large Cabinet or Parliamentary governments do not separate power between the Executive and the Legislature, since the Executive is drawn from the Legislature; elections and party politics determine the fortunes of both at the same time. That does not mean complete congruence; in The Netherlands the Parliament has considerable power to challenge the Executive and, on this issue, tends to pressure the government in the “green” direction. In all, it can be said that on this issue the parliaments are a route for the expression of public attention and concern, with some variation in their ability to move the governments incrementally one way or the other.

In Germany, the separation of power between the Federal government and the Länder is an important aspect of this subject. The Länder have considerable independent authority on environmental issues, especially with respect to implementation of any agreements reached. And their role in the Bundesrat (upper house) where the opposition party, SPD, has a majority makes them influential policy players that must be taken into account in policy formulation.

More significant is the pattern of decision making in governments, which, in most European countries, tends to be much less open than in the U.S. In France, particularly, the issues are debated behind closed doors, with only marginal participation by scientists or others outside the inner circle. The same is true, though to a lesser extent in the U.K. and Germany. In both of those latter countries, the issue is receiving somewhat more public attention, but as noted earlier, the basic decisions remain those of the Establishment. Coherent policy agreement is easier to reach as a result than is the case in the U.S., and international negotiations, whether in the E.U. or in the Berlin Mandate, are more manageable.

The Continental countries have much more of a tradition of government intervention in the economy and society, so that policies that are controversial in the U.S., such as government support for development of alternative energy technologies, are easier to implement there. Germany, for example, is subsidizing the deployment of wind-generated energy by contributing roughly one-half of the cost in order to bring the price down to that of other energy sources.

In addition, European countries tend to have smaller staffs working on issues requiring integration across disciplines and departments. The result, again, is easier management of issues, but sometimes at the cost of adequate consideration of options or of dissenting views.

International Negotiating Process

Lastly, it is important to recognize the role of the international negotiation process, not in the obvious sense of determining what emerges from the negotiation, but how the process itself affects how governments approach the subject and the policies that may result. There is a great deal that

could be said on this matter, much of it little analyzed in the literature. But, based on the interviews and related material, a few comments are relevant.

The European Commission is an important player on this issue for member nations, though primarily as a coordinating, negotiating agent rather than an independent source of policy that is typically its role in other Community matters. It is the Council of Ministers (which meet as national representatives) that is leading the formulation of E.U.-wide policy through an ad hoc group on climate change, rather than the Commission, the bureaucratic arm of the E.U. The staff of the Commission primarily keeps abreast of the issue and provides background analyses, but has not been the formulator of positions adopted by the Council. In fact, only the Environmental and Energy Directorates, with support from the Research Directorate, have been substantially involved with policy analyses on this issue, with little interest so far from others, such as transportation and industry that would have a considerable role in implementing policies.

More generally, in all the countries under examination, the planning for the 1992 Earth Summit, the ratification of the FCCC, the Berlin Mandate negotiations, and the many surrounding committees and events, have created a sizable community in governments and in international organizations whose professional activities are built around the subject and the international process in which it is now embedded. Many careers will now be devoted to the issue and success determined by the progress made; international secretariats have been established and will grow; a new industry of monitoring and analysis will have to expand rapidly, especially if there are mandated reductions; and the number of governmental, non-governmental and professional international conferences, meetings, and web sites is wonderful to behold.

The very fact of the existence of scheduled meetings and an agreed agenda or target, forces deliberations in governments that might not have taken place without that pressure. Governments cannot in practice ignore international negotiations on topics in which they have a stake, especially so for industrialized states with economies and reputations to protect, and domestic constituencies to satisfy. This phenomenon is relevant to all the countries under discussion, but especially the U.S. that, at least under the Bush Administration in 1992, would just as soon the Earth Summit had not taken place. But, it could not ignore it, nor the negotiations that preceded and followed it. The current Administration is more committed to the subject, but even it might have preferred to see a more leisurely negotiation than the present Berlin Mandate discussions.

This subject of global warming also raises the specter, to some the opportunity, of increased delegation of regulatory authority and broader responsibility for coordination to an international body, presumably the U.N. In general, Europeans, especially the Germans, are much more relaxed about that possibility than are Americans. The interest in minimizing the size and authority of international organizations is one of the background motivations of the American emphasis on a market solution to reducing emissions, while the Europeans are more attuned to common agreed regulatory or tax policies. All, including the Europeans, agreed to the idea of a new (relatively weak) secretariat to service the FCCC, rather than giving the responsibility to an existing international body. The U.S. would go farther if it could, and would favor more bilateral rather than multilateral approaches to the issue. That is not a feasible basic approach, though in fact joint implementation and emissions trading could be carried out on a piecemeal basis country by country, or even company by company, once the (very controversial) ground rules are settled.

The pattern of negotiation and bargaining also has many effects. Perhaps the most pertinent at the moment is that the European countries, knowing the reluctance of the U.S. to commit to major reductions in emissions, are as a result freer to reap political benefits by proposing higher reductions knowing the U.S. will not agree. The U.S. stance at the Rio Conference in 1992, in

which the U.S. at that time refused to accept formal commitments to reduce emissions that all other OECD countries said they were willing to accept, was applauded by several European governments. But, the applause was only in private.

The role of host country also has surprising effects. The current Berlin Mandate negotiations were promoted heavily by the German government that sought the first COP meeting in that country and lobbied, successfully, for the secretariat to be permanently housed in Bonn. Their role as host was not the cause of the German leadership on the issue, but was a contributor to their stance. Similarly, the Japanese are pushing hard for some sort of agreement in Kyoto, though they have yet to announce an emissions-reduction target, to avoid the loss of diplomatic face that would be the result of failure to reach agreement when meeting in Japan.

NGOs have become formal, authorized participants of a growing number of international negotiations and agreements, including the FCCC. It is curious to note, however, that the Seventh Berlin Mandate Negotiation in Bonn managed to hold most of its meetings in such a way as to exclude NGO participation. This was done by the Orwellian device of calling the meetings “non-group meetings,” with papers submitted by delegations labeled “non-papers.” This may indicate a move away from the openness and influence for which NGOs have been fighting for many years, but is in any case a commentary on the atmosphere that can prevail at international negotiations.

Finally, it is important to note that the influence and prestige of the IPCC stems in part from its basis as an international scientific body, supported by governments, that can be assumed to represent the consensus views of the global scientific community. The unparalleled dependence of the climate change issue on science makes the role of the IPCC critical; its international and formal status is a key factor for most governments. This deferral to a scientific organization, and one with a governmental status, is less evident in the U.S., where so much science is carried out in the private sector and where the scientific community has had so much direct involvement in policy formulation since 1941.

Summary

What does all this mean? Are there any evident conclusions or unifying themes? And where will these factors take us in the next few years?

Clearly, this is a disparate picture not amenable to simple sound-bites. But a few general points seem appropriate to this observer.

1. The scientific evidence is the foundation of governmental policy, but unless the IPCC reverses course and denies the influence of human activity, the *details* of the forecasts of temperature rise will not be significant over the next period, especially for European countries. The general assertion of a discernible anthropogenic fingerprint in the IPCC *Summary for Policymakers* is sufficient. The IPCC will be relevant to the selection of an ultimate target for CO₂ concentration and the pathway to that target, though the choice will be essentially arbitrary unless IPCC assessments of the impacts of warming provide (unlikely) a substantive basis for choice.
2. European countries, in particular those on the Continent, are more inclined, for a mix of cultural, fiscal, and political reasons, to take the precautionary view that warming should be slowed whatever the forecasts of the effects of warming. The extent of their commitment,

whether it is 15% by 2010 or some other level of reduction, will also be a result of a mix of cultural, fiscal, and political rationales rather than an objective assessment of costs and benefits.

3. Industrial and other private sector interests will continue to be significant drivers of policy, but less so in Europe than the U.S., in good measure because of the differing governmental structures that provide more levers for intervention in the U.S. The decline of subsidies for the coal industry in the U.K. and Germany will reduce CO₂ emissions, though the improvement of efficiency of an unsubsidized industry may make the surviving industry more competitive and thus more important to an economy. Nuclear power is not a major player, except in France (and Japan), which explains why France insists on “differentiation” of emissions targets.

4. The U.S. reliance on market mechanisms for achieving cost-effective emissions reductions is viewed skeptically in Europe, where common policies and measures tend to be preferred in order to avoid distortions in the competitive trade arena.

5. Environmental concerns as a significant political force have peaked for the time being in most of the countries studied, even in Germany where the political influence of the Greens is most marked. The malaise of the German economy due to the costs of reunification, unemployment, reduced competitiveness, and the political commitment to the European common currency, have lowered the willingness to bear new burdens for the environment. The new U.K. government is so far an exception to that conclusion.

6. In the U.S., the politics of the debate indicates the Administration is well in front of the public and the Senate, which must ratify a treaty mandating reductions. This will make the issue an inevitable part of the 2000 Presidential election.

7. White House leadership in the U.S. government has been absolutely essential for the development of current U.S. policy and for the decision to accept mandatory commitments.

8. To varying degrees, European policies continue to be developed largely inside government with little prior public discussion or involvement of non-government scientists.

9. The existence of the FCCC and the negotiations leading up to Kyoto, have an important effect in forcing governmental discussions and in creating a large, and growing, community with a stake in participation in the issue quite apart from their possible stake in the outcome. On balance, that community favors control and limitation of greenhouse gases.

Forecast

Finally, a personal forecast about the developments of the next few months and years are in order.

In the judgment of this observer, and based on the countries studied, there will certainly be an agreement at Kyoto that will involve specific mandatory commitments on the part of Annex I countries.¹⁷ The commitments will be modest, however, almost surely less than the E.U. position of 15% by 2010. The E.U. countries will criticize the U.S. over the result, but some will be pleased in private. This will allow continued harvesting of the green vote without having to pay the penalty of costly policies and measures to reach difficult targets. On the other hand, those in European governments who see the attractiveness of using global warming as a means of raising new revenues will be disappointed. And, to be fair, there are many in European governments genuinely committed to the importance of reducing greenhouse gas emissions who will be disappointed, or worse.

The agreement will include some formula for determining when the developing countries will have to start accepting commitments, but it will be phrased to allow considerable flexibility. At the same time, there will have to be more specific financial commitments for a larger fund for transfer of resources and technology, but that, too will allow flexibility.

Emissions trading and joint implementation will both be accepted in principle, but emissions trading will be deferred for later detailing and discussion. Joint implementation is likely to receive more positive endorsement since it can be done more easily on a piecemeal basis, and will be tied to the provision of financial assistance.

The U.S. government will argue that the treaty cannot be submitted to the Senate until the details on emissions trading and other matters are clearer, and will delay a ratification debate as long as possible, most likely until after the 2000 election. At the same time, the government will begin an intensive campaign to build public support, working both with industry and with environmental organizations. On the assumption that Vice-President Gore is the Democratic candidate for President in 2000, the ratification issue will be a significant factor in the election.

If the U.S. economy continues on its present ebullient course, some minor forms of fuel taxes for purposes of limiting global warming may become feasible if the results of the election create an apparent electoral mandate. If the economy slows or dives, however, new taxes would be even more unrealistic than they are today, though in that case emissions would also decline, perhaps obviating the need for new measures.

To coin a phrase, time will tell.

¹⁷ There is always the possibility of a quite unexpected spanner in the works from another source. For example, the Chinese have been letting it be known, probably for bargaining purposes, that they would prefer no agreement at Kyoto. If that was a serious position, an alignment among China, Australia and the oil-exporting countries could prevent an agreed result at Kyoto. That is not expected, but cannot be ruled out.

Appendix

Annex I Countries listed in Article 26 of the Framework Convention on Climate Change (FCCC)

Australia
Austria
Belarus
Belgium
Bulgaria
Canada
Czechoslovakia
Denmark
European Community
Estonia
Finland
France
Germany
Greece
Hungary
Iceland
Ireland
Italy
Japan
Latvia
Lithuania
Luxembourg
Netherlands
New Zealand
Norway
Poland
Portugal
Romania
Russian Federation
Spain
Sweden
Switzerland
Turkey
Ukraine
United Kingdom
United States