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Whatever Could Go Wrong Did Go Wrong: The Kyoto Protocol

**Introduction**

Global climate change policy is a highly contentious and difficult aspect of international politics and seldom does the entire globe come together in agreement on a suitable policy for curbing the human footprint on this planet. Attitudes regarding climate policy typically result in stalemate and it is unusual to see a radically successful environmental policy being implemented across the globe. It is for these reasons that the Montreal Protocol is seen as a shining beacon of what is possible for international cooperation both as it pertains to climate change and international cooperation. There are many reasons why the Montreal Protocol was as successful as it was and that other international coalitions, such as the Kyoto Protocol, haven’t had the same luxury. On the surface, the Kyoto and Montreal Protocols are similar in that each of them had an environmental problem to solve and a group of countries attempting to curb a specific aspect of climate degradation. However, upon further examination, the substance of their respective protocols could not differ more. Due to issues concerning collective action, institutional failure, and stark ideological conflicts, the Kyoto Protocol fell flat while the effectiveness of these criterion allowed the Montreal Protocol to be considered the most successful international climate policy of all time. Despite these factors, however, the protocols would have come to the same results anyway due to external factors beyond their control, such as scientific research and practicality of problem solving.

The Montreal Protocol successfully reduced the release of CFC (chlorofluorocarbon) pollutants into the atmosphere[[1]](#endnote-1). These CFCs caused a creation of a hole in the Earth’s ozone layer, which allowed the sun’s strong ultraviolet rays to permeate the atmosphere and had begun causing problems such as increased cancer and cataracts in humans as well as reproductive problems in many animals[[2]](#endnote-2). The Protocol was signed in 1987, less than 15 years after scientists initially publicized concerns about the ozone layer[[3]](#endnote-3). Conversely, the 1997 Kyoto Protocol held the responsibility of solving the process of global warming and climate change, which is caused by the release of greenhouse gases into the atmosphere, altering atmospheric chemistry. The primary greenhouse gas that affects this unprecedented warming of the Earth is carbon dioxide, a result of using industrial fossil fuels, such as coal[[4]](#endnote-4). Now, almost 20 years later, the Protocol hasn’t made any impressive leaps in reducing the warming of the global climate.

**Collective Action**

In order to make any policy or protocol successful, each member must participate and contribute equally to the cause. Without full participation from all members, said policy isn’t as effective. This is known as a collective action problem, wherein there is an issue that affects everyone, but there is an unwillingness to participate in the solution because there are no individual incentives[[5]](#endnote-5). Essentially, the Kyoto Protocol suffered from an intense collective action problem, which dragged down its potential efficacy. On the other hand, the Montreal Protocol encouraged, if not required universal participation. Admittedly, universal participation was easier to come by in the Montreal Protocol because the solution was simpler and the evidence was indisputable, but the coalition *was* united in moving away from CFC products. The countries involved in the Montreal Protocol had a realistic approach in understanding the industrialized countries would bear the brunt of the work in eliminating ozone-depleting sources[[6]](#endnote-6). However, there was a sense of accountability thrust upon the developing nations as well in order to foster cooperation and eliminate the free rider problem that plagued the Kyoto Protocol. Developing nations voiced concerns about their fiscal ability to help and contribute, so the wealthier states created a fund to compensate the developing nations for making the switch to non-CFC emitting products[[7]](#endnote-7). Lastly, and most importantly, the Montreal Protocol had trade sanctions linked to how much effort each country put in. If one country didn’t pull their weight, trade sanctions were presented as a direct result of their non-compliance[[8]](#endnote-8). This strategy was crucial in eliminating the elusive free rider problem. There was incentive actually to not free ride, as there was nothing to gain (and everything to lose) by failing to participate.

Conversely, the Kyoto Protocol had a debilitating collective action problem that drove them into the ground. To institute a *global* solution to climate change, one needs *global* participation. In Kyoto, that universal participation aspect wasn’t present, thus reinforcing their imminent demise. First, industrialized nations carried the sole responsibility of cutting carbon emissions, while developing nations got excused from lowering their carbon consumption[[9]](#endnote-9). While in theory this seems to be a fair policy that allows developing nations to continue growing, what it actually does is allow the developing nations to free ride off of the work that the industrialized nations are doing. Furthermore, the industrialized nations have no incentive to participate and cut emissions when not every nation is taking part[[10]](#endnote-10). Cutting carbon emissions seriously affects the economy and the levels of production, so most industrialized nations wouldn’t commit to anything serious because not every nation was implementing that same commitment. President Bush thought the US would turn into a disadvantaged nation while the other developing nations pulled ahead, free riding of the progress of the United States[[11]](#endnote-11).

Additionally, when the three largest carbon emitters are omitted from a deal centered upon cutting carbon levels, the plan in principle falls apart. China (23% of global emissions), US (14.7% of emissions), and India (5% of emissions) weren’t actively involved during the Kyoto Protocol, whether they were simply not invited or signed it but failed to ratify[[12]](#endnote-12). To ensure success, it is crucial that major contributors to the carbon problem are present and because they weren’t, the relative effectiveness of this protocol fell flat. Lastly, there were no consequences or sanctions for countries that either left the group completely or didn’t meet their carbon quotas[[13]](#endnote-13). There were no targets or timetables regarding setting attainable goals for emissions trading, which furthermore incentivized countries to ride on the coattails of others. Without a system for policing wrongdoers, there is no incentive to cooperate and do the right thing. This lack of enforcement actually incentivized countries to not follow through with their commitments and thus reinforced the free rider problem. The proposed solution to the collective action problem is to create institutions to fix these recurring issues[[14]](#endnote-14). However, the institutions that the Kyoto Protocol chose to implement failed to address and redress collective action issues, while the Montreal Protocol constructed institutions that recognized these obstacles and remedied them.

**Institutional Differences**

Institutions shape the way that policies get implemented carried out; they facilitate the action needed to create real and lasting policy change[[15]](#endnote-15). Or, in the case of the Kyoto Protocol, institutions can also muddy the waters of action and make it impossible for fluid policy to take effect. The conditions for the Kyoto Protocol served no real purpose and upon closer examination had no basis in practical reality and the institutions thus did a disservice to the Protocol and the countries involved. The fundamental tool for the Kyoto Protocol is emissions trading. This essentially means that each country gets an amount of carbon emissions, and they can in turn buy and sell the rights to these[[16]](#endnote-16). This inherently doesn’t lessen the net carbon levels in the world, however the levels set by the Kyoto Protocol for each country were lower than they had been previously. Regardless of the effectiveness, emission trading doesn’t make sense when looking at logistics. David Victor said in his analysis of the Kyoto institutions, “it wasn’t possible to create the conditions necessary for international tradable emission permit systems to operate effectively.”[[17]](#endnote-17) Allocating permits for this kind of large-scale emissions trading costs hundreds of billions of dollars, which at that point could have gone to funding alternate energy sources besides coal and other polluting fossil fuels[[18]](#endnote-18). Second, the property rights and international law associated with emissions trading is extremely convoluted. Launching an emissions trading system requires creating a new form of property rights, the right to emit greenhouse gases.[[19]](#endnote-19) At the time of the Kyoto Protocol, no such rights existed so in turn, no institutions existed that knew how to properly monitor these rights. Choosing to implement a strategy that doesn’t have its own set of rules and regulations makes policing said strategy nearly impossible. This entire problem intensifies, Victor argues, when these property rights must include unstable nations without viable and reputable government institutions of their own to enforce the quasi-regulations Kyoto devised[[20]](#endnote-20).

Furthermore, not only did the Kyoto Protocol not account for how to adequately handle current emissions trading problems, but also failed to come up with a solution for how to tackle future issues. There was no forward planning and without some shadow of the future, there is no incentive to make these institutions legitimate or successful[[21]](#endnote-21). Countries had to inform the committee about their proposed future levels of emissions after the Kyoto Protocol, something that they had a difficult time accomplishing since there was no benchmark regarding how well this would work[[22]](#endnote-22). If one can’t accurately mention your future levels of emission, there’s no way to accurately receive the carbon permits for emitting. Without this, countries can’t trade emissions.

A counterexample to Kyoto’s bad fundamental institutions is the Montreal Protocol. There were two especially successful elements to the Montreal Protocol that made it so effective from an institutional standpoint. First, while the Kyoto Protocol was cut and dry, the Montreal Protocol allowed countries the chance to phase out CFC emitting products on their own over a long-term period[[23]](#endnote-23). This allowed the institution to be ever changing as the needs of the countries involved changed rather than pinning them to a single method of problem solving. Each country is different and has different issues within their own governmental institutions and giving them some freedom in deciding how to best tackle removing CFCs in their own way greatly increased the effectiveness of the overall goal of the Montreal Protocol.

Second, the Montreal Protocol had an escape clause, and the Kyoto Protocol did not. Scholars believe that this is the penultimate reason why the Montreal Protocol had so much more success. The escape clause essentially stated that countries implementing the rules of the Montreal Protocol could exempt important emitters of CFCs if these were extremely important to the economy[[24]](#endnote-24). They had some leeway on what they regulate to give countries a way out if they really needed it. This is an extremely practical approach to problem solving and acknowledges that countries cannot quit cold turkey and shift entirely to a new product. The Kyoto Protocol had no such clause and because it gave countries no freedom to voice concerns or choose how to cut their emissions, it was not as successful. The escape clause was an important “Hail Mary Pass” to cash in on when needed and without that right to decide how to stop global warming, it was more difficult to implement. Politicizing an issue always makes solving it more challenging. The ideational conflicts surrounding the Kyoto Protocol were much more controversial than the more straightforward issue handled in the Montreal Protocol, thus gridlocking the Kyoto Protocol even further.

**Ideational Conflict**

Global warming is and has become a highly contested and divisive topic and occasionally isn’t regarded as an environmental issue, but rather a political one. Policy in-action on occasion can be explained by this ideational conflict, the notion of having opposing ideas about how to fix a problem[[25]](#endnote-25). Some people believe action isn’t necessary at all and thus block the road to policy change. To solve this, it is necessary to change the values and beliefs of the dissenters[[26]](#endnote-26). However, that is something the Kyoto Protocol could not achieve and something that today’s climate change activists cannot accomplish. With the change in the ozone layer, it was uncontested and taken as the truth. There was never a heated political debacle about whether humans caused this hole in the ozone; it was simply taken as fact. This in turn made policy action easier to accomplish within the realms of the Montreal Protocol, thus promoting the institutions already set in place.

Conversely, global warming has significantly more grey area and many people choose to believe that it is a lie. When it is convenient for them, they ignored the science in the name of political gains and thus turned an environmental problem into one that politicians must weigh in on for constituent approval. Involving politics into something that is so clearly a matter of environmental concerns seriously slows any sort of real progress that was happening and significantly raises the stakes of any policy action at all. The Kyoto Protocol was a stalemate of sorts due to the pressure of opposing political groups aligning global warming to their political views[[27]](#endnote-27). Ratification of the Montreal Protocol was easier because there was no ideational conflict to solve and most countries agreed on the origins and reasons behind these new international policies. Kyoto did not have the same luxury and was faced with an environmental problem that had many political factors that depended on the outcome.

**Additional Factors**

Despite the collective action issues, the institutional failures, and the ideational conflict the Kyoto Protocol was destined to fail. There were outside factors contributing to both the Montreal and Kyoto Protocols that were beyond the control of any international coalition. The Montreal Protocol did a significantly better job at constructing solutions to collective action issues and solving the free rider problem. They also developed a better set of institutions to take on implementation of the Protocol’s rules and had little ideational conflict. The Kyoto Protocol on the other hand, had significantly more difficulty solving these issues and mitigating the effects many poor choices had on the results of the Protocol. However, despite all of this, the Kyoto Protocol would have still failed due to the substantive nature of the scientific research, the cost of substitutes, and community attention to the issue. The Montreal Protocol was just a simpler, more straightforward issue to solve and these underlying factors made it easier to develop institutions to further eradicate the issue.

First, the scientific community discovered the hole in the ozone layer and had undeniable proof that irrevocable damage was occurring to the atmosphere. The Halley Research Station in Antarctica said that CFCs, often found on aerosol products, such as hairspray, were to blame for the gaping hole above the Antarctic[[28]](#endnote-28). Stockpiles of CFCs were building over the South Pole and in the springtime, the sun released chlorine that depleted the ozone layer above Antarctica by about 65%[[29]](#endnote-29). This scientific research was rock solid and objective, with photo evidence and a clear solution. According to researchers, stop using products with aerosols or switch to non-aerosol methods and the hole would cease to grow. The presentation of the problem came readily equipped with this solution, which made it easy for the public to grasp[[30]](#endnote-30). In contrast, global warming is harder to prove and thus is not as simple as black and white. There is scientific proof, as the past 15 years have been the hottest on record and the global temperature has increased about 2 degrees. Natural disasters are more deadly, droughts are omnipresent, and the sea level is rising[[31]](#endnote-31). Like the ozone layer, these are also scientifically documented to be true. However, because it is not as obvious as a gaping hole in our atmosphere, it is easier to explain away these side effects of a manmade climate change as something else and thus, the scientific research holds less clout.

Second, the hole in the ozone layer came with direct and immediate effects on the lives of human beings, which let citizens to realize the severity of the situation. In the 1980s, there were present health concerns directly linked to the hole in the ozone layer, which prompted people to demand change as a united group. The health implications were happening rapidly and in real time and people began to see the results in their daily lives, which activated them. A British member on the Antarctic Survey put it best saying, “There was a scary side of the ozone layer, linked to skin cancers and cataracts and so on, which immediately engaged the public. The real impact of what a rapidly warming world could do is not so obviously intuitive”[[32]](#endnote-32). Global warming is not an urgent threat to the well being of a majority of the lives on Earth. It is a distant danger, one that grandchildren will be plagued with. Because of this, not nearly as many individuals are proactive about reversing the global warming of the climate as they were when the effects were tangible. The last dimension in grasping the nature of the problem, is how much simpler the solution to the Montreal Protocol was than the Kyoto counterpart.

The solutions suggested for each of the Protocols’ causes differed greatly in complexity, leading to radically different results and success rates. Like the Halley Research Station suggested, ceasing to use aerosols with CFC would stop the problem. As it turns out, substitutes for these products existed and could be made somewhat easily, thus making the switch attainable and relatively painless[[33]](#endnote-33). It wasn’t too difficult for citizens to implement these changes in their daily lives and for large-scale corporations to begin relying on non-CFC products. On the other side of the coin, global warming has many potential remedies, including implementing different energy sources or simply reducing global consumption of fossil fuels. However, these solutions are complex and difficult for citizens to implement without assistance. Furthermore, switching from greenhouse gases that emit carbon to alternative energy sources is enormously expensive, time consuming, and weighs extremely heavy on the economy[[34]](#endnote-34). Much of this country’s economy relies on coal and other heavy polluting fossil fuels. Our industrial and energy sectors would essentially plummet without these fossil fuels and subsidizing them to switch to alternative energy is an extremely cumbersome task[[35]](#endnote-35). There just was no way as easy as what had transpired in the Montreal Protocol. Since there is no direct solution, it is harder to incentivize citizens to mobilize to enact change. Additionally, because switching from fossil fuels would hurt the economy and take jobs from the coal industries and the like, it was met with strong opposition by many unions and other groups that relied on these fossil fuels for their incomes[[36]](#endnote-36).

**Conclusion**

Ultimately, the international community had an easier time negotiating the Montreal Protocol than the Kyoto Protocol for a variety of reasons. There is no sole explanation for why creating a deal eradicating the hole in the ozone layer was easier than constructing a similar one for global warming. In reality, there are several different understandings as to why this happened. Many scholars attribute the respective success and failure of the two Protocols to institutional differences that thus effected the collective action of the international community. Without universal participation, Kyoto was unable to gain traction in many countries. This in turn also undermined the intent of the Protocol when not all the countries participated, especially the biggest emitters. To add insult to injury, the institutions devised and the policing mechanisms in place allowed countries to manipulate and avoid responsibility. They also did not account for all that encompassed an environmental policy of this magnitude. There was no foresight or true planning for this to become a long-term solution and because of this, it fell flat. The Montreal Protocol did all of these things right, leading to a successful and prosperous environmental policy. These aspects did have an effect on the outcome of each protocol, but it was the factors out their control that had the most influence on the result. These additional factors shaped each protocol and created the circumstances that these institutions attempted to solve.

The Montreal Protocol was simply an easier situation to address within the international community. With more solidified research and cheaper alternatives, the Montreal Protocol had an easier time with collective action in the global community and because the solution was more straightforward, activism was more widespread and the institutions thus not need be as complicated. As this paper demonstrates, the Kyoto Protocol had everything going against it in all of these categories, which led to poor execution and implementation. Using these protocols as models for future environmental policies can be helpful when looking at where they had success and where they failed. However, the success primarily depends on how easy the environmental problem is to solve and what pre-existing conditions can aid the policy. The international community can glean important information from these two protocols. No matter how hard you try to solve environmental problems, sometimes the deck will be stacked against you and will hinder success regardless of institutions, collective action, or ideational conflicts.

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