The Urgent State of the Earth:

International Organizations and Non-State Actors to Enforce Compliance with International Environmental Law on Climate Change

Vivian M. Skumpija

Political Science 4996: International Organization

December 15, 2014

**Abstract**

The paradox that motivates this paper is that global governance on climate change is failing at a time where there is unprecedented urge for collective action. Climate change is the epitome of the ‘tragedy of the commons,’ where everyone is subject to its effects. This paper asks the question: under what conditions do international organizations and non-state actors exert enough leverage to enforce compliance with international environmental law on climate change? I argue that as the cost of non-compliance increases, the ability for international organizations and non-state actors to enforce compliance increases. The paper situates this thesis in the existing theoretical framework, develops a quantitative and qualitative comparative case study of the United States and Japan, and offers a set of suggestions for future studies.

In 1997, the United Nations Framework Convention on Climate Change Kyoto Protocol became the first international strategy to regulate human induced greenhouse gas emissions. It was eight years later when the treaty finally entered into force, and now, the Protocol is recognized for its inability to enforce that states commit to their emission reduction targets. Today, climate change has become the number one ‘tragedy of the commons,’ where anthropogenic release of greenhouse gases, specifically in conjunction with the energy industry and the combustion of fossil fuels, affects everyone. On September 21, 2014, New York City, alongside cities in 162 different countries, witnessed tens of thousands of environmental protesters urging the United Nations to take climate change action. Thus, it is clearer than ever that the future of climate change mitigation requires collective, global action.

International environmental law, specifically regarding greenhouse gas emissions, is failing at a time where global governance is needed the most. However, according to conventional wisdom, this is not surprising. The economic cost of domestic energy industries being forced to reduce emissions, and potentially having to transition to greener energy sources, incentivizes states not comply with international law. However, non-state actors, holding their own level of private authority, have managed to develop regulations on greenhouse gas emissions. International organizations and non-state actors both play an interesting role in the discussion of compliance with climate change mitigation. So under what conditions do international organizations and non-state actors exert enough leverage to enforce compliance with international environmental law on climate change?

In particular for international environmental agreements, theoretical approaches to compliance predominantly focus on rational institutionalism and the debate between the managerial versus the enforcement schools. This paper delves into the consideration of rational institutionalism to explore why states join international organizations in the first as a way to further the understanding the dynamic between the UNFCCC Kyoto Protocol and states. This consideration is propagated against the case in which the private authority of non-state actors emerges as law making force. Furthermore, the managerial school and the enforcement school, both situated within a rational-choice model, unfold two different perspectives on compliance theory: the first focuses on non-compliance management and the later on enforcement measures, as both of their names imply. Then, I offer what I refer to as the cost of non-compliance as an alternative explanation for compliance with global environmental law.

I argue that as the cost of non-compliance increases, the ability for international organizations and non-state actors to enforce compliance increases too. I support this claim through the examination of a comparative case study between the United States and Japan and their relationship to the Kyoto Protocol and the role of non-state actors, respectively. I chose a comparative study, with a primary and secondary case, to better investigate compliance with greenhouse gas emission reductions in two countries with different relationships to the Kyoto Protocol: one that has opted against ratification versus one that has ratified the agreement. This work contributes to already existing literature on compliance theory by fusing managerial and enforcement perspectives, which both prove essential to the equation on solving compliance patterns with international environmental law on climate change. At the same time, my argument furthers the growing discussion on non-state actors in the international arena and their potential to serve as a model for the future of multilateral environmental agreements.

The paper is organized as follows. In Section 1, I develop the theoretical approaches to compliance. First, this section examines rational institutionalism and private authority as a way to address why states join international organizations and the instances in which non-state actors become rule-makers. Next, the section reviews the debate between the managerial and enforcement schools on compliance and situates it within the discussion of international environmental law. Lastly, I present my alternative explanation. In Section 2, I provide a brief history to the Kyoto Protocol and the research method of the paper. In Section 3, I present my case studies and relate them to the broader implications of my argument. In Section 4, I conclude the paper and place my findings in context of the future for climate change mitigation and global environmental law.

**1 Theoretical Approaches to Compliance with International Environmental Law and Alternative Explanations**

To amplify the literature review on compliance, I begin with the examination of why states join international organizations in the first place and subsequently transition into examining the case of private authority held by non-state actors. Both the managerial and enforcement doctrines touch on the latter discourse, so it is an essential component to the theoretical foundation of compliance. Also, as my research will seek to investigate, non-state actors gain a form of private authority that deviates from state-derived authority. Whereas international organizations are observed as a product of delegated authority, non-state actors have the potential to become independent, lawmakers in global politics.

As mentioned previously, leading academic scholarship on multilateral environmental treaties focuses on rational institutionalism. The basic premise of rational choice institutional is that institutions exist as a means to minimize the transaction costs and uncertainty attributed to collective problems. International organizations are seen as (1) a relatively cheaper outlets for acquiring expert knowledge and (2) third parties that establish mutually reinforcing benefits as interstate commitment credibility is enhanced. Rational institutionalism embodies a principal-agent model, where principals, namely states, delegate authority to actors, or international organizations. The assumption is that agents will produce policies that for the most part adhere with the preferences of the principals; thus, governments will incur little costs to micromanage organizations from deviating away from authority invested in the state. Not to mention, research shows that states are prone to avoid delegating rule making and enforcement in the first place. Hence, rational institutionalism perhaps best answers why the Kyoto Protocol, which heavily implicates domestic economic interests due to greenhouse gas reduction targets, is lacking enforcement capability.

According to rational institutionalism, principal-agent delegation appears to be an inherent feature in the institutional design of international organizations; however, there are non-state actors that obtain legitimacy and law making capabilities that go beyond the state. How is this possible? The argument of rational institutionalism is that international institutions mainly serve as tools for states to promote their interests and are designed in order to do so. Yet, it is important to note that focal institutions only feasibly emerge when states’ interests align with one another. As with the UNFCCC, the focal institution of the global climate change regime, member states appear to agree on two things: that on one end there is a need for global climate change regulation and that on the other legally binding enforcement can constrain domestic economic sovereignty. When state preferences are multifarious, entrepreneurial forms of private authority can surface. In context of this paper, this means that non-state actors are recognized as setting rules and standards that other actors follow. This paper will go on to situate the role of international organizations and non-state actors in relationship to the UNFCCC Kyoto Protocol in the subsequent caste study analysis.

More specifically on compliance scholarship, the debate between the managerial and enforcement schools represents the scope of the core hypotheses surrounding compliance with international environmental law. The managerial school, advanced by

Abram and Antonia Handler Chayes, stresses the management of non-compliant behavior. Chayes and Chayes believe that states normally make legal commitments with the intention to comply and failure to do so is a symptom of lack of coherent norms and/or limited capacity, eliminating calculated refusal as a possible explanation. As the managerial approach suggests, states are able to legitimize their behavior when they are backed by legal commitments; consequently, states behavior is constrained to compliance. This implies that international law is capable of shaping state behavior, which ties in managerialism with constructivist theory. However, the important distinction is those constructivists see the formation of state interests as a function of social interaction, whereas rationalists place fixed state preferences in context of the discourse amongst states. Constructivism views state preferences as susceptible to social interactions, meaning they are flexible and reconstructed over time. Ultimately, managerialism values the management of non-compliant behavior in order to increase compliance. If the managerial approach were true, then I would expect non-compliance with the Kyoto Protocol as a consequence of ambiguous social norms on climate change and/or limited technological or financial capability to reduce greenhouse gas emissions; additionally, that supervision of non-compliant behavior can alter compliance outcomes.

In direction opposition to managerialism, the enforcement school, led by the work of George Downs, David Rocke, and Peter Baroom, utilizes a cost-benefit model to deduce that measures of enforcement are necessary. For Downs, Rocke, and Barsoom, the conceptualization of enforcement sanctions includes any necessary measure that will provoke states to incur costs or loss of previous benefits. Furthermore, although sanctions may not always be imperative to cooperation, the authors believe sanctions are indispensible in cases where states are more incentivized to continue on a path of non-compliance. Perhaps, climate change law exemplifies this exact type of case: the profit motive of domestic energy companies (that are in competition with foreign companies) outweighs the incentive to purse stringent climate change mitigation. Downs, Rocke, and Barsoom criticize Chayes and Chayes for undermining the power enforcement has in ensuring compliance. The enforcement school responds to managerialism by suggesting that enforcement can only be irrelevant when there is a lack of deep cooperation from the outset: the greater the cooperation, the greater the requirement for sanctions. If the enforcement approach were true, I would expect non-compliance to result from either shallow commitments or failure to supply enforcement sanctions that meet the demand.

Drawn from the existing compliance literature, I offer the cost of non-compliance as an alternative explanation that best answers the research question tackled by this paper. Although the idea of the cost of non-compliance is not new, the cost of non-compliance as I define it as an independent variable is unmatched in former research. The cost of non-compliance is the best predictor for the ability for international organizations and non-state actors to enforce compliance with international environmental law because it indicates that there is both a cost (that could also include the loss of a benefit) and observation of non-compliant behavior before all else, which fuses the managerial and enforcement schools together. More than with any other issue, the protection of the international environment from greenhouse gas emissions affects deeply integrated economic activity between competing states and firms. For this reason, latching costly enforcement provisions to multilateral environmental agreements is required for compliance. Assuming that the cost of non-compliant behavior is high, states will be drawn to comply with legal environmental commitments. So, the cost of non-compliance is measured through figures on economic costs (or potential economic costs) incurred for not complying with commitments. Also, states must be aware of the associated costs prior to the time any agreement is made. Hence, any behavior categorized as non-compliant with the treaty results in an economic cost.

**2 Background, Research Method, and Data**

**2.1 The Kyoto Protocol**

After the Intergovernmental Panel on Climate Change released its first scientific assessment report in 1990, it was unanimously decided that the United Nations General Assembly needed to set the framework for a global treaty on climate change. By 1994, the United Nations Framework Convention on Climate Change entered into force with the ambition of “stabilizing greenhouse gas concentrations ‘at a level that would prevent dangerous anthropogenic interference with the climate system.’” Although the general aim of the UNFCCC as the focal global institution on climate change mitigation was clear, just a year later discussions on a protocol to the Convention began in order to specify the how the treaty could embed a regulatory strategy pertaining to greenhouse gas emission reductions going into the future. Eventually, international negotiations led to the full adoption of the Kyoto Protocol in 1997, yet the provision to the UNFCCC waited eight years to enter into force.

The major contribution of the Kyoto Protocol, which is the primary focus of this paper, was the establishment of mandatory greenhouse gas emission reductions targets and timetables. Despite that reduction targets varied specifically depending on the nation, Article 3 of the Protocol called for reduction of “overall emissions of [greenhouse gases] by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.” The second most important contribution of the Kyoto Protocol is the foundation of an international carbon market, where countries can sell unused emissions to countries that are going over their targets. Today, the Kyoto Protocol is the only existing international regulatory strategy on greenhouse gas emission reductions, yet the Protocol has not managed to generate a substantial resolution to human induced climate change. For this reason, this paper seeks to examine the Kyoto Protocol and the role of international instructions and non-state actors to enforce compliance with the international environmental treaty.

**2.1 Design Method and Data**

Before moving into the case studies analysis, I specify the conceptualization and operationalization of compliance. The definition of compliance for the purpose of this paper draws from Oran Young’s scholarship on compliance: “‘Compliance can be said to occur when the actual behavior of a given subject conforms to prescribed behavior, and non-compliance or violation occurs when actual behavior departs significantly from prescribed behavior.’” Thus, in relation to the Kyoto Protocol, a country that upholds its target emission reduction from its 1990 level by 2012 is fully compliant; a country that remains below a 10 percent increase from its 1990 level by 2012 is partially compliant; and a country that deviates over 10 percent over its 1990 level in 2012 is non-compliant. This degree of measurement will be essential to understanding the phenomena of emission reduction within the United States and Japan, respectively.

With a high level concept as a dependent variable, I chose to operationalize compliance with emissions reduction because the behavior prescribed in the Kyoto Protocol pertains to the cutback on greenhouse gas emissions by specific states. Moreover, I specifically utilize data on carbon dioxide (CO2) emissions from energy consumption largely because it is more statistically feasible and both economically and politically relevant, since energy concerns are a major global issue today. Although CO2 is not the only greenhouse gas being considered by the Protocol, carbon dioxide is the primary greenhouse gas emitted through human behavior and the main gas emitted from the combustion of fossil fuels. In 2012, CO2 compromised about 82% of all greenhouse gas emissions in the United States. The data for carbon dioxide emissions I utilize comes from the US Energy Information Administration. While I acknowledge that the data set may be prone to bias towards the United States, one of my chosen case studies, the data is the best available source with figures for all countries, ranging from 1990 to 2012. I compared this data to the UN data source; there is only slight difference in the yearly figures, but the data does not reach 2012, which is the end year I observe. I use a comparative case study of the United States and Japan because it grounds my hypothesis with a more substantive analysis. After analyzing the quantitative data for the United States and Japan, I will follow with a qualitative assessment of the relationship of the international focal institution and non-state actors in reference to complying with Kyoto Protocol targets.

**3 The United States and Japan: Compliance with the Kyoto Protocol**

In the first year of the commitment period, 2008, the United States and Japan both fell in the top five in the world’s greatest emitters of carbon dioxide from the consumption of energy: the US held second place, while Japan held fifth. However, by 2012, the United States appears to have arrived at a far different trend than that of Japan when it comes to reducing the amount of CO2 emissions. From 2008 to 2012, the United States went from 5840.54934 million metric tons of CO2 from the consumption of energy to 5270.42188: an approximately 9.76% decrease in the four year period alone. Also, the US 2012 level compared to 1990, which was 5040.77046 million metric tons, reveals a 4.56% increase from 1990 levels. On the other hand, from 2008 to 2012, Japan went from 1216.25207 million metric tons to 1259.0576: a 3.52% increase, yet still relatively small. The Japanese 2012 level compared to 1990, 1046.98292 million metric ton, unveils a 20.26% increase from 1990s levels. Graphs 1 and 2 on the next page demonstrate the linear trends of CO2 emissions from the consumption of energy from 2008 to 2012 in the United State and Japan. Immediately following, Table 1 shows the change from 1990 levels within the United States and Japan.

Graph 1. United States

Graph 2. Japan25

Table 1.

|  |  |
| --- | --- |
| United States | +4.56 % |
| Japan | +20.26% |

Following the previously specified degree of compliance with the Kyoto Protocol standards, the United States is partially compliant, whereas Japan is non-compliant. This is surprising because the two countries share a different relationship with the Kyoto Protocol. In addition from the fact that the countries both managed to rank in the top five emitters in 2008, the United States and Japan are similarly considered Annex I parties to the UNFCCC. However, despite the US initial support for the Kyoto Protocol as a 1998 signatory, the country later opted out of supporting the treaty, so it never entered into force. Meanwhile, Japan is a signatory that saw the Protocol enter into force in 2005. Although neither country fit the category of fully compliant with the Kyoto Protocol after the first commitment session, the United States is partially compliant due to the fact that its percentage increase of emissions is less than five percent of 1990 level, and Japan is non-compliant because it is well above ten percent of its 1990 emissions level. From 2008 to 2012 the United States is observably reducing its CO2 emissions and Japan is increasing. What explains this? In order to answer this question, I transition to a qualitative examination of the two countries to further develop their association with the institutional organization connected to the Kyoto Protocol and with non-state actors aiding emission reduction parallel to the Protocol.

**3.1 United States**

***Kyoto Protocol***

The United State initially signed onto the Protocol in 1998, but by 2001 it was clear that the country would not achieve ratification. The exclusion of developing countries, such as China and India, and a president administration that was not totally convinced on climate change directed the United States (a major contributor to CO2 emissions) committing to its target. A cost- benefit analysis of the Protocol proved emission reduction given assigned period of time, and without economic counterparts like China doing the same, would be economically unachievable and competitively damaging. Without the United States ratifying the Kyoto Protocol, serious efforts on emission reductions have become symbolic at the most, as opposed to effective. The UNFCCC Kyoto Protocol, as a Convention of the focal institutional organization, has set the legal commitment and been a critical actor in taking the first steps necessary to manage non-compliant behavior, but has not implemented enforcement mechanisms that have enforced compliance. Realistically states, like the US, incur no cost for not having ratified the Protocol or for deflecting its targets.

If states are prone to avoid delegating enforcement to international organizations, as mentioned earlier, perhaps the Kyoto Protocol is lacking the institutional capability to even begin to enforce real reductions. Despite objection, the United States is financially capable of reducing emissions and turning to renewable energy sources that will eliminate concerns of carbon dioxide emissions from the combustion of fossil fuels into the future, two possible control variables that change the relationship of the variables of my hypothesis. Enforcement measures to attribute an economic cost are the missing component to the UNFCCC system. When countries seriously commit to their emission targets and become vulnerable to the economic costs that will compromise their economic edge in a competitive market, then institutional design will come to focus greatly on enforcement systems in order to eliminate the possibility for other countries to go back on commitments, thus saving themselves economically. In other words, until states adopt emission reductions and are willing to take the cost of doing so, international organizations will not be designed to manage non-compliance with attributing a cost on commitment negligence. Hence, changes in state behavior are a prerequisite for multilateral environmental agreements, and in order for deep cooperation to happen, the cost of non-compliance must go up. This supports my alternative variable, the cost of non-compliance, as leading determinant for the ability for international organizations to enforce compliance with international environmental law on climate change.

***Non-state Actors and Emission Reductions***

In the United States, non-state actors such as non-governmental organizations and multinational firms play a part in the reduction of greenhouse gas emissions. For non-governmental organizations, information is the most powerful lever into the international system. Information on non-compliant behavior relays from NGOs to powerful international institutions that can attach a value for digressing from prescribed behavior; for example, the World Bank in line with multilateral environmental effort linked environmental protection with monetary lending activities, reaching different industries that contribute to anthropogenic climate change. NGOs have the power to share information with the world on states that are failing to uphold their commitments. The United States houses an array of climate change NGOs that exert pressure on the national government. However, up to date, NGOs have not been able to influence the United States to purse targets that fall in with the Kyoto Protocol. Therefore, non-governmental organizations have no direct administrative ability to bring about any costs of non-compliance.

With multinational firms, the leverage goes beyond politics in order to reach the economic component of non-compliance. The biggest example is Walmart, a major United States based enterprise. Even though the Walmart example cannot fully explain the decrease in carbon dioxide emissions within the United States, it is a telling case of the potential for non-state actors. Walmart has stabilized its carbon footprint through management of its on-fuel combustion and purchased commodities that require fossil fuel combustion over the past decade. Given the vast range of suppliers that Walmart has, in 2010, the enterprise decided that it would “eliminate 20 million metric tons (MMT) of greenhouse gas emissions from our global supply chain by the end of 2015.” Walmart introduced a system to audit suppliers and rank them on their ability to meet the new standard, depriving suppliers who ranked poorly the benefit (cost) of selling to the company for an entire year. Since the majority of Walmart’s suppliers are foreign based, this gives the multinational corporation the power to bring a cost to non-compliance with carbon emission reductions. If you want to sell your goods to the world’s second-largest buyers, you have to comply because Walmart makes the rules. In support of my hypothesis, increasing the cost, which in this case is the opportunity to sell to Walmart, of non-compliance increases the non-state actors ability to enforce compliance with global environmental standards, like that set by the Kyoto Protocol.

**3.2 Japan**

***Kyoto Protocol***

After signing onto the Kyoto Protocol in 1998, Japan ratified the law in 2002 and by 2005 it entered into force. Japan ratified the Protocol a year the United States made it clear it did not intend to. Figures show that during the year of ratification carbon dioxide emissions in Japan were so high that a near 13% reduction by 2012 would be required to be compliant with the Protocol. Despite justified apprehensiveness of competitively failing relative to the US and Europe, Japan proved it would not cave in to US foreign policy and continue on its own path with the multilateral environmental agreement. Some suggested Protocol was approved was because Japan favored strengthening its image and its environmentally sound technology in order to appeal to the European market. Yet, as the data analysis exposes, Japan has not been up to par with it target timetable. Perhaps, the statement made by the Ministry of Foreign Affairs on the Kyoto Protocol at the end of 2010 explains why Japan is non-compliant. Japan maintains that a new international legal standard on climate change and CO2 emissions must include the United States and China, which compromise 40% of the total carbon dioxide emissions from energy consumption. Initial efforts to ratify and proceed with the Kyoto Protocol target have been outweighed by the economic cost of further reduction without the US economy on board. Again, the lack of unanimous commitment to the provisions of the Protocol by all economies creates the incentive to not comply because the cost of compliance is higher.

***Non-state Actors and Emission Reductions***

Non-governmental organizations in Japan contributed primarily at the time of ratification, and the influence of European automobile firms has had an affect on some of the CO2 emissions coming out of Japan. With the power of information and strategic lobbying power, a list of NGOs in Japan stepped in to urge the Japanese government to ratify the Kyoto Protocol: Greenpeace Japan, Kiko Climate Forum, WWF, Friends of the Earth, A SEED JAPAN, and Citizens’ Alliance for Saving the Environment. Although the NGOs were successful with the initial step of ratification with the environmental law on climate change, they appear to remain powerless when it comes to enforcing the compliance and the reduction of carbon dioxide emissions, which comes as no surprise. Since Japan has remained fairly stable from the 2008 to 2012 timetable, I conclude that any vigorous efforts are being held off because of lack of US involvement. The only evidence of emission reduction efforts in Japan may be linked to an agreement made in the European Union in 1998 to start an initiate to reach Kyoto Protocol standards that eventually got Japanese automakers to voluntarily agree to: the European Automobile Manufactures Association aimed to reduce CO2 outputs of vehicles by 140g/km, by 2008. The Japanese case for non-state actors still lacks evidence to prove my hypothesis; however, it does suggest that a lack of any cost attributed to its non-compliance has enabled Japan not to reduce its carbon footprint.

**5 Conclusion**

The quantitative and qualitative analysis of the United States and Japan in reference to the emission reductions standards set in place by the Kyoto Protocol supports the position that as the cost of non-compliance increases, so does the ability for international organizations and non-state actors to enforce compliance with international environmental law on climate change. On one end, Japan ratified the Protocol and did not commit to its target because it was not economically feasible since the US economy was not committed to reduction simultaneously. On the other, the United States never ratified the Kyoto Protocol but from 2008 to 2012 reduced its carbon dioxide emissions from the combustion of fossil fuels by ten percent. This research does not fully explain this phenomenon. Nor does this research cover the scope of all greenhouse gases, which may or may not yield a different phenomenon.

However, the distinction between the role international organizations and non-state actors positions (1) international organizations as having little power without strong enforcement mechanisms and (2) non-state actors as rule makers in the international system due to their ability to create economic costs, or loss of benefit, for observed non-compliant behavior. Perhaps, non-state actors can serve as a model for the future of international organizations, or non-state actors will be the leading forces in the future of global climate change agreements. These are considerations for future work.

This work suggests that future compliance scholarship should encourage a fusion of the managerial and enforcement approach that encompass the main discussion on compliance with international environmental agreements. This approach values management of non-compliance behavior as well as necessary enforcement measures that will use economic cost as a way to get states to comply with commitments on climate change. The cost of non-compliance must outweigh the cost of compliance. Currently, this is not the case with global environmental law on climate change, where it is evidently more economically beneficial to be non-compliant opposed to compliant. The economic component of the equation weighs heavily on the future of international cooperation to reduce anthropogenic emissions that are devastating to the Earth. Thus, as I argue in Section 3.1, deep cooperation requires states to seriously commit to reductions and then set in place enforcement mechanisms to ensure other countries are not going to back out of their commitments, decreasing uncertainty.

Further compliance scholarship specifically pertaining to international environmental law on climate change should focus on questions of how to establish enforcement mechanisms that make it costly for states not to comply with the regulatory strategy in place and can be systemically managed. How can international organizations overcome enforcement gaps? Is the only way for international organizations to enforce compliance if states design them to do so? Answering these questions will require theoretical frameworks on why states join international organizations and what that means for compliance. This paper contributes to the growing body of knowledge on the role non-state actors play in international politics and economics. Undoubtedly, the dynamic between states and non-state actors will be crucial to the development of international environmental law on climate change. If non-state actors, especially multinational firms, can increase the cost of non-compliance, does the future of emission regulations depend on corporate willingness? And what exactly does that mean for global cooperation and climate change regulation?

Bibliography

Brunnée, Jutta. *The Kyoto Protocol: Testing Ground for Compliance Theories?* 2003.

Chayes, Abram, and Antonia Handler Chayes. "On Compliance." *International Organization* 47, no. 2 (Spring 1993): 175-205. http://www.jstor.org/stable/2706888.

Downs, George W., David M. Rocke, and Peter N. Barsoom. "Is the Good News about Compliance Good News about Cooperation?" *International Organization* 50, no. 3 (Summer 1996): 379-406. http://www.jstor.org/stable/2704030.

"First steps to a safer future: Introducing The United Nations Framework Convention on Climate Change." United Nations Framework Convention on Climate Change. Last modified 2014. Accessed December 4, 2014. http://unfccc.int/essential\_background/convention/items/6036.php.

"Global Responsibility: Greenhouse Gas Emissions." Wal-Mart. Last modified 2014. Accessed December 5, 2014. http://corporate.walmart.com/global-responsibility/environment-sustainability/greenhouse-gas-emissions.

Green, Jessica F. *Rethinking Private Authority: Agents and Entrepreneurs in Global Environmental Governance*. Princeton: Princeton University Press, 2014.

Green, Jessica F., and Jeff Colgan. "Protecting Sovereignty, Protecting the Planet: State Delegation to International Organizations and Private Actors in Environmental Politics." *Governance* 26, no. 3 (2013): 473-97.

"International Energy Statistics: Total Carbon Dioxide Emissions from the Consumption of Energy (Million Metric Tons)." Unpublished raw data, U.S Energy Information Administration. Accessed December 2014. http://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=90&pid=44&aid=8&cid=regions&syid=1990&eyid=2012&unit=MMTCD.

"Japan's Position regarding the Kyoto Protocol." Ministry of Foreign Affairs of Japan. Last modified December 2010. Accessed December 5, 2014. http://www.mofa.go.jp/policy/environment/warm/cop/kp\_pos\_1012.html.

Keck, Margaret E., and Kathryn Sikkink. "Transnational advocacy networks in international and regional politics." *International Social Science Journal* 51 (1999): 89-101. doi:10.1111/1468-2451.00179.

Keohane, Robert O., and David G. Victor. *The Regime Complex for Climate Change*. Harvard Project on International Climate Agreements. Cambridge, MA: Harvard University, 2010.

Koremenos, Barbara, Charles Lipson, and Duncan Snidal. "The Rational Design of International Institutions." *International Organization* 44, no. 4 (Fall 2001): 761-99. http://www.jstor.org/stable/3078615.

"Kyoto Protocol to the United Nations Framework Convention on Climate Change." United Nations Framework Convention on Climate Change. Last modified 1997. http://unfccc.int/resource/docs/convkp/kpeng.pdf.

Newell, Peter. *Climate for Change: Non-state Actors and the Global Politics of Greenhouse*. Cambridge, UK: Cambridge University Press, 2000.

Nielson, Daniel L., and Michael J. Tierney. "Delegation to International Organizations: Agency Theory and World Bank Environmental Reform." *International Organization* 57, no. 2 (Spring 2003): 241-76. http://www.jstor.org/stable/3594852.

"Overview of Greenhouse Gases: Carbon Dioxide Emissions." United States Environmental Protection Agency. Last modified July 2, 2014. Accessed December 2, 2014. http://www.epa.gov/climatechange/ghgemissions/gases/co2.html.

People's Climate March. Last modified 2014. Accessed December 2, 2014. http://peoplesclimate.org/.

Rinkema, Richard A. "Environmental Agreements, Non-State Actors, and the Kyoto Protocol: A Third Way for International Climate Action." *University of Pennsylvania Journal of International Economics* 24 (2003): 729-57.

Simmons, Beth A. "Compliance with International Agreements." *Annual Review of Political Science* 1, no. 1 (1998): 75-93.

"Status of Ratification of the Kyoto Protocol." United National Framework Convention on Climate Change. Last modified 2014. Accessed November 28, 2014. http://unfccc.int/kyoto\_protocol/status\_of\_ratification/items/2613.php.

Tiberghien, Yves, and Miranda A. Schreurs. "High Noon in Japan: Embedded Symbolism and Post-2001 Kyoto Protocol Politics." *Global Environmental Politics* 7, no. 4 (November 2007): 70-91.

Victor, David G. *Global Warming Gridlock: Creating More Effective Strategies for Protecting the Planet*. Cambridge, UK: Cambridge University Press, 2011.

Werksman, Jacob. "Compliance and the Kyoto Protocol: Building a Backbone into a 'Flexible' Regime." *Yearbook of International Environmental Law* 9, no. 1 (1999): 48-101. http://dx.doi.org.libproxy.temple.edu/10.1093/yiel/9.1.48.