POPULISM TALKS: CONTEMPORARY DRIVERS OF THE DECLINE IN GLOBAL CLIMATE CHANGE COOPERATION

by

Jiwon Nam

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ABSTRACT

The issue of climate change has been annually negotiated at the international level under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC) for well over 25 years. Yet, and despite this quarter century of continuous, and robust negotiation, international climate change negotiations not only have repeatedly fallen short in reaching a comprehensive climate change agreement but have also worsened in their cooperative progress. What explains the ever-increasing gap between routine negotiation over climate change agreements and nation-states' (in)abilities to reach effective and timely agreements on climate change? To answer this question, I posit that the recent global rise of populism has adversely influenced states' abilities to reach international climate change agreements. To test this proposition, I first apply a Structural Topic Model to UNFCCC Conference of the Parties (COPs) speeches from the 16th COPs to the 25th COPs, as made by high-level country representatives. After extracting 25 topics from the speeches, I evaluate whether populist heads-of-state influence certain countries to negotiate over climate change in unique manners. I then pair this automated text analysis with qualitative case studies and a quantitative analysis of actual policy outcomes (i.e., annual changes in CO_2 emissions and renewable energy consumption). In each respect, I find that in most cases populist leaders express *and* exhibit less supportive stances towards

climate change cooperation in favor of greater anti-elitism, isolationism, and sovereignty-reinforcing stances, priorities, and policy outcomes. However, I find that the presence of right-wing populist leaders does not affect countries' level of CO_2 emissions, whereas the presence of right-wing populist leaders is associated with a decrease in a country's renewable energy consumption as a percentage of total energy consumption. I also found that right-wing populist leaders lack in the implementation of effective environmental policies that will benefit the country in the long run.

Chapter 1

INTRODUCTION

1.1 Introduction

Global climate change poses an existential threat to humanity. The current effects of human-induced global climate change are alarming. In July 2024, UN Secretary General, Antonio Guterres called for action, saying, “The world must rise to the challenge of rising temperatures (United Nations, 2024). Guterres’s remark was alarming and urgent given that 2024 was the warmest year on record globally, and the first time the average global temperature exceeded 1.5°C above the pre-industrial level (Copernicus Climate Change Service (C3S), 2025). In Europe, the impact of climate change is clearer than any other region of the world. Europe has warmed twice as fast as the global average since the 1980s and climate change related extreme weather events such as floods, heatwaves, and droughts, have become more common in recent years (Copernicus Climate Change Service (C3S), 2025). However, the extreme heat has not been an issue only in Europe, but in various parts of the world. From July 2023 to July 2024, numerous cities have experienced extreme daily temperatures of 50°C or more including 53.9°C in Death Vally, USA on July 7, 2024, 52.5°C in Sindh, Pakistan on May 26, 2024, and 50.4°C in Agadir, Morocco on August 11, 2023 and others (United Nations, 2024).

In the Arctic, and the polar regions have also experienced the impact of climate change in a concerning rate. In 2024, the Greenland ice sheet mass was the lowest since 2013, and the past nine years have been the nine warmest years on record in the Arctic and are expected to continue to decrease until 2029 (Moon et al., 2024; World Meteorlogical Organization, 2025).

Climate change's recent effects have not only impacted weather patterns. In 2019, at least 395 natural disasters were reported killing 11,755 people, costing nearly $130 billion (USAID, 2020). These natural disasters include wildfires, flooding, extreme heat events and more (Masson-Delmotte et al., 2019). Species other than humans are also increasingly facing adverse effects due to global climate change. For example, recent research suggests that ice sheets are melting and sea animals are losing food and shelter, coral reefs are being bleached and dying, and many forests are suffering from drought (McGrath, 2022). Scientific evidence, moreover, shows that the effect of climate change is irreversible in the time frame of current human generations, although continuous efforts for mitigation and adaptation are still needed to avoid the worst future effects of climate change (NASA, n.d.; Walsh, 2014). Indeed, in April 2022, climate scientists stated that the consequences of inaction are severe and the earth is likely to shift to an uninhabitable condition if greenhouse gas emissions are not quickly regulated (Jordans & Borenstein, 2022). And since April 2022, we have only seen this situation worsen, with scientists detecting stronger links between the earth's rising temperatures and its changing weather patterns, expecting

hotter heat waves, drier droughts, and stronger storms (Environmental Defense Fund, 2025).

International relations theory suggests that international organizations such as the UN and Intergovernmental Panel on Climate Change (ICPP) are necessary as a forum for countries and experts to gather, discuss, and coordinate cooperation over climate change adaptation and mitigation measures, and to ultimately minimize the extreme effects of climate change (Katzenstein et al., 1998; Wendt, 1999). To this end, efforts to reverse the harmful effects of climate change have been ongoing at the UN level over the past 25 years. The major international organization that supports a global response to climate change is the United Nations Framework Convention on Climate Change (UNFCCC) (United Nations Climate Change, n.d.a). The UNFCCC secretariat was established in 1992 when countries adopted the UNFCCC on May 9, 1992, and currently virtually all nation states are parties to the convention (United Nations Climate Change, n.d.b). The major role of the UNFCCC secretariat is to facilitate annual intergovernmental climate change negotiations, organize annual international climate change negotiations through the Conference of the Parties (COPs), and monitor the implementation of agreements and protocols (United Nations Climate Change, n.d.a). However, these efforts have thus far failed or have fallen short. Comprehensive climate change agreements have not been reached. Multiple UN resolutions and agreements have been drafted, but the implementation of these resolutions has seen a number of key challenges. Yet, as alluded to further above, while the international community has been unsuccessful in reaching common goals,

the effects of climate change and extreme weather events have gotten worse and not better over the past 5-10 years.

Even more puzzling, evidence furthermore suggests that international cooperation over climate change appears to be worsening rather than improving. Quotes and anecdotal evidence from country leaders, international agreements, and international organizations underscore this recent negative trend. U.S. President Donald Trump threatened in 2017 during his first term that "the United States will withdraw from the Paris Climate Accord" (The White House, 2017) and he did. In 2020, he claimed that windmills kill all the birds (Lewis, 2020) and over the 4 years of his first term, he rolled back more than 100 environmental rules and ended major climate policies in the United States (Popovich et al., 2021). During his second term, Trump initiated more rigorous condemnation of pro-environmental protection policies that were established under the Biden administration. By May 2025, Trump lessened regulations that protect marine life, broke up the National Oceanic and Atmospheric Administration (NOAA), eliminated the Office of Environmental Justice and External Civil Rights, and removed the Greenhouse Gas Reporting Program (GHGRP) for any source category that is not currently being regulated (Smith, 2025). Anti-environment policies spread not only within the United States, but also elsewhere. For example, countries like India contributed to member states' choosing to incorporate a phase down of unabated coal power instead of the necessary full phase out within the COP 26's 2021 Glasgow Climate Pact, ensuring flexibility for countries to continue to use coal power (UNFCCC, 2021). At this same juncture, the president of COP 26, Alok

Sharma, remarked more generally that "we are well aware that ambitions have fallen short of the commitments made in Paris" (Masood & Tollefson, 2021). Additionally, the United Nations Emissions Gap Report (UN Environment Programme, 2021) clearly illustrated that global greenhouse gas emissions continued to increase since 1970 to 2020, despite numerous climate change negotiations and discussions at the international forums. The report furthermore depicted a more problematic issue. Namely, as a group, G20 members are not on track to achieve their 2030 pledges to limit global warming to 1.5 degrees Celsius with clear nationally determined contributions (Dennis, 2021; Leahy, 2019; Mulvaney, 2021; UN Environment Programme, 2021).

In sum, whereas the effects of climate change appear to be worsening in recent years, so too do global efforts to address the climate change problem. In this dissertation, I ask the motivating question, why have international agreements and forums proven increasingly ineffective in addressing the global climate change problem in recent years? According to existing literature, the inefficiency of international organizations is partially caused by the anarchic international system, and/or an absence of knowledge and threat perception among the general public (Bord et al., 1998; Bortscheller, 2010; Carlton & Jacobson, 2016; Leiserowitz, 2005). Yet this feature of the international system is relatively static in time and so is unable to explain the recent trend in worsening climate change cooperation. A more temporally dynamic explanation for international organizations' ineffectiveness in addressing climate change lies in the changing degree of mixed messaging from member states

within the international climate change negotiating forum. Such mixed messaging causes international organizations to reach less-than-optimal solutions and resolutions to address climate change-related issues. In this vein, individual countries' strategies for climate adaptation and mitigation, and their respective willingness to take action to reduce harmful effects of climate change, is a second crucial factor in understanding states' increasing inabilities to achieve successful climate change policy making at the international level (Bortscheller, 2010; Carlton & Jacobson, 2016).

Recognizing the importance of individual countries' climate change agendas and their willingness to participate in international climate change cooperation, it is necessary to pay attention to recent trends in domestic politics. Specifically, one must understand governments' domestic constraints and incentives, the role of public awareness on the perceived threat of climate change, and the linkages between domestic politics and international cooperation to understand country-messaging and performance vis-à-vis international climate change cooperation (Bang et al., 2015; Kroll & Shogren, 2008; Sprinz & Weiß, 2001; Tørstad et al., 2020). While many factors underlie each of these points of emphasis, I argue that understanding regime types and the recent rise of populism[1] in multiple nations throughout the world is

[1] I recognize that populism exists in both left-wing and right-wing side of political spectrum. In this dissertation, I plan to focus on the effects of right-wing populism. All of the instances that I mention "populism" hereafter in this dissertation should be considered as references to "right-wing populism".

necessary for explaining the recent trends in decreased international climate change cooperation mentioned further above.

This argument is predicated upon a large literature relating domestic political characteristics to international climate change politics and policy. Regime types and the characteristics of national leaders are influential in international climate change cooperation stances in part because politicians and their rhetoric are major influencers within partisan divides on the climate change issues (Bartels, 2002). In the United States, to highlight one recent populist country case as an example, partisan differences on climate change are clear. According to recent Pew research, 94 percent of registered Democrat voters say climate change is a very big or moderately big problem for the country today, whereas only 41 percent of registered Republican voters say climate change is a very big or moderately big problem (Kennedy & Johnson, 2020). Furthermore, 57 percent of liberal Democrats say policies aimed at reducing the effects of global climate change generally help US economy, whereas, only 10 percent of conservative republicans say they help US economy (Kennedy & Johnson, 2020)[2].

Traditional left- and right-wing political parties in the United States correspondingly show split opinions about climate change. As the first presidency of

[2] Studies in this context also show that low personal threat perception and having enough wealth to adapt to the effects of climate change at the individual level can transcend to climate change denial or reluctance to act against climate change (Van der Werff et al., 2014; Wong-Parodi & Feygina, 2020).

Donald Trump illustrated, populist movements are then often able to capitalize on this divide, further exacerbating these divisions and, in the case of climate change, intensifying a nation-state's opposition to international climate change cooperation. Despite strong polarized stances in the United States, conservative American Republicans and their populist offshoots are not the only groups that are reluctant to promote climate change policies. Moving away from US-based partisan division between liberal Democrats and conservative Republicans and expanding to a global trend, we find that right-wing populists have a tendency to impede adopting strong climate policies more broadly, and across a range of democratic political systems (M. Lockwood, 2018; Rosane, 2022).

As the rise of populism is occurring globally, the influence of right-wing populists' opposition towards climate change policies is expected to rise in countries with right-wing populist parties. As in the example case of the United States mentioned above, scholars have found right-wing populists' lack of support for climate change policies within OECD countries (B. Lockwood & Lockwood, 2022). Lockwood and Lockwood specifically found that increasing numbers of right-wing populist parties and their supporters are unfavorable towards climate change policies, and more specifically, towards low-carbon renewable energy policies in the domestic political realm. For OECD member states from 2007 to 2018, they go on to show that the existence of right-wing populist parties slows down the implementation of low-carbon renewable energy policies in general. But more importantly, if a right-wing populist becomes the executive and earns cabinet seats, there is an added decrease in a

country's climate policy progress compared to countries without right-wing populist leaders; though the proportionality of a country's electoral system and EU membership both also matter in this regard (B. Lockwood & Lockwood, 2022; Rosane, 2022; Webb, 2022). Other scholars offer similar insights. In the domestic political context of Europe, right wing populist parties were found to not only oppose the implementation of low-carbon renewable energy, but also to oppose policies concerning transitions to sustainable energy (Fraune & Knodt, 2018; Rydgren, 2017; Zaslove, 2009). These right-wing populist political parties instead tend to prioritize maintaining domestic energy needs over transitioning to sustainable energy provision to help mitigate global climate change.

Yet much of this extant research is domestic in focus with respect to climate change policy. Based on the behaviors of right-wing populist parties and their influences in domestic politics outlined above and below, I contend that these parties and their leaders also influence their associated countries' stances on climate change at the international level. This is especially likely to be the case in instances where the latter leaders secure control of a country's government and executive branch via elections or other means. Alongside the drivers summarized in the paragraphs above, I anticipate that such populist leaders will be unique[3] in their orientations towards climate change due to their lack of constituent pressure to address the climate change issue *and* their corresponding incentives to use international climate change

[3] That is, even relative to other conservative or right-wing leaders.

cooperation as a means of demonstrating their commitment to populist priorities, namely nationalism.

1.2 Dissertation Outline

The remainder of this dissertation proceeds as follows. In Chapter 2, I discuss the background of right-wing populism in more detail and its role in global climate politics. Herein, I introduce different approaches that scholars have previously used to understand the characteristics of right-wing populists. A key lesson that arises from this engagement with prior literature is recognition that it is important to distinguish right-wing populists from simply conservative politicians. Later in this chapter, I also introduce my theoretical rationale on what traits of right-wing populists make it likely for them to disagree with global climate cooperation efforts and international climate change policy. Based on the populism literature, I suggest right wing populists' tendencies to (i) oppose, and spread misinformation about, global elites and climate change, (ii) prioritize nationalism and nativism, and (iii) express partisan skepticism towards climate change make them unlikely to support and cooperate with the international effort to combat climate change and producing constructive environmental policies.

In Chapter 3, to assess my theoretical expectations in this dissertation, I partly focus on the language of senior country representatives within international climate change cooperation venues. Specifically, this component of my dissertation will analyze the high-level segment speeches that are annually made at the Conference of Parties (COP) in the United Nations Framework Convention on Climate Change

(UNFCCC) forum. These high-level segment speeches are prepared by national governments in advance of each UNFCCC COP. They are typically given by a country's head-of-state, or by a minister of a relevant cabinet or ministry, or in some rarer cases by a key ambassador. These country representatives and their high-level segment speeches are closely linked to a country's national government within any given year and are thus in turn reflective of a country's domestic policy making processes *and* leaders' corresponding incentives to prioritize or deprioritize climate change policy and climate change cooperation. Therefore, I place initial emphasis on analyzing countries' high-level segment speeches. At the same time, I concede that while these speeches are most proximate to my outcome of interest in international climate change cooperation, any findings linking populism to speech content may entail "cheap talk" and thus may not lead to meaningful differences in actual climate change policy.

In Chapter 4, for this reason, I present qualitative case studies of the United States and Brazil. This chapter presents two illustrative case studies of countries that experienced similar presidencies by right-wing populists: Donald Trump, the 45th President of the United States from 2017 to 2021, and Jair Bolsonaro, the 38th President of Brazil from 2019 to 2022. I recognize that Donald Trump was also re-elected to serve his second term, from 2025 to 2028. But Trump's second presidency is beyond the scope in this particular case study of the United States that I present in this chapter. Here, I present how both Trump and Bolsonaro have been classified as right-wing populists judging by their speeches, and policy preferences. Then, I

qualitatively analyze the White House archives for the US case and the Brazilian Presidential Archives website for quotes from Trump and Bolsonaro on domestic environmental policies. The purpose of this chapter is to delve more deeply into the mechanisms associated with my theory and its expectations. This chapter illustrates how Trump and Bolsonaro show their right-wing populist characteristics through their domestic environmental policy preferences. To this end, I ultimately find that both Trump and Bolsonaro exhibited anti-environmental policy stances while emphasizing their sovereignty, isolation from global cooperation, and condemning "elite" politics.

In Chapter 5, I evaluate how populism relates to actual climate change policy outcomes, by focusing on annual changes in country-level carbon emissions and renewable energy consumption. I use a large-N time series cross-sectional analysis of a country-year sample of annual CO_2 emissions by country from 2009 to 2020 and renewable energy consumption from 2009 to 2020. I view the measurement of CO_2 emissions and renewable energy consumption as two distinct international climate change cooperation outcomes. The reason for this is that reductions in carbon emissions represent a core commitment and target outcome of virtually all past negotiated and agreed-upon international climate change agreements under the UNFCCC. However, I note that not all countries historically faced similar expectations in reducing carbon emissions under these various agreements. Similar to CO_2 emissions target, increasing renewable energy sources and phasing out fossil fuels have been the core component of many international climate change agreements.

These analyses of changes in actual carbon emissions and renewable energy consumption provide a far higher bar for evaluating the impact of populism on international climate change cooperation when compared to the less costly stance of making speeches on the climate change topic. Alongside the academic literature reviewed above, anecdotal evidence indeed suggests that populist leaders have recently prioritized key energy sector industries such as oil and gas extraction in their domestic policymaking decisions. In May 2022, Hungary's prime minister, Viktor Orban outlined a plan to import oil from Russia, in part because low energy costs have helped him to stay in power (Coakley, 2022; Cohen, 2022). Despite EU sanctions against Russian oil due to the ongoing Russian invasion of Ukraine, Orban described the oil ban as a "nuclear bomb for his country's economy" (Bayer, 2022) insisting on the continued supply of oil from Russia. Other populist countries with seemingly pro-environment protectionist policies are only vaguely pursuing them. Brazil's president Jair Bolsonaro pledged to protect biodiversity and reduce greenhouse gas emissions at COP 26 in 2021. However, Brazil's objectives and plans did not include any commitment which made these plans reliable (Human Rights Watch, 2021). And in part as a consequence, Brazil's increasing levels of greenhouse gas emission mostly caused by deforestation of the Amazon have been unprecedented under Bolsonaro's tenure (McCoy & Sá Pessoa, 2021). In light of this anecdotal evidence, I seek to evaluate these expectations more comprehensively within a cross-national statistical framework that treats annual changes in carbon emissions and renewable energy consumption as my key dependent variables. The analyses show that the existence of

right-wing populism is significantly associated with decreased renewable energy consumption. However, the existence of right-wing populism is not significantly associated with annual changes in carbon emissions.

In Chapter 6, I summarize the theory and the findings of this dissertation. Based on the theory of right-wing populism and characteristics of right-wing populists, I hypothesized right-wing populist leaders' influence on international climate change cooperation and environmental policies. Through the STM analysis, I show that right-wing populist leaders emphasize sovereignty-reinforcing stances rather than supporting international environmental cooperation. By analyzing the environmental policies of Donald Trump (during his first term) of the United States, and Jair Bolsonaro of Brazil, I establish that both Trump and Bolsonaro are classified as right-wing populists. Although Trump's and Bolsonaro's core motivations on environmental policy implementation, both of them pursued their own countries' benefit rather than cooperating with international agreements or regulations. Finally, through the time-series cross-sectional analysis, I show measurable consequences of environmental policies implemented by right-wing populist country leaders. After I summarize my findings, I end this conclusion chapter with recognizing the limitations of this dissertation and possible ways for further research.

Chapter 2

UNDERSTANDING THE ROLE OF POPULISM IN INTERNATIONAL CLIMATE POLITICS

2.1.Introduction

This chapter endeavors to unpack theoretical understandings of populism and climate change cooperation, primarily from existing political science scholarship. Once these lines of thought are established, I distill information from both sets of literatures to develop a set of theoretical expectations and corresponding hypotheses.

The concept of populism was introduced in the United States in 1892 to describe the rise of the People's Party (Munro, 2025). Since then, populism has spread to countries in South America in the 1930's and 1940's, with the rise of Juan Perón in Argentina, Hugo Cháves in Venezuela, Evo Morales in Bolivia, Rafael Correa in Ecuador and others (de la Torre, 2017). In the United States, populism reemerged with the rise of Donald Trump in 2017, and in Europe in recent years (Donovan & Redlawsk, 2018; Greven, 2016; Wodak & Krzyżanowski, 2017). To understand the relations between right-wing populism and climate change, I start this chapter by describing the growing concern about the rise of right-wing populism. Herein, I make an effort to distinguish between left-wing and right-wing populism. For the scope of this dissertation, I only consider right-wing populism as the "populism" variable that I am interested in. Then, I briefly describe the various approaches to interpreting

populism based on existing scholarship. Since the definition and the concept of right-wing populism is still malleable, I present a series of strategies to interpret right-wing populism. I follow this discussion with a review of the relevant literature on climate change politics. Later in the chapter, I introduce my theoretical rationale on the characteristics of right-wing populists. Based on the literatures mentioned above, I suggest that the traits of right-wing populists, such as anti-elitism, isolationism, or the "us vs. them" mentality, that together make it likely for right-wing populists to (i) oppose, and spread misinformation about, global elites and climate change, (ii) prioritize nationalism and nativism, and (iii) express partisan skepticism towards climate change that in turn makes them unlikely to support and cooperate with the international effort to combat climate change and producing constructive environmental policies.

2.2.Contemporary Trends in Global Populism

In the recent years, populism has become a common theme of world politics. This phenomenon reflects the rise of populist leaders around the world. Alongside the U.S. case of Donald Trump mentioned further above, populist leaders are increasingly gaining power in Central and Eastern Europe. This includes rise of unified homogeneous ethnic Bulgarian party in Bulgaria and Jobbik party in Hungary as examples of radical populist force starting in the 2000s (Stanley, 2017). Several African countries have experienced the same political phenomenon. Zimbabwe's Robert Mugabe and his political party, Zimbabwe African Nation Union-Patriotic

Front, emerged as a populist leader and a political party in the early 2000s (Ndlovu-Gatsheni, 2009; Resnick, 2017). Other parts of the world such as Asia and Middle East also observed the rise of populist leaders in the 21st century (Filc, 2017; Hellmann, 2017). Latin America, where a center-left populism flourished in the 1930's and 1940's, also has observed a resurgence of radical populism since the beginning of 2000s especially in Argentina and Brazil (Doyle, 2011; Grigera, 2017). These various trends intersect with both left- and right-oriented populism. To this end, scholars have defined populism as "a style of rhetoric reflecting first-order principles about who should rule, claiming that legitimate power rests with 'the people' not the elites" (Norris & Inglehart, 2019: 4). However, further ontological debates exist on whether to classify populism as a discourse or a strategy. Despite the basic consensus on what populism is, and the main characteristics of populism defined, academic approaches to the study of populism accordingly vary depending on the scholars who interpret it.

A first academic approach to populism is the ideational approach. Mudde (2004) defines populism via this ideational approach as "an ideology that considers society to be ultimately separated into two homogeneous and antagonistic groups, 'the pure people' versus 'the corrupt elite,' and which argues that politics should be an expression of the volonté général (general will) of the people (Mudde, 2004: 543)." This ideational approach focuses on understanding populism as an effort in differentiating the gap between "us" versus "them." By designating the elites as the corrupted people and the ordinary people as the pure people, the ideational approach to populism considers the elites as the ones who deviated from the ordinary people for

their inauthentic moral and special goals (Mudde, 2004). From this perspective, the people are the key concept of populism as it was used to describe the general will. It follows then that the people or general will is essential to explaining the concept of populism because populist leaders argue that they are the ones who can represent the common sense and special interests of the general people as opposed to the corrupt elites (Mudde, 2004). On the other hand, elites are considered to be corrupt and evil which are distinguished from the general people based on the dimension of morality (Mudde, 2004, 2017).

The ideational approach to populism considers populism as a kind of political ideologies. Subsequently, however, it has been argued that this approach has a potential weakness. Populism is considered as a "thin" or "thin-centered" ideology which means it does not possess the same level of intellectual refinement and consistency as "thick" or "full," and more traditional political ideologies, such as socialism or liberalism (Mudde, 2017). Because populism is a thin ideology, some scholars argue that populism has a "restricted core attached to a narrower range of political concepts" (Freeden, 1998). Lacking the thick or full ideology, populism and populist leaders are expected to say what the people want to hear in an opportunistic attempt to gain popularity from the voters (Mudde, 2017).

On the other hand, the performative cultural approach sees populism as a socio-cultural phenomenon (Ostiguy, 2017). Instead of emphasizing the linguistic characteristics of populists' rhetoric, performative approach focuses on identifying the methods of populist leaders to appeal to their followers and the populist leaders' socio-

cultural status. Ostiguy argues that "populist appeals are transgressive, improper, and antagonistic in the sense that they are intended to "shock" or provoke (Ostiguy, 2017: 74)." According to Ostiguy, the vulgar and not sophisticated ways of conveying ideas by populist leaders come from their socio-cultural and political-cultural status based on the high-low axis framework. The high-low axis represents people's appropriateness of behaviors. People that are in the high political-cultural group tend to be institutionally mediated, show impersonal authority, and value proceduralism and legalism. People that are in the low political-cultural group on the other hand, tend to be strong leaders, have personal authority, and value personalism. People that are in the high social-cultural group tend to be well-behaved, educated, and polished. Whereas people that are in the low social-cultural group tend to be coarse, uninhibited, and Nativists (Ostiguy, 2017). Based on Ostiguy's high-low axis orientation, populists demonstrate characteristics of low political-cultural, and low social-cultural, groups of people. The affective aspect of populism is important because it appeals to ordinary people. Populist leaders argue that they are the ones who can truly represent the will of the people instead of the well-educated, decent, proper, and believed to be politically correct elites.

Lastly, scholars who use a political strategic approach to understand populism emphasize the individual populist leaders' characteristics and how they use certain political strategies to convey their ideals to their followers and gain legitimacy from them. According to Weyland, "populism is best defined as a political strategy through which a personalistic leader seeks or exercises government power based on direct,

unmediated, uninstitutionalized support from large numbers of mostly unorganized followers (Weyland, 2001: 14).” A political-strategic approach to populism highlights and differentiates itself from other approaches such as the ideational approach or the discursive approach by focusing on what populists do, rather than what they say (Weyland, 2017). However, populism has a heterogeneous and ambivalent nature which makes it very flexible and easy to be applied to various countries and political leaders. In other words, as noted by Mudde (2017), populism exhibits categorizability, travelability, and versatility. Therefore, a strong and charismatic leader who identifies himself/herself as the one who can fulfill the will of the people is needed to manifest their political agendas. While doing so, the leader uses populistic strategies to appeal to their followers and gain approval (Mudde, 2017; Weyland, 2017).

Within the political strategic approach of populism, we observe debates and divisions among scholars with slightly different interpretations of populist leaders. While Weyland defines populism as described above, de la Torre sees populism as “political mobilization based on strong rhetorical appeals to the people and crowd action on behalf of a leader (de la Torre, 2010: 4).” Populists’ ultimate goal to appeal to followers remains in both Weyland’s and de la Torre’s definitions. However, de la Torre highlights the importance of the rhetoric which can be combined with a discursive approach as a means to achieve a political strategy. Furthermore, other scholars define populism as more than a mere political strategy. Knight describes “populism implies a close bond between leader and followers invokes the people against some other, and is linked to the mobilization of followers (Barr, 2018: 47).” In

this definition, Knight focuses on the strong relationship between populist leaders and their followers. He emphasizes that politicians who implement populism as a political strategy exhibit deep connections with their supporters. These politicians appeal to their supporters by claiming that they are the leaders who can truly understand and represent the popular needs (Knight, 1998). Leaman notes that the word populism is used as a "verticalist and personalist leadership style and rhetoric (Leaman, 2004)." Roberts argues that "any number of organizational outcomes is likely to emerge from populist movements (Barr, 2018: 48)" as Laclau noted as a part of the discursive approach.

As scholars have identified, populism can be classified in many ways in the context of politics. Although understanding populism cannot be done using one approach, various ways to decipher populism yield implications for populists' behaviors within the context of international climate change cooperation. From an ideational approach, one can draw the implication that populist leaders may oppose global climate change cooperation as a means to demonstrate how opposed they are to long-term traditional global elites including the leaders and the United Nations. The same implication can be drawn from the political strategic approach to populism as well. As a political strategy, populist leaders may find value in choosing to take a contrarian stance in pursuit of nationalistic policies within international climate change venues. Namely, this performative stance allows populist leaders to highlight their strength and ability to stand up to international countries and organizations with minimal risk or domestic cost. This is consistent with the discursive and political

strategic approaches to populism in that both are more so reinforced through rhetoric than through action. This comports well with populists' tendencies to oppose climate change cooperation and place a heavier emphasis on attending meetings instead of focusing on obtaining key international policy outcomes. The political-cultural approach also suggests that populist leaders have incentives to rebel against traditional norms or cooperation priorities within international climate change cooperation venues to the extent that traditional UN "elites" and other country leaders are viewed to be opponents. By railing against traditional and global elites, populist leaders can signal their nativistic priorities to their domestic supporters.

2.3.Climate Change Politics

The politics of environment, and more recently, the topic of climate change, has been a contentious topic in the field of political science for well over the last five decades (Bernauer, 2013). Since the Stockholm Conference in 1972, countries and their governments have become increasingly aware of the effects of environmental issues and the consequences of neglect. The Stockholm Conference served as a venue to discuss the importance of environmental preservation, protection, and improvement of the human environment. The report from the Stockholm Conference stated that "a point has been reached when we must shape our actions throughout the world with a more prudent care for their environmental consequences" (United Nations, 1972). Even though the danger of ignorance and indifference was emphasized in the report of the Stockholm Conference, and despite countries were aware that inaction could lead

to irreversible harm to the environment, the state of climate change adaptation and mitigation, and international cooperation over environmental preservation have not made enough progress to guarantee the safety of humans and other living organisms on earth. Ironically, the issue of environmental preservation and the effect of climate change have become gradually more politicized over the past five decades to the point now that some politicians do not believe that climate change is happening. Instead of using scientific evidence that the environment is degrading and humans have contributed to an unprecedented speed of climate change, skepticism still remains (Dunlap, 2013; Haltinner & Sarathchandra, 2018, 2021; Huber, 2020; Matthews, 2015). It is challenging to identify a single factor as the primary reason why environmental issues have become increasingly politicized over time. In this section, I identify three major reasons that drive environmental issues such as climate change into contentious political matters.

As noted above, the challenge of climate change, and related environmental issues, has not remained a purely scientific problem, but it has been gradually politicized. The first reason for the politicization of science that I identify is the unequal state of capacity among countries, which limits the capacity of implementing climate-friendly policies. The debate on who is responsible for the damage done to the environment and who is responsible for the effort to slow down the rising earth temperature that is unprecedently increasing has been one of the most salient issues at the United Nations Framework Conference on Climate Change (UNFCCC) (Coenen et al., 2021; Maizland & Fong, 2025; Reckien & Petkova, 2019; Zahar, 2022). The basis of this

debate is determining which countries should contribute more to slowing down the speed of climate change, and mainly, global warming. From an international cooperation perspective, every country should be required to contribute to reversing the harmful effects of climate change. In contrast, from the developing nations' perspective, the developed countries that emitted pollutants that contributed to the climate change that we face now (Goodhart, 2023; Hormio, 2023; Jamieson, 2015). Therefore, those nations should be held more accountable for the damage done. Or, if universal participation is required, it would heavily hinge on financial support from developed countries (Vanderheiden, 2011).

To address this matter, countries and their national governments have routinely been discussing what is needed to keep the rise of the earth surface temperature under control since the 1990s. The first time the climate change issue was discussed at an international level under a dedicated framework convention was during the UNFCCC in 1992 (United Nations, 1992). During this meeting, countries agreed that human activities cause an unprecedentedly fast increase in greenhouse gas emissions to the atmosphere, which speeds up global warming. It also established an official annual forum to discuss climate change, the Conference of the Parties (COPs), with an effort to set standards of greenhouse gas emissions (United Nations, 1992). Later, Kyoto Protocol, which was adopted in 1997 and put into action in 2005, was the first binding international treaty on the issue of climate change and encouraged the member states to improve energy efficiency, and implement policy measures that would minimize the adverse effects of climate change (UNFCCC, 1998). The latest and most important

global climate agreement is the Paris Agreement, which was written in 2015. The most significant achievement of the Paris Agreement is that the governments set targets for decreasing greenhouse gas emissions, known as nationally determined contributions (NDCs) (UNFCCC, 2015).

The main purpose of the NDCs was to ensure every country that signed the Paris Agreement participates in the efforts to reduce the negative effects of climate change. At the same time, it aims to consider each country's capacity for contribution to global climate change mitigation efforts and update its national climate action plan every five years (UNFCCC, 2015). However, setting the NDCs and meeting the contribution goals have fallen short of the ambitions of the Paris Agreement. The reasons for this failure vary among countries, but challenges in the implementation of the NDCs, not having legally binding agreements, resulted in many countries saying they would take certain actions and not follow through with actions and policy implementation (Climate Action Network International, 2025).

This is related to the second reason for the politicization of the climate change issue, the level of commitment of countries. A clear example is shown in Kazakhstan and Uzbekistan, two post-Soviet authoritarian regimes and landlocked developing countries (Hamadeh et al., 2023; Skalamera, 2025; United Nations, n.d.). The post-Soviet Central Asian countries' geographic location as landlocked, at the same time, facing desertification of their lands, leads them to a shortage of safe drinking water, difficulties in growing agriculture, and increased numbers of wildfires and droughts (Bernauer & Siegfried, 2012; Poberezhskaya & Bychkova, 2022; Reyer et al., 2017).

Central Asian republics are vulnerable countries that are currently experiencing negative effects of climate change. Therefore, on the surface level, both countries seem to be committed to promoting a green economy and participating in the global effort to mitigate the negative effects of climate change. Kazakhstan has positioned itself to be the regional leader of climate change mitigation measures, promoting sustainable development and presenting itself as a "responsible and reliable partner with significant influence in the international arena" (Poberezhskaya & Bychkova, 2022:904). Similarly, Uzbekistan, another post-Soviet Central Asian republic like Kazakhstan, positions itself as a committed member of the global community that works towards achieving a green economy that emphasizes sustainable development, production, and consumption (Nusratovich & Shermatov, 2022; Saydullayev, 2024). Despite the ambitious climate policies and pledges from Kazakhstan and Uzbekistan, these were not implemented properly. One of the reasons is that both countries are oil-producing countries and both countries still rely on conventional carbon-emitting energy sources for their economic development (Skalamera, 2025).

Although Kazakhstan and Uzbekistan are two countries in Central Asia that have not been implementing their environmental policies as they had planned to implement, many other countries also failed to follow through on their commitment to reduce carbon emissions and mitigate climate change. In fact, only 13 out of 195 countries that joined the Paris Agreement submitted their latest updated NDCs as of 2025 (Climate Action Network International, 2025). The goal of the Paris Agreement was to keep global warming to 1.5 °C above pre-industrial levels and aim to reduce

greenhouse gas emissions by 43% by 2030 (Climate Action Network International, 2025; UNFCCC, 2015). Like Kazakhstan and Uzbekistan, some countries are beneficial to continue to use conventional energy sources for their economic development and continuation of energy resource exports (Bildirici & Bakirtas, 2014; Skalamera, 2025). Or for other countries, in the short term, switching and developing alternative energy sources such as wind and solar energy is costly to implement (Ciarreta et al., 2014; Liu et al., 2014). For these reasons, countries that prioritize seeking short-term financial benefits have difficulties speeding up their process of switching to developing renewable energy sources, investing in sustainable development, and implementing climate-friendly policies.

The third and last reason that I identify for why climate change has become a contentious international issue is the concept of sovereignty. Even though climate change is a global problem, actions need to be taken at the country level to implement policies. This is how both international and domestic politics are involved in climate change politics (Keohane, 2015). This is where it gets tricky to deal with climate change. Despite the annual COP meetings at the UNFCCC venues, most of the agreements are non-binding; therefore, the United Nations, as an international organization, cannot force any country to implement regulations that were agreed upon during the meetings. In addition, even if any of the agreements were binding, since policy implementation should happen at the domestic level, it is uncertain how much the United Nations should be allowed to intervene in domestic politics without violating the sovereignty of countries (United Nations, 1945). Furthermore, besides

countries that prefer short-term financial benefits and are economically better off exporting conventional energy resources such as oil and coal, some other countries are facing more survival-related dire situations. These countries are, for example, Israel and Palestine, Ukraine and Russia, Yemen, and others that are currently at war (World Population Review, 2025). For them, climate change problems, meeting the sustainable development goals, and investing in renewable energy sources are less relevant issues for their daily lives and survival. Therefore, these cause difficulties in consolidating all the countries at the same time to focus on implementing NDCs or even care about the climate change issue as one of their domestic policy priorities.

The issue of climate change has been politicized beyond the scientific evidence that proves that humanity is facing an unprecedented speed of global warming and reaching the point of irreversibility. The reasons for the politicization of climate change vary in context. In this section, I addressed three of the possible reasons which are: the unequal state of capacity among countries, the level of commitment of countries, and the concept of sovereignty and enforceability of global agreements at the United Nations. Aside from the conventional reasons that have politicized climate change, and have made climate change negotiations difficult, I further propose that the rise of right-wing populism serves to exacerbate the already arduous process of international cooperation over climate change. In the next sub-section I explain further my theoretical rationale for the rise of right-wing populism and climate change politics.

2.4.Theoretical Rationale

This subsection synthesizes the points made immediately above with my earlier discussion of populism. Recall that we have observed an immergence of populism at the global scale in recent years that coincides with the trends in worsening global climate change cooperation mentioned earlier. As scholars have mentioned numerous times before, populism has been around in many countries especially in Latin America for many decades (Cox, 2018; de la Torre, 2017; Kyle & Gultchin, 2018). However, what's important to note in the 21st century is that there is a global rise of right-wing populism throughout many parts of the developed and developing world. This phenomenon is not secluded within only one or a few regions. Rather, we currently can see populism's rise in many regions including Europe, North and South America, Asia, and in Africa. Therefore, it is worth paying attention to the trend of rising populism with respect to global cooperation venues such as the UNFCCC. In light of this and the insights outlined further above, the theoretical importance of populism in understanding the current negative trends in international climate change cooperation can be explained as the confluence of three interrelated factors.

First, the core tenants and strategies of populists' institutional counter-narratives align well with those of opponents to international climate change cooperation. For one, right-wing populist leaders prefer to cultivate their persona as leaders that position themselves against corrupt, traditional elites (Mudde, 2017; Mudde & Rovira Kaltwasser, 2017). The rise of populism is often supported by a general public who

lost their trust for traditional political institutions and liberal democratic system (Doyle, 2011). In tapping into this base, populist leaders thereby have incentives to oppose the traditional role of international organizations. Indeed, right-wing populist consider traditional researchers and international organizations as corrupt elites (Jylhä & Hellmer, 2020). Together these dynamics can lead populist leaders to develop a persona of opposing existing political elites and institutions, who they can characterize as corrupt, and thus to appeal to their constituents. In this vein, populist leaders are prone to spreading misinformation to bolster their own position by sowing doubt in these same traditional institutions. In the US, for example, populists have been successful in spreading suspicion by invoking conspiratorial knowledge over traditional politics and political institutions. In then claiming that the conspiratorial knowledge is produced by the elites of the society and through spreading misinformation via mainstream media, populists can make it difficult for people to distinguish the facts from their fake news (Bergmann, 2020). There is also a natural alignment with misinformation and opposition to international institutions and efforts such as the UNFCCC, global governance, and global climate change cooperation. Hence, in combining populists' desire to oppose the norms of traditional institutions and political elites with their tendency to spread misinformation, it is expected that populist leaders are likely to embrace confrontational narratives towards international (climate change) organizations.

Second, the broader right-wing agenda underpinning contemporary populists is also independently oriented against climate change cooperation. That is, right-wing

populist leaders are likely to embrace anti-climate change stances because those positions have become a core tenet of contemporary right-wing thinking. This tendency further reinforces many populist leaders' adversarial stances towards climate change cooperation, often in manners that are less likely to be reined as they would be for (more politically constrained) non-populist right-wing leaders. To this end, research suggests that right-wing populists in particular tend to dismiss climate change and ignore the significance of human-induced climate change (Jylhä & Hellmer, 2020). As alluded to above, this trend can be explained by right-wing populists' tendency to endorse political conservative ideology which position itself against efforts to remedy climate change. Scholars have likewise found consistent evidence in Europe and in the US that right-wing populists follow a conservative ideology which contends that climate change is not happening; human activities do not cause climate change; or climate change is not an important issue that needs to be addressed (Kulin et al., 2021). In this sense, then, a second rationale for why populist leaders may prioritize opposition to international climate change cooperation is that doing so reinforces the broader right-wing policy priorities of their supporters and allies.

Third, populist leaders emphasize nationalism and nativism which prioritize prosperity of their own countries, and exhibit hostility towards the "others" (Gest, 2016; Mudde, 2017). This orients populist leaders' priorities relative to international climate change cooperation, which entails some sacrifice of national values such as sovereignty, choices over energy usage, economic growth for the greater global good. Empirically, these dynamics most commonly manifest in right-wing populist parties'

prioritization of domestic energy, jobs, and culture over international factors. For climate change cooperation, the need to transition away from carbon-intensive energy at a cost to domestic jobs, economic growth, and/or industry can thereby often be seen as a direct policy threat to many right-wing populist leaders. Through this lens, right-wing populists and parties in the OECD have been increasingly found to show unfavorable stances towards low-carbon renewable energy policies domestically (Lockwood and Lockwood 2022). And in Europe, right wing populist parties have likewise not only opposed the implementation of low-carbon renewable energy, but also policies concerning transitions to sustainable energy (Fraune & Knodt, 2018; Rydgren, 2017; Zaslove, 2009). Of the three rationales outlined here, this nationalist rationale is likely to be especially important to explain why international climate change cooperation directly threatens one of the core policy areas that many populists rely upon to maintain a hold on power: protecting domestic jobs and economic indicators via cheap energy.

Combining populists' tendencies to (i) oppose, and spread misinformation about, global elites and climate change, (ii) prioritize nationalism and nativism, and (iii) express partisan skepticism towards climate change, it is likely that populist leaders will prioritize a uniquely anti-cooperative stance vis-à-vis international climate change. Doing so allows such leaders to signal nationalistic and nativistic priorities to their base, helps to reinforce ongoing anti-elite misinformation messaging, and is largely unconstrained by any domestic pressures to address climate change itself. Indeed, individuals who are likely to believe in populist misinformation about climate

change and exhibit skepticism against environmental issues tend to perceive climate change issues as "elite-driven concepts detached from their everyday needs (Huber, 2020; 961)." These individuals are likely to be the losers of globalization, and are likely to be more concerned about sustaining their daily lives than worrying about the effects of climate change. This is another reason why individuals who develop skepticism against climate change tend to side with populist ideas and politicians. Given that these individuals represent the key base of support for populist leaders, it follows that such leaders will prioritize anti-climate change stances, or at the very least will be recalcitrant to support climate change cooperation.

However, as alluded to above, the most prominent factor that links right-wing populism to a stance that is oriented against international climate change cooperation is the consistent emphasis on nationalism (be it over jobs, economic security, energy security, or cultural security) within right-wing populism rhetoric. An example is illustrative in this respect. Recent research has found that citizens of Youngstown, Ohio exemplify a case with a strong support for right-wing populists' nationalistic policies. Gest (2016) characterizes these citizens as white working-class people who have been living in the area for a sustained period of time. As such, they experienced the "golden days" when the manufacturing industry of the US rust-belt was thriving and prosperous. Living in the same town with minimal changes in their lives during the heyday of manufacturing, these white working-class people became "socially conservative, slightly racist, extremely cynical, and distrustful of most public and private institutions" (Gest, 2016; 79). However, as Youngstown's steel industry

collapsed in the late 1970s and private sectors deteriorated, the natives in Youngstown had to face an influx of immigrants and unexpected lifestyle transformation. With fast-paced inflows of immigrants, the native white working-class people of Youngstown experienced a linguistic divide alongside economic and social changes that were difficult for them to cope with. The social change that arose in these respects led the white working-class people of Youngstown to perceive immigrants as a threat to their sustained employment, and their own community started to feel like a foreign land with the influx of new people. For the constituents like these longstanding residents of Youngstown, Ohio, populists' anti-pluralists, closed-door, nationalist policies seem convincing (Gest, 2016). The electoral success of Donald Trump in this area was reflective of these trends.

Just as was the case for immigrants in Youngstown, Ohio, the 'otherness' of global climate change cooperation (and the economic sacrifices it entails, both in terms of potential energy prices and lost jobs) can be characterized and exploited as an external threat by populist leaders. An emphasis on nationalist ideology by populists further leads to a heavy focus on prioritizing the promotion of national defense and national sovereignty, protecting one's culture, and opposing immigration (Kulin et al., 2021; M. Lockwood, 2018). Climate change cooperation can be portrayed as a threat to each of these values, not only on the campaign trail, but via rhetoric once a populist leader is in office. For example, the prospect of participating in international cooperation on climate change may be characterized as imposing international regulations on a given country in a manner that undermines that individual country's national sovereignty

and the freedom of that country and its citizens to prioritize more nationally-welfare-enhancing policies of their own. Global climate change policy, moreover, may obligate a country taking refugees who fled their countries to avoid extreme weather events caused by climate change. Or, global climate change policy may require a country to phase out coal and related carbon-intensive energy generation practices at a cost to domestic jobs or individual-level economic security. These potential policies are directly contrary to right-wing populists' nationalist ideology and constitutions. From this, I expect to see lower levels of support for climate change cooperation, and more emphasis on sovereignty, from the political representatives of countries with populist leaders. These expectations are stated in two hypotheses below:

> H1a: More populist leaders will express more negative (i.e., less supportive) stances towards climate change cooperation within international climate change cooperation venues.

> H1b: More populist leaders will express more positive (i.e., more supportive) stances towards sovereignty-reinforcing stances within international climate change cooperation venues.

Before turning to my second hypothesis, it is worth briefly discussing the novelty of the hypotheses and analyses proposed above. The existing literature provides a

relatively comprehensive understanding of the relations between populism and domestic climate change (Fiorino, 2022; M. Lockwood, 2018; Ricart et al., 2018; Vihma et al., 2020). However, it also exhibits several gaps that need to be filled. The first is that most analysis is on the individual and domestic public opinion-level, rather than the foreign policy-level. That is, scholars have studied perceptions of the general public's opinions on climate change and their political ideological preferences (Huber et al., 2020; Huber, Greussing, et al., 2021; Kulin et al., 2021; Ricart et al., 2018). As a result, these scholars draw the conclusion that there is a correlation between high levels of populist ideology and low beliefs on climate change. However, this finding does not explain the mechanisms underlying *why* there has not been a comprehensive agreement on addressing climate change at the international level. More specifically, it does not fully explain why populist leaders embrace anti-climate change stances at the international stage. Therefore, my analysis of country representative' speeches at the high-level segment of the UNFCCC's conference of the parties (COP) will offer new and unique insight into whether and how domestic populist pressures relate to *international* climate change policy priorities.

This linkage is not as self-evident as it may at first seem, given the extensive literature in international relations that argues and/or finds that domestic politics and policy priorities do not always translate directly to international foreign policy priorities. The mismatch between domestic politics and international foreign policy priorities has been demonstrated not only in environmental politics and policy priorities but also in other contexts. This mismatch arises for various reasons,

including domestic political parties' priorities, domestic economic and electoral conditions, or international security environment (Bow & Black, 2009; Cason & Power, 2009; Trubowitz & Mellow, 2011). In the Canadian case, for example, different priorities of major political parties prevent the government from developing a consolidated foreign policy in an unconstrained manner. These different priorities are usually translated into different policies (Bow & Black, 2009). This often forces Canadian heads-of-state to choose between their own political party and compromising with other domestic political actors such as interest groups.

In the case of the United States, after the attacks of September 11, public anxiety about terrorism and international security uniformly increased. But this did not translate into a congruent foreign policy mainly because of the different priorities of U.S. political parties at the time (Trubowitz & Mellow, 2011). Lastly, the South Korean case also demonstrates the discrepancy between a democracy's foreign policy agenda and domestic politics. In recent decades, South Korea has been pursuing a middle power identity in East Asia with an intention to support multilateralism and global governance. However, South Korea's foreign policy goal to establish itself as an "economic and logistical hub" and a "balancer" of the region as a middle power country has not been successful (Lee, 2012; O'Neil, 2015). One of the reasons for this failure can be explained by historical animosity towards Japan and anti-Japanese sentiment. By focusing on resolving historical issues with Japan, South Korea's full commitment as a regional middle power country had to be the secondary agenda or

was suppressed (Easley & Park, 2018). As these cases show, domestic policy priorities are not always translated into foreign policy priorities.

Based upon the above insights, I contend that any findings regarding the role of populism in shaping the national government's international climate change priorities at the UNFCCC will be both novel and not wholly self-obvious. Alongside this, I also note that the existing literature uses nationalism as a proxy for the right-wing populism (Gest, 2016; Mudde, 2017; Mudde & Rovira Kaltwasser, 2017). This is likely to be problematic for tests of the effects of populism on international relations outcomes given the many (non-populist) linkages that have been established in past literatures between nationalism and international relations phenomena. My study addresses this challenge by measuring populism more directly using the Populist Leaders and Economy (PLE) dataset (Funke et al., 2021). The PLE dataset identifies both right-wing and left-wing populist leaders from 1900 to 2018 that experienced populist leaders. In these manners, I am able to move the study of domestic populism and international relations forward.

Next, recall that H1a and H1b evaluate the effects of populism upon country's speeches at the premier international climate change cooperation forum (i.e., the UNFCCC's COPs). While these hypotheses directly relate to my area of focus, assessments of the effects of populism on international climate change cooperation should not only consider speeches, but also actual policy outcomes. If the existing literature accurately represents populist leaders' tendencies to ignore or diminish the importance of addressing climate change, then their policies should reflect their

stances. Indeed, analyzing policy outcomes is often characterized as the most direct way to measure the effect of international institutions and countries' goals, and in this case, on priorities towards international climate change cooperation (Bernauer, 1995). Herein, scholars argue that the goals of an institutions can be ambiguous and international institutions can have more than one goal. Therefore, the most definite way to measure the effectiveness of international institutions is to measure policy changes and to then explain if the policy changed against or towards the institutional goals (Bernauer, 1995). In measuring the effectiveness of international institutions, scholars argue that the most common way is to measure distinctions among outputs, outcomes, and impacts (Young, 2001). In this case, policy instruments are considered as the outputs and outcomes are considered as the behavior of the actors involved, and impacts are expected changes as a result of the proposed goals (Young, 2001). This reinforces my above argument that analyzing the actual policies that came out of international climate change negotiations is a critical way to measure the effectiveness of global institutional climate change efforts.

Given my focus on international climate change cooperation, measuring changes in annual CO_2 emission levels and renewable energy consumption together represent a set of appropriate, and complementary, policy outcomes. Reducing CO_2 emissions is also a core goal of international climate change cooperation. The Paris Agreement indicated that one of the long-term goals is reducing greenhouse gas emissions which CO_2 makes up for the largest portion. In addition, the Paris Agreement set a goal to achieve net zero carbon emissions by 2030 (UNFCCC, 2015). Human activities such

as coal consumption are closely related to the economic development of countries (Bloch et al., 2012). Especially developing countries, such as China, argue that it is difficult for them to stop the process of energy-intensive development and abandon greenhouse gas emissions as an immediate procedure to pursue environment-friendly energy policies (Bloch et al., 2012; Grubb et al., 2015). Populist country leaders such as Viktor Orban of Hungary who prioritizes lowering the cost of energy are also not likely to prioritize reducing CO_2 emissions to develop greener energy production and cooperating with international climate change efforts (Coakley, 2022). Populists' lack of emphasis on climate change prioritization within both the international and domestic political sphere should be represented in various indicators such as changes in annual CO_2 emissions. Hence, evidence linking populism to national CO_2 emissions will allow me to evaluate whether broader my findings (as proposed further above) pertaining to the effects of populism on climate change speeches extend to more costly behaviors such as actual resistance to reducing carbon emissions.

Global growth in carbon dioxide emissions from fossil fuels outpaced global growth in GDP in 2010 at an unprecedented 5.6% per year (EPA, n.d.). In 2009, consumption-based emissions from developing countries surpassed those of developed countries (EPA, n.d.). While ongoing trends in global climate change are highly correlated with a large amount of greenhouse gas (GHG) emissions, I focus on analyzing the changes in carbon dioxide emission since CO_2 takes the biggest portion of the GHGs. Combining carbon dioxide emission from fossil fuel and industrial process and carbon dioxide from forestry and other land use, CO_2 emission makes up

to 76 percent of global greenhouse gases (EPA, n.d.). Measuring the level of CO_2 also has significance because carbon emissions from cities also represent the single largest human contribution to climate change (EPA, n.d.). Furthermore, while my primary analysis is on country leaders' speeches at the Conference of the Parties, I recognize that the rhetoric may not match reality with regards to actual policy outcomes, which is critically important for global climate change cooperation. Similarly to CO_2 emissions, renewable energy consumption is another appropriate measurement to test a country's cooperation level on global climate change effort. Hypotheses 2 and 3 are explained qualitatively in Chapter 4, using case studies of the United States and Brazil. After that, they are tested in Chapter 5 using a Large N panel analysis. For these reasons, which I elaborate upon further in subsequent chapters, I evaluate my H2 and H3 expectations vis-à-vis changes in countries' CO_2 emissions and renewable energy consumption in order to report more concretely observable measures.

Therefore, and based on the same theoretical reasoning above, I expect to see an increase or no change in annual CO_2 emissions from countries that are led by populist leaders. In contrast, I expect to see a decrease in annual CO_2 emission from countries that are more less-populist because less-populist countries—all else equal—should show stronger attention to climate change and international climate change cooperation. This leads to the following hypothesis:

H2: Countries with more populist governments will exhibit increased or constant levels of annual CO_2 emissions relative to comparable countries and/or previous periods of non-populist rule.

For renewable energy consumption, I expect to see a decrease or no change in annual renewable energy consumption from countries that are led by populist leaders. In contrast, I expect to see an increase in renewable energy consumption from countries that are led by less-populists because less-populist countries – all else equal – should show stronger attention to climate change and international climate change cooperation. This leads to the following hypothesis:

H3: Countries with more populist governments will exhibit decreased levels of annual renewable energy consumption relative to comparable countries and/or previous periods of non-populist rule.

Linking right-wing populism and their environmental politics tendencies, including climate change, represents a novel attempt to understand and show the effect of domestic environmental politics under right-wing populist rules. Until now, we have established an understanding that right-wing populist leaders and political parties are generally skeptical about climate change or are prone to reject climate change

mitigation (M. Lockwood, 2018; Selk & Kemmerzell, 2022). One of the main reasons is that the right-wing populists believe that climate change is a part of elite politics. Having established this, I delve beyond simply linking right-wing populist ideology and right-wing populists' tendency to be against climate change issues. By testing my hypotheses 2 and 3, I attempt to verify how domestic environmental policies under right-wing populists' rules influence the global cooperation on climate change. I concede that my hypotheses 2 and 3 and their corresponding empirical tests are perhaps less novel and innovative relative to hypothesis 1, given that their focus is not wholly international, and more domestic policy oriented. However, it is necessary to test hypotheses 2 and 3 to ensure that the theoretical findings are not based solely on speeches, which may not always translate to policy.

In addressing environmental issues, assessing countries' stances towards the global level of cooperation over a particular issue (e.g., climate change) is useful for drawing a conclusion on the causal mechanism between the presence of right-wing populist leaders and the country's roles in international environmental policy. In essence, this helps to directly test whether countries at least publicly orient themselves for or against climate change in a major venue. Yet, it is also necessary to delve deeper into analyzing domestic environmental policies of the countries during right-wing populists' rules. For example, The US was run by either a non-populist Republican or a non-populist Democrat president until 2017 when Donald Trump became the president. Donald Trump was a right-wing populist president from 2017 to 2020. He has not been very supportive of global climate change cooperation either. His decision

to withdraw the United States from the Paris Climate Agreement is an iconic example of how Trump was dismissive and recalcitrant about climate change (The White House, 2017). Similarly, Brazilian President, Jair Bolsonaro, who is a right-wing populist, strategically imitated Trump's diplomacy tactics, especially with the antienvironmental rhetoric (Toni & Chaves, 2022). With anti-elite, pro-isolationism strategies, Bolsonaro ensured himself as a far right-wing populist politician and the President from 2019 until 2022. During his presidency, Bolsonaro implemented various anti-environmental domestic policies including pro-sovereignty, pro-isolationism, and nationalism, and pro-economic development (Guimarães & Silva, 2021; Motta & Hauber, 2023). Examples of anti-environmental domestic policies led by Bolsonaro are: 1) prioritizing mineral extractions in the Amazon for economic benefits over the preservation of the Amazon and the indigenous peoples, 2) making remarks against international climate commitments arguing that following the international agreements threatens Brazilian national sovereignty, 3) intentionally downsizing government offices that used to be in charge of the country's environmental issues and removing fundings, and others. In essence, this analysis further identifies the linkages between particular leaders and environmental policy, which was less precise in the UNFCCC COP analyses I have proposed owing to a more indirect role of actual leaders in this context. Finally, the policy outcomes (CO_2 emissions and renewable energy analysis) discussed earlier then help to verify whether the findings for climate change stances and populist country leaders' domestic environmental policies extent to actual climate change policy outcomes.

2.5.Conclusion

In this present chapter, I introduced the concept of right-wing populism and outlined various ways to understand it based upon the extant literature. Then I presented the background of climate change politics and explained why climate change issues have become politicized over the years, and why it is becoming gradually more difficult each year to successfully cooperate between countries in this issue area. Then, I presented my theoretical rationale for my three hypotheses that I test in this dissertation and outlined these specific hypotheses. In the next chapter, I present my first quantitative analysis on the speech data that I collected from the annual United Nations Framework on Climate Change (UNFCCC) Conference of the Parties (COP). Based on findings using a structural topic model, this ensuing chapter specifically tests H1a and H1b, pertaining to how right-wing populists present their stances towards climate change cooperation within international climate change cooperation venues.

Chapter 3

QUANTITATIVE TEXT ANALYSIS

3.1 Introduction

In the previous chapters, I contended that the global rise of right-wing populism coincides with worsening trends of international climate change cooperation. The possible theoretical mechanisms that explain why the right-wing populism may adversely influence the global climate change cooperation include right-wing populists' distinct strategy to go against established societal elites; emphasis on nationalism; and their hostile political partisan stances on climate change. When one or more of these factors is present, right-wing populists are likely to view global climate change cooperation as an elite-driven issue that gives a platform to international organizations such as the UN to interfere with individual countries' national sovereignty and their rights over governing their own countries by imposing a global-level regulations. Based on this theoretical framework, I developed two related hypotheses in relation to right-wing populism: H1a posited that more populist leaders will express more negative (i.e., less supportive) stances towards climate change cooperation within international climate change cooperation venues. H1b posited that more populist leaders will express more positive (i.e., more supportive) stances towards sovereignty-reinforcing stances within international climate change

cooperation venues. For H1a, I accordingly expect to see increased levels of language against mitigating climate change among countries during the time of populist country leaders were heads of states. For H1b, I likewise expect to see increased levels of language supporting nationalistic or sovereignty-oriented priorities from these same countries during the period of populist heads of state.

This chapter examines the high-level segment speeches that are annually made at the Conference of the Parties (COP) in the United Nations Framework Convention on Climate Change (UNFCCC) venue using quantitative text analysis. I recognize that many meetings and conversations happen at multiple levels at the annual COP meetings. These meetings are comprised of open and closed meetings, mandated events, subsidiary body meetings, and others. I chose to analyze high-level segment speeches because they are given by the highest or one of the highest ranking officials and therefore, they are the best representations of a country's official stances on climate change. The specific quantitative text analysis considered is akin to a regression model that treats a set of estimated topics (and variation in their prevalence across these COP speeches) as my dependent variables. This then allows me to evaluate how an independent variable affects such variation, while controlling for other factors under a regression framework. The chapter begins with descriptions of the datasets used in this analysis. First, I start with a description of the main independent variable, populism scores, then I describe the control variables. Then I justify the reasons for the number of topics extracted from the dataset followed by explanations on how each of the 20 topics was interpreted and how their titles were

given. Then, I describe the most and the least frequently discussed topics within the speeches. Finally, I explain the topics that increased the frequency of being discussed with the presence of right-wing populism. The results correspond with the hypotheses in the previous sections on populist behaviors; countries under right-wing populists' rules exhibit more anti-elitism sentiments expressing non-cooperative stances in international efforts to combat climate change and they prioritized their own countries benefits over anything else.

3.2 Quantitative Data for Studying Climate Change Speeches

In this chapter, I focus on a dataset of all global countries for the period from 2010 to 2019, structured into a country-year format. I included all countries, not just democratic countries, and not just right-wing populist countries for two reasons. First, this global sample allows me to assess how the presence or absence of right-wing populism affects variation in my aforementioned topics. Secondarily, this approach allows me to retain a sufficient number of documents to accurately estimate a set of commonly discussed climate change topics at the global level. My ultimate models control for additional factors such as each country's level of democracy to ensure that such factors are not confounds within my analysis. Before discussing these controls and my modeling approach in further detail, I next turn to describe my dependent variable, *COP speeches*, and control variables.

The dependent variable for my country-speech analysis operationalizes nation-states' varying levels of attention to different climate change negotiating topics across

a series of years (i.e., annually). As mentioned further above, these negotiating topics are derived from the high-level segment speeches of countries that participated in Conference of the Parties (COPs) to the UNFCCC. All countries of the world effectively belong to the UNFCCC at this point, and all have an opportunity to make high level speeches in each annual UNFCCC COP. However, I acknowledge that not all countries give speeches every year. On average, I have 136 speeches every year. Bagozzi (2015) shows that missingness in particular countries' speeches in a subset of my analyzed COPs is effectively random with respect to major drivers such as countries' levels of economic development. The speeches are given primarily in English, but a smaller number are given in countries' home languages. The latter speeches were machine translated by Google Translate to English before analyses. The speeches are primarily stored and collected from official COP websites for each UNFCCC COP meeting, and when archived as PDFs, they were converted to plain text—where needed—by optical character recognition (OCR) software. As noted further above, the time frame of the speeches the analysis is 10 years, ranging from COP 16 which was held in 2010 to COP 25 which was held in 2019.

All statistical models presented below include several control variables. In leveraging the Database on Political Institutions, I control for presidential system, and parliamentary system which are binary variables measured as 0 or 1, denoting a value of 1 if a country has a presidential (or parliamentary) system, and otherwise 0. In leveraging the V-Dem dataset (Coppedge et al., 2016), I control for executive corruption, and each executive's left-right-center affiliation via data from the World

Bank's Data on Political Institutions (World Bank, 2023). In this manner, I will be able to best isolate the effects of populism and not right-leaning parties' or overly corrupt governments' (likely populism-correlated) effects on my dependent variable. Other country-year control variables that I include are from the World Development Indicators: country leaders' years served in the office, log GDP per capita, GDP growth, log population, fossil fuel production, and carbon emissions (World Bank, 2022). The V-Dem dataset is a reliable source that offers a number of advantages over other datasets that measure democracy scores. The information collected in the V-Dem dataset is derived from more than 400 detailed questions and corresponding answers complied by country experts and topic experts and most of them are academics (Coppedge et al., 2016; Lindberg et al., 2014). Abstract concepts like democracy are observed as results of the series of questions and divided into clearly organized categories or measurement scales (Coppedge et al., 2016; Lindberg et al., 2014). This dataset also allows a holistic analysis on concepts like electoral democracy without preconceived information about particular countries. For example, every country that is recorded in the V-Dem dataset gets electoral democracy scores that range from 0 to 1 regardless of the country is labeled as a particular regime type from a different dataset. In this manner, authoritarian countries like North Korea would receive an electoral democracy score close to 0, and strong democratic countries like Norway would get an electoral democracy score close to 1.

My primary independent variable is a country's level of populism in a particular year. For this, I am using Populist Leaders and Economy (PLE) dataset

(Funke, 2021). The PLE dataset mainly aims to analyze the global macroeconomic consequences of populism. Based on anti-establishment sentiment, the PLE dataset identifies both right-wing and left-wing populist leaders from 1900 to 2018 including all governments from up to 60 countries that had effective populist leaders. The authors of the PLE dataset used the "big literature approach" and gathered the consensus of the current literature on populism by following the most prominent academic context. It resulted in the authors using populism as "a political style centered on the supposed struggle of "people vs. the establishment (Mudde, 2004) (Funke, 2021)". The current literature entails digitized 770 written works consisting of books, chapters, and articles on populism from social science literature. They analyzed more than 20,000 pages of literature on populist politicians identified by the current literature and classified them into left-wing and right-wing populists. The threshold for distinguishing left-wing and right-wing populism is in the context of the discourse analyzed. According to the literature, left-wing populists focused on the grievances of the poor people against the economic elites demanding social justice. On the other hand, right-wing populists focused on the nativist discourse that emphasized ethnic purity, nationalism, and sentiment against immigrants (Funke, 2021).

I primarily used the PLE dataset's default definitions of right-wing populism for my own measure of populism below. However, I did make a small number of modifications to these data. For example, I note that the original PLE authors classified South Korean president Roh Moo-hyun who was in the office from 2003 to

2008 as a right-wing populist. The authors' reasoning was that president Roh pursued nationalistic policies against conservative forces and kept national identity politics (Funke, 2021). However, when considering president Roh's national policy trend, his nationalistic domestic policy is different from ordinary right-wing populists. His emphasis on keeping Korean national identity politics does not stem from hatred against immigrants or non-Koreans. Rather, it aimed to strive to hold South Korea as an independent country with its own domestic and international policies designed to keep South Korea's relations with the regional great powers such as Japan and the United States more balanced. President Roh was from one of the most progressive political parties which had opposite policies from typical right-wing populists' political agendas. For these reasons, I re-classified Roh as a left-wing populist. The final independent populism variable leverages the right-wing populism scores outlined for the PLE dataset above with this modification. The PLE dataset differentiates right-wing and left-wing populists: for the dataset's original variable, *PLE_lw_populism,* left-wing populists are indicated as 1 and 0 otherwise, and for the dataset's variable, *PLE_rw_populism,* right-wing populists are indicated as 1 and 0 otherwise. For the purpose of this dissertation, I consider only the existence or absence of right-wing populism. I accordingly use a binary populism variable equal to 1 for right-wing populist countries, and equal to zero otherwise. In this dataset, I have 2,145 total number of datapoints that were classified as either 1 (right-wing populist), or 0 otherwise.

3.3. Structural Topic Model Methods and Analysis

To fully evaluate the effects of populism on countries' annual climate change positions and statements, I primarily use the Structural Topic Model (STM). The STM estimates the latent themes, or 'topics' that are representative of a given corpus of text (in my case, international climate change speeches) while simultaneously, albeit optionally, employing a series of regression models to estimate the relationship between the prevalence of each topic and one or more external, speech-level covariates (Bagozzi & Berliner, 2018; Lesnikowski et al., 2019; Roberts et al., 2014). This allows me to recover the core themes that countries highlight within their climate change speeches, and also to examine how attention to different themes varies in relation to external, country-year level covariates such as populism or democracy.

As alluded to above, the textual data (i.e., "documents") that I consider within my STM analysis corresponds to the high-level segment speeches made by nations' heads of states or equivalent high level political officers in each year of the UNFCCC's COPs meetings from 2010 to 2019. The final dataset that I employ in my analyses has total of 1,129 total speeches. Before analyzing these speech texts via my STM, I must preprocess each text to ensure that it is interpretable within the topic modeling framework I employ. For preprocessing of the data, I followed standard approaches and fixed a variety of encoding issues, removed nongraphical characters that arose due to OCRing, omitted English-language stopwords, removed numbers, and removed all punctuation, and converted all remaining tet to lowercase. I also stemmed all words to their English-language stem and removed highly sparse terms.

After these steps, I converted my remaining text into a document feature matrix (DFM), with a total of 2861unique terms remaining.

The STM requires that the researcher assign the number of topics to be estimated for this analysis. Given the total number of documents in my application (1,129 speeches), and the model diagnostics presented below, I set the final number of topics to be estimated by my STM to 20. Past research into countries' high level segment UNFCCC speeches determined that 25 topics provides a defensible representation of the UNFCCC's contemporary climate change negotiating space (Bagozzi, 2015). However, this prior analysis did not estimate topics conditional on a set of covariates, as my STM does. Furthermore, in my case, after examining a series of diagnostic values by number of topics for my application, I found that 20 topics provided a better fit than a 25-topic model.

The latter diagnostics appear in Figure 1 below. To select an optimal number of topics to estimate for my corpus and STM, I used diagnostic values by number of topics, and I tested 10, 15, 20, 25, and 30 clusters of topics with the iteration of 100 times, to see how many clusters can be extracted from the given corpus that sufficiently depict the maximum number of topics included in the UNFCCC speeches. Figure 1 shows the result. The residuals plot and the semantic coherence plot clearly represent the appropriate number of clusters. The residuals plot shows that the number of residuals decreases after 20 clusters, and it stays somewhat similarly low for the 25 and 30 clusters. The semantic coherence plot represents the level of semantic coherence at each number of clusters. The general trend shows that semantic

coherence decreases drastically after 20 clusters, and it stays low for the higher number of clusters. The held-out likelihood plot shows a gradual decrease in the level of held-out likelihood. Lower bound plot shows a gradual increase in lower bound as the number of clusters increases. Even though it is not as clearly depicted as the residuals plot and the semantic coherence plot, it is observed that greater than 20 clusters is associated with decrease in held-out likelihood and increase in the lower bound. Therefore, 20 clusters is the tipping point of accurate data representation and the most appropriate number of clusters (number of topics) to interpret this particular dataset of UNFCCC speeches from COP16 to COP25. For these reasons, I favor a 20-topic model in my primary analysis below.

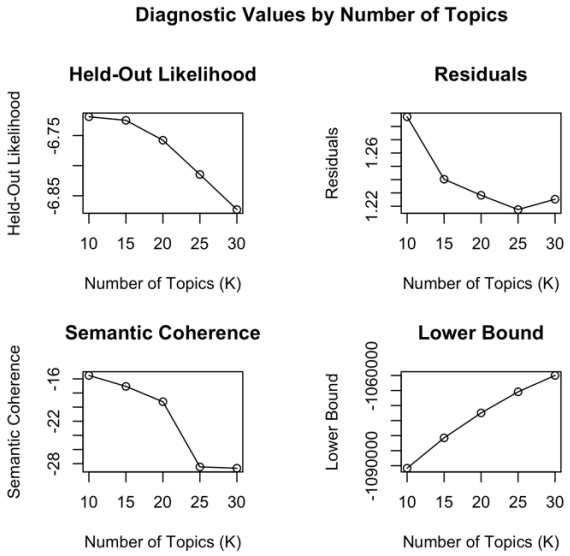

Figure 1. Diagnostic Values by Number of Topics: Most Appropriate Number of Clusters

As alluded to above, the STM allows one to include a series of prevalence-level covariates. The model then estimates topics conditional on these covariates and allows one to examine the degree to which each covariate is related to the estimated topics of interest. The primary independent variable that I include in my STM is the existence of right-wing populist leaders of each speaking country's government based on the PLE dataset while controlling for country leaders' years served in the office, presidential and parliamentary systems, log GDP per capita, GDP growth, fossil fuel production, and carbon emissions. The results of this STM are used to analyze topics that are most frequently discussed by countries, and countries' tendencies to speak on certain topics. Most importantly, this model allows one to assess how country-year variation in populism scores affects the levels of (in)attention at each country-year speech provides to particular climate change negotiation topics, while controlling for country-year economic factors (GDP growth, GPD per capita, fossil fuel production, and carbon emissions), and country-year social factors (corruption, country leaders' years served in the office, presidential and parliamentary systems) mentioned above.

3.3.1. 20 Topwords Extraction

The results of the STM analysis will enable the recovery of a series of underlying topics from the speeches presented at the 10 annual COP meetings mentioned above. Upon estimating the model, I first must label and interpret the meaning of these 20 topics in a qualitative manner, in relation to climate cooperation

topics and more nationalistic/sovereignty-focused topics. To assist in these endeavors, the STM allows me to recover the top 20 words that are most affiliated with each of the 20 topics that I estimate, which I first read in an effort to label each topic. The STM also estimates the association of each speech to each estimated topic. In this manner, every speech in the dataset receives a probability value of how strongly the speech is associated with each of the 20 topics. This allows me to better understand the contexts of the speeches and to assign and identify the labels of each of the 20 topics. Once I've contextualized my topics for their respective themes, I specifically look to evaluate the effects of populism on the level of (in)attention to any identified themes related to either (i) nationalistic concerns and (ii) climate change cooperation.

After deciding to estimate 20 topics using the STM model, I extracted a table of topwords for the topics using Frequency and Exclusivity words (FREX) as shown in Figure 2. I estimated many different STM initializations, and selected only the best performing model. This estimation gives 20 most distinct topics across the corpus. The topwords within each topic are most closely related to the given topic. The 20 topics that were extracted are: 1. Encouragement for collective actions; 2. Forest management; 3. Developing countries and their efforts to combat climate change; 4. Implementation of previous agreements; 5. National adaptation strategy; 6. Legally binding agreements; 7. National regulatory system; 8. Vulnerability of the LDCs; 9. Technology transfer; 10. Long term investment; 11. Historical responsibility; 12. Climate change vulnerability; 13. Green growth; 14. INDCs; 15. Climate change

urgency; 16. Sustainable green economy; 17. Deforestation; 18. MRV (Measuring, Reporting, Verifying); 19. Adaptation and mitigation; 20. GHG emission reduction.

Topic	Top 20 Words	Labels
1	australia, cent, norway, fast, billion, enough, show, cut, sweden, arctic, estonia, million, per, ago, vehicl, financ, back, move, alon, done	Encouragement for collective actions
2	mother, earth, crisi, stop, venezuela, human, model, right, save, lebanon, life, planet, nicaragua, destruct, harmoni, love, answer, justic, suffer, assum	Forest management
3	sudan, group, poverti, histor, convent, affect, full, oblig, negat, food, least, state, effect, problem, transfer, especi, protocol, brother, bali, secur	Developing countries
4	pakistan, enhanc, ambit, gap, manner, transpar, provis, princip, element, platform, balanc, lima, doha, multilater, pre-, post, indonesia, forward, inclus, kenya	Implementation of previous agreements
5	european, union, euro, portug, colleagu, pari, ireland, austria, deliv, finland, bind, readi, czech, object, target, fulli, track, degre, member, celsius	National adaptation strategy
6	congo, speaker, niger, african, democrat, benin, seneg, togo, redd, secretari, republ, execut, congratul, ladi, gentlemen, inde, behalf, emerg, algeria, basin	Legally binding agreements
7	japan, canada, ukrain, belarus, vietnam, ghg, kazakhstan, transit, feder, russian, greenhous, amend, account, reduct, gas, signific, attent, approach, canadian, regul	National regulartory system
8	hondura, guatemala, mountain, water, central, drought, america, panama, glacier, affect, ecosystem, locat, colombia, cultur, indigen, food, thousand, popul, live, educ	Vulnerability of LDCs
9	adapt, mechan, technolog, fund, mitig, build, transfer, capac, expect, requir, green, committe, implement, financi, prioriti, vulner, therefor, develop, appropri, financ	Technology transfer
10	typhoon, philippin, compens, loss, damag, bangladesh, haiyan, haiti, nicaragua, case, hit, weather, just, event, happen, salvador, much, caus, know, cost	Long term investment
11	namibia, zimbabw, thailand, unfccc, malaysia, urg, wish, cambodia, deleg, address, ldcs, advers, cop, livelihood, cmp, modal, annex, elect, call, provis	Historical responsibility
12	mauritius, ghana, sri, lanka, coastal, resili, sid, rainfal, mongolia, due, tourism, ghg, vulner, disast, vice, impact, risk, sea, rise, jamaica	MRV
13	warsaw, cop, pari, poland, korea, summit, polish, slovakia, want, hard, lima, done, leav, host, next, opportun, peru, willing, togeth, momentum	SIDs climate vulnerability
14	israel, turkey, electr, energi, effici, renew, india, solar, transport, power, percent, innov, albania, public, coal, water, gas, industri, fuel, use	Green growth
15	scenario, new, bind, transit, zealand, system, agreement, dynam, fossil, act, foundat, must, solut, second, offer, doha, switzerland, pacif, regim, polit	Renewable energy
16	jordan, arab, kingdom, merci, god, iraq, saudi, emir, desir, egypt, arabia, phenomenon, solar, tver, peac, oil, manna, field, pass, bin	Climate change urgency
17	deforest, brazil, forest, gabon, amazon, incorpor, cameroon, brazilian, manag, area, hectar, law, argentina, voluntari, promot, territori, rate, whose, design, peru	Sustainable green economy
18	madam, cancun, durban, south, outcom, copenhagen, africa, operation, bali, kyoto, mexico, protocol, period, second, bind, transpar, track, establish, mandat, honor	Deforestation
19	iceland, women, gender, arctic, china, geotherm, tackl, ocean, mobil, carbon, cut, acidif, sink, dollar, tax, broad, societi, cover, chines, equal	Adaptation and mitigation
20	republ, strategi, integr, angola, iran, communic, approv, local, mozambiqu, improv, low, promot, excel, adopt, plan, nation, collabor, initi, stabil, islam	GHG emission reduction

Figure 2. Top 20 Words

Topic 1 was interpreted as an *Encouragement for collective actions* due to the topwords related to this topic being “will”, “countries”, “change”, and “finance”. After reading the most closely related speeches within Topic 1, given by countries such as the UK, Denmark, Australia, and Estonia, the speeches mainly contain messages to the member states stating that climate change is affecting everyone and every country needs to do its duties to combat climate change.

3.3.2. Topic Interpretation

The United Kingdom’s representative said:

“I am pressing for the EU to move to a 30% emissions reduction target for 2020 as soon as possible You see the argument I’m using - back in Britain, in Brussels, and to you today - is that being ambitious on climate change is a win-win. The benefits

outweigh the costs That taking action to cut carbon emissions can be good for growth."

Denmark's representative said:

"It might not have been the legally binding agreement, that we had hoped for, but I'm sure time will show, that just as the Copenhagen Interpretation was a step forward in quantum mechanics, so was the Copenhagen Accord in combating climate change. Let's show, that Cancun is not just a holiday destination, but an important venue for effective multilateralism. And hopefully we will show the world that multilateralism still functions by delivering solid results."

In the top two most closely related country speeches given by the UK and Denmark, we can understand that these countries encourage others to join them in working towards taking actions to reduce the negative effects of climate change.

Topic 2 was interpreted as *Forest management* due to the topwords related to this topic being "climate", "develop", "human", and "response". After reading the most closely related speeches within Topic 2, given by countries such as Bolivia, Nicaragua, Cuba, Venezuela, and Paraguay, the speeches mainly consist of what countries have done to preserve nature and the forests in their own lands.

Bolivia's representative said:

"We invite you to meet environmental commitment to the thousands of families who receive property titles, sign, by which they swear their lots and parcels take care not to litter, take care of water sources and plant trees, many trees, to help us create an environment friendly and healthy, as a great community, we need to."

Venezuela's representative said:

"Venezuela already doing much. In the past 5 years have advanced a sene of the Venezuelan state initiatives in mitigation: the reforestation of more than 31 thousand

hectares, in two years replacing 70 million incandescent light bulbs with CFLs, the implementation of a national system of incentives energy savings, we have initiated programs to replace appliances 3 million for energy efficient equipment (which cover 50% of households in Venezuela) has expanded the subway system and trains across the country, building currently 13,000 kilometers of new railways, and have developed an ambitious National Strategy for Conservation and Sustainable Use of Biological Diversity and its National Action Plan with the direct participation of communities."

Topic 3 was interpreted as *Developing countries* due to the topwords related to this topic being "develop", "countires", "climate", "change", and "effect". Reading into most closely related speeches within Topic 3, given by countries such as Sudan, Libya, and Egypt, the speeches mainly consist of what measures developing countries have taken to achieve more sustainable development goals. Each country emphasizes how they try to reduce greenhouse gas emissions and how their countries are disproportionately affected by climate change-induced natural disasters.

Sudan's representative said:

"Also supports Sudan principle of taking voluntary actions by developing countries in a, flew sustainable development lead to reduce greenhouse gases that are enabling developing countries to build capacity and financial and technological support and sees the need to use Alomtl and take advantage of the great potential for reducing Anbatat in the forest sector and land uses in framework of sustainable development and taking into account the considerable need communities."

Libya's representative said:

"We look forward to reach an agreement fair and balanced during this session, taking into account the legitimate aspirations of the developing countries in achieving growth sustainable without imposing burdens disrupt development efforts, and the need to provide financial and technical support necessary to help cope with Ikq shared benefits for all."

Topic 4 was interpreted as *Implementation of previous agreement* due in part to the topwords related to this topic being "climate", "action", and "countries". These

topwords turned out to be carrying limited amount of information to assign a topic name. Therefore, after reading the most closely related related speeches within the Topic 4, given by countries such as Pakistan, Costa Rica, Kenya, Singapore and others, the speeches mainly consist of the importance of international cooperation over climate change, and the need for investment from developing countries.

Pakistan's representative said:

"Such a regime must build on the Bali Plan of Action, Cancun and Durban decisions. Our approach must continue to be guided by the principles and the provisions of the Convention. Mr. President, 19. Pakistan strongly supports the decisions taken at Cancun and Durban which were reinforced at Doha. In our view these were all pragmatic measures to progress on Bali Road Map and chalk down path for future Climate Change Regime."

Costa Rica's representative said:

"In this task, we need a transparent multilateral process that has to be party-driven, with the participation of all countries in the negotiations, as to give an adequate response to the needs of developing countries and to advance to the fulfillment of, , the objectives of the Convention."

Topic 5 was interpreted as *National adaptation strategy* due to the topwords related to this topic being "climate", "need", "agreement" and "commitment". After reading the most closely related speeches within the Topic 5, given by countries such as Portugal, Austria, Romania and Italy, the speeches mainly consist of each country's strategies to implement climate policies.

Portugal's representative said:

"In this context, we adopted national legislation to fulfill our commitments in 2030 and earlier this year approved a strategic framework that defines the vision and

national climate policy objectives and that includes: The National Programme for Climate Change, with a 30% reduction target to 40% below 2005 levels by 2030, including sectoral targets; The second phase of the National Adaptation Strategy, with special emphasis on knowledge, integration and implementation."

Topic 6 was interpreted as *Legally binding agreements.* The topwords that are associated with this topic were "climate", and "countries", "change" and others which were not clear enough to extract the title of the topic for this cluster from the topwords alone. After reading the most closely related speeches within the Topic 6, given by countries such as Niger, Benin, Togo, Congo and others, the speeches mainly consist of countries addressing previous UN chartered agreements are not binding which makes it difficult to punish countries that do not comply with them. In this set of speeches, countries also emphasize the need for binding agreements.

Niger's representative said:

"To this end, my country urges Parties to Annex 1 to fulfill their obligations under the Convention and the Kyoto Protocol to which we would also like to a legally binding agreement under the second commitment period."

The Democratic Republic of Congo representative said:

"Mr. President, Regarding the Kyoto climate regime post the Democratic Republic of Congo is in favor of a legally binding agreement finalized later in 2015 for effective implementation in 2020. The agreement must establish the level of ambition of all developed countries to contain the rise in global temperatures to 1.5 degrees C."

Topic 7 was interpreted as *National regulatory system.* The topwords that are associated with this topic were "countries", "climate", "emission", "will" and others which are not clear enough to extract the title of the topic for this cluster from the topwords alone. Therefore, the interpretation and the naming of this topic was based

on reading of the closely related speeches. The top speeches were given by countries such as Belarus, Ukraine, Russia, Japan and others. These speeches consist of establishing national regulatory system under which they based their environmental policies for the future.

Belarus's representative said:

"Belarus would like to express their vision of how he should be. Firstly, the new agreement should provide for a voluntary contribution of each State to be consistent with national development objectives, and to promote economic and social development."

Ukraine's representative said:

"Dear Colleagues, Ukraine fully realizes the urgency of adapting the national economy and the national regulatory system to the internationally recognized principles of tackling climate change. Our country has made significant advancements in this direction and does not intend to slow down the pace in the foreseeable future."

Topic 8 was interpreted as *Vulnerability of LDCs.* The topwords that are associated with this topic were "change", "climate", "people", "nation", "water" and others. The interpretation and naming of this topic was based mostly on the interpretation of the topwords and reading of the closely related speeches. The top speeches were given by countries like Guatemala, Honduras, Syria, Peru and others. These speeches consist of the LDCs' need for funding and technology to achieve sustainable development goals. The countries also emphasize their vulnerability including extreme poverty, drought, and being more prone to climate change-induced natural disasters because of the countries' topography.

Guatemala's representative said:

"Remember as this year Guatemala suffered the brunt of the storm Agatha and a rainy season outside any record. Guatemalans in general and I particularly appreciate the recognition you do for the Mexican government over the susceptibility of our country and the victims of climate change have created widows and orphans. In fact, the most vulnerable, the negative impacts of climate change are children, girls, women, indigenous peoples rural and local communities."

Peru's representative said:

"Peru has been forced to take emergency measures and structural to mitigate this situation, considering that rainfall occurring in our Andean massif largely feed the great Amazon basin, lung and kidney while this land that is everyone. A high degree of sensitivity of biological resources, since Peru is among the 10 diverse countries in the world, with much of its territory in high mountain areas, where wealth concentrates immense biological flora fauna, and ancient cultures."

Topic 9 was interpreted as *Technology transfer.* The topwords that are associated with this topic were "climate", "develop", "adapt", "technology" and others which were not clear enough to extract the title of the topic for this cluster from the topwords alone. Therefore, the interpretation and the naming of this topic was based on reading of the speeches that are closely related. The top speeches were given by countries such as China, Zambia, South Africa, North Macedonia, Vietnam and others. These speeches consist of discussions of the importance of technology tranfer and investment. The majority of the countries that gave the most closely related speeches are the members of G77. Therefore, they also encourage developed countries to invest in their countries and share the technology to reduce greenhouse gas emissions and achieve sustainable development goals.

China's representative said:

"Technology development and transfer is to enhance the effective implementation of the Convention, to support an important part of addressing climate change in developing countries. The ultimate goal of the Technology Mechanism is to promote and accelerate the development and transfer of climate technologies, provide support for developing countries to mitigate and adapt to climate change."

Zambia's representative said:

"Mr. President, In order for the poor and most vulnerable countries like Zambia to respond to climate change effectively, access to technology is crucial. Therefore, we wish to reiterate that there is urgent need to address the issue of technology transfer, including the identification and removal of all barriers preventing access to climate-related and friendly technologies."

Topic 10 was interpreted as *Long term investment.* The topwords that are associated with this topic were "countries", "will", "year", "loss", "climate" and others. Similar to other topics, the topwords are not enough for the interpretation of this cluster. Therefore, the interpretation and the naming of this topic was based on reading of the closely related speeches. The top speeches were given by countries such as the Philippines, El Salvador, Nicaragua, Costa Rica, and others. These speeches consist of discussions of the individual countries' domestic plans and agendas to address the impacts of climate change in the long term. The strategies and plans focus mostly on allocating more to climate funds and domestic financing.

The Phillippines's representative said:

"Our President, Benigno Aquino III, have increased the budget for climate change starting this year and even created a cabinet cluster to address impacts of climate change. Indeed, climate change is no longer just an environmental issue. Its cross-sectoral impact is now recognized. This year, we passed a law creating a People's Survival Fund with a board chaired by our Department of Finance. Domestic financing will primarily fund climate change adaptation and disaster reduction plans of

local governments, and improve their absorptive capacity. We are doing our best but our domestic financing is just not enough."

Topic 11 was interpreted as *Historical responsibility.* The topwords that are associated with this topic were "climate", "change", "develop", "countries" and others. Similar to other topics, the topwords are not enough for the interpretation of this cluster. Therefore, the interpretation and the naming of this topic was based on reading of the closely related speeches. The top speeches were given by countries such as Zimbabwe, Cambodia, Thailand, Namibia, Tanzania, and others. These speeches consist of discussions on individual countries' efforts to achieve sustainable development goals, as well as encouraging developed countries to take leadership to tackle climate change.

Zimbabwe's representative said:

"Developed countries have a specific leadership responsibility of instituting deeper cuts in greenhouse gas emissions in accordance with the commitments made under the UNFCCC and its Kyoto Protocol. Once this is achieved, we in the developing countries will also design ways of complementing these efforts."

Thailand's representative said:

"Thailand would like to call on the developed countries to likewise fulfill their commitments under the Convention, and raise their ambition in providing the wherewithal for their developing counterparts, to pursue low carbon growth and adapt themselves to the adverse impact of climate change. These will strengthen our common resolve and cooperation that will help us achieve a meaningful agreement to be adopted in the next two years. I thank you."

Topic 12 was interpreted as *SIDs climate vulnerability.* The topwords that are associated with this topic were "develop", "countries", "adaptation", and others. Similar to other topics, the topwords are not enough for the interpretation of this

cluster. Therefore, the interpretation and the naming of this topic was based on reading of the closely related speeches. The top speeches were given by Mauritius, Sri Lanka, Jamaica, Mongolia, and others. These speeches consist of discussions on the struggles and the effects of climate change that Small Island Developing (SID) nations experience.

Mauritius's representative said:

"Mauritius as a highly vulnerable SIDS is already facing the devastating effects of extreme weather events. We are experiencing a decrease of about 8% in our annual rainfall, an average increase of 1 degree Celsius in air temperature, serious coral bleaching and an accelerating sea level rise at the rate of 3.8 mm per year that has been observed over the last five years. The challenges ahead for Mauritius are huge, especially when considering the facts that water supply by 2030 may not be sufficient to satisfy projected demand, agricultural production may decline by as much as 30% in the medium term due to rainfall variability, the ecosystem and natural habitat of fish and other marine species are being rapidly degraded, and that several beaches, that are so important for the tourism industry may slowly disappear, thus severely undermining one of our major economic pillars."

Topic 13 was interpreted as *Green growth.* The topwords that are associated with this topic were "will", "cooperation", "new", "agreement", and others. Similar to other topics, the topwords are not enough for the interpretation of this cluster. Therefore, the interpretation and the naming of this topic was based on reading of the closely related speeches. The top speeches were given by the Netherlands, the Republic of Korea, Romania, Poland, the United States, and others. These speeches consist of discussions on encouraging all the UN member states to invest on Green growth as a future environmental policy strategy. The speeches also convince countries for cooperation and collaboration between governments and private sectors

to define what green growth means to each country and how to implement the strategy.

The Netherlands's representative said:

"I would like to draw your attention to a compelling and realistic pamphlet - "Going for green growth", signed by a group of EU 1 ministers. Green growth and sustainability are here to stay- they offer opportunities for European business and societies and form a logical path to future wellbeing. Along these same lines, the Dutch government recently concluded a National Energy Agreement with other authorities, trade unions, employers' organisations and NGOs - a typical example of our successful consensus-based approach."

The Republic of Korea's representative said:

"On top of that, Korea Global Green Growth Institute (GGGI) was set up in 2010 and became an international organization in October, this year. This is a big step forward to promote green growth across the world Korea hilly recognizes what the international community expects continuously provide us to do."

Topic 14 was interpreted as *Renewable energy.* The topwords that are associated with this topic were "energy", "will", "renew", efficient", "technology", and others. Similar to other topics, the topwords are not enough for the interpretation of this cluster. Therefore, the interpretation and the naming of this topic was based on reading of the closely related speeches. The top speeches were given by Israel, Turkey, India, Albania, Lithuania and others. These speeches consist of discussions on increasing renewable energy shares within a country's energy sources, as well as emphasizing the importance and benefits of incorporating renewable energy sources.

Turkey's representative said:

"We aim at increasing the share of renewable energy resources in our total energy production up to thirty percent (30%) by the year two thousand twenty three (2023)."

Albania's representative said:

"The Albanian Ministry of Environment, in cooperation with close partners, such as: EU, World Bank, GIZ, UNDP, UNEP, etc., is currently implementing a number of climate change-related projects, which seek to: promote green economy promote solar energy, as a powerful renewable energy resource in Albania, strengthening national capacities to develop low-carbon strategies, in line with EU membership requirements; establishing a network of information exchange, methodologies, experiences and best national and regional practices Energy remains a strategic sector for any economy; 90 % of national energy production comes from hydropower plants, yet Albania intends to increase energy production from hydro resources, through increasing adequate investments in the sector."

Topic 15 was interpreted as *Climate change urgency.* The topwords that are associated with this topic were "new" "agreement", "commit", "must", and others. Similar to other topics, the topwords are not enough for the interpretation of this cluster. Therefore, the interpretation and the naming of this topic was based on reading of the closely related speeches. The top speeches were given by Singapore, New Zealand, Belgium, Switzerland, Spain and others. These speeches consist of discussions on honoring previous agreements such as the Kyoto Protocol, and encouraging making the agreements legally binding to ensure commitments and hold accountability. Some countries also highlighted their own vulnerability and challenges regarding combating the effects of climate change such as sea level rise and others.

Singapore's representative said:

"In this regard, we must continue our effort to reach a comprehensive global agreement that is legally binding. A global LBA is essential as it provides the foundation for a multilateral rules-based system. It ensures that commitments and pledges made are not based on political understanding but have a legally binding character."

New Zealand's representative said:

"Having accepted a responsibility target under the Kyoto Protocol CP1 we are on track to meet our commitments and no matter what the outcome here in Durban New Zealand's mitigation efforts will continue post-2012."

"We also take seriously our responsibility to assist our Pacific Island neighbors who are vulnerable to the impacts of climate change. That is why we have focused our financial assistance on the Pacific and are investing in a number of climate."

Topic 16 was interpreted as *Sustainable green economy.* The topwords that are associated with this topic were "develop", "climate", "countries", "effort" and others. Similar to other topics, the topwords are not enough for the interpretation of this cluster. Therefore, the interpretation and the naming of this topic was based on reading of the closely related speeches. The top speeches were given by Iraq, Jordan, Kuwait, Qatar, Libya and others. These speeches consist of discussions on efforts to implement sustainable development goals with a focus on green economy such as project development for improving energy efficiency, and reducing emissions. Some countries also implored others for technical and financial assistance to reduce fossil fuel which is their major income source.

Iraq's representative said:

"…Damage to the national economy and the application of the principles of sustainable development and green economy ~ Iraq seeks offline and coordination allowed Framework Convention such facility evidence the global to the establishment of important projects and to reduce emissions and to meet national needs sources of clean energy, as we started to work on improving the efficiency of energy use and converting most of the gas stations in addition to sessions vehicle to direct the preparation of a draft document described for uses solar energy to generate electricity and to encourage national industry in this area in addition to the development of mechanisms to implement the use of clean technologies in energy generation from fossil fuel sources."

Kuwait's representative said:

"The State of Kuwait also hopes that the developed countries abide by their leading role in reducing emissions and helping developing countries adapt to the adverse effects of climate change, and the negative effects resulting from the measures of responding to mitigating the effects of climate change, especially those whose economies rely on the use of fossil fuels as a major and sole source of income, and this can be achieved through the transfer of technology and the diversification of income sources."

Topic 17 was interpreted as *Deforestation.* The topwords that are associated with this topic were "forest", "countries", "emission", "develop", and others. Similar to other topics, the topwords are not enough for the interpretation of this cluster. Therefore, the interpretation and the naming of this topic was based on reading of the closely related speeches. The top speeches were given by Brazil, Spain, Paraguay, Argentina, Peru and others. These speeches consist of discussions on the state of deforestation of the country, and how each country is making efforts to reduce and monitor forest management.

Brazil's representative said:

"This reduction of emissions from deforestation in Brazil over the last five years is the biggest contribution worldwide to mitigation of greenhouse gases emissions. Mr. President, Although deforestation is the major source of emissions of Brazil, we are committed to reduce emisssions in all sectors…. Moreover, we have been able to create south-south cooperation programs to transfer technologies that contribute to foster sustainable development such as the forest monitoring systems, including satellite data and imagery."

Paraguay's representative said:

"We promote the certification of 12 million hectares of forests, aiming to achieve zero net deforestation by 2020 and provide a legal framework that provides protection for domestic and foreign investments that benefit the climate."

Topic 18 was interpreted as *MRV (Measurement, Reporting, and Verification).* The topwords that are associated with this topic were "commitment", "Kyoto", "protocol", and others. Similar to other topics, the topwords are not enough for the interpretation of this cluster. Therefore, the interpretation and the naming of this topic was based on reading of the closely related speeches. The top speeches were given by Nigeria, Algeria, the Republic of Korea, Russia, and others. These speeches consist of discussions on individual countries' commitment and strategies to reduce emissions, and keeping global warming below 2 degrees Celsius. Some countries also emphasize the importance of multilateral frameworks and negotiations in the UN system.

Nigeria's representative said:

"As a part of balanced package, we are firmly committed to seeing that current areas of contention with respect to the financial mechanism, governance structure for long term financing, adaptation means and institutional arrangements, technology transfer and capacity building are resolved to the benefit of all Parties. Nigeria also believes that Reducing Emissions from Deforestation and Forest Degradation CREDO) is a key instrument for countries in Africa to mitigate and adapt to climate change."

Algeria's representative said:

"Here in Durban, failure is absolutely prohibited for us, and we must report back to the world opinion due to the dangerous situation of our planet. In the wake of Cancun, Africa is determined to take its responsibility and give sense to the great march towards the preservation of the atmosphere of the planet. Algeria will absolutely contribute to this."

The Republic of Korea's representative said:

"South Korea has made concrete efforts to create a foundation for the implementation of nationally appropriate mitigation actions that we announced in Copenhagen. In addition, we established the Global Green Growth Institute last June

to share green growth experience and best practices with other countries. May I also draw your attention to the outcome of the G20 Summit in Seoul, that is directly related to our deliberations in Cancun."

Topic 19 was interpreted as *Adaptation and mitigation.* The topwords that are associated with this topic were "emission", "develop", "carbon", "global", and others. Similar to other topics, the topwords are not enough for the interpretation of this cluster. Therefore, the interpretation and the naming of this topic was based on reading of the closely related speeches. The top speeches were given by Iceland, Sweden, China, Japan, and others. These speeches consist of discussions on mitigation and adaptation measures that countries implement in their domestic policies to mitigate the effects of climate change. For example, Iceland mentioned using geothermal energy is one way of climate mitigation. The country also stresses that providing funds to other countries to aid their efforts towards climate mitigation is important.

Iceland's representative said:

"Utilizing geothermal energy in developing countries is important for climate mitigation, but also has benefits for adaptation, by increasing energy security and community resilience."

Sweden's representative said:

"A climate regime must provide an equitable access to sustainable development for all. Developing countries, in particular the least developed and the most vulnerable should be supported in this endeavor. Firstly Sweden has had among the highest level of public climate finance per capita during the fast start period. We have made yearly substantial contributions to the Adaptation fund."

Topic 20 was interpreted as *GHG emission reduction.* The topwords that are associated with this topic were "develop", "nation", "excel", "strategies", and others.

Similar to other topics, the topwords are not enough for the interpretation of this cluster. Therefore, the interpretation and the naming of this topic was based on reading of the closely related speeches. The top speeches were given by Angola, Mozambique, Albania, Iran, Kazakhstan, and others. These speeches consist of discussions on the importance of commitment to reduce Greenhouse gas emissions as the first and foremost step to mitigate climate change. Countries also discuss their national strategies to combat climate change and reduce Greenhouse gas emission.

Angola's representative said:

"We think it is time to materialize these decisions by adopting, here in Doha, a second commitment phase to the Kyoto Protocol which ambitiously contributes to the reduction of Greenhouse Gas Emissions in accordance with the recommendations of various scientific evidence."

Kazakhstan's representative said:

"Now we are establishing a National system of regulation greenhouse gas emissions in order to fulfill commitment obligations. Astana initiative called "Green Bridge" was adopted in Kazakhstan on the 6th Conference of Ministries of the Environment and Development of UNESCAP. A main idea of Astana Green Bridge Initiative is to create a co-operation between the countries of Europe and the countries of Asia and Pacific Ocean for the purpose of consolidation of efforts in order to achieve positive results in solving ecological problems."

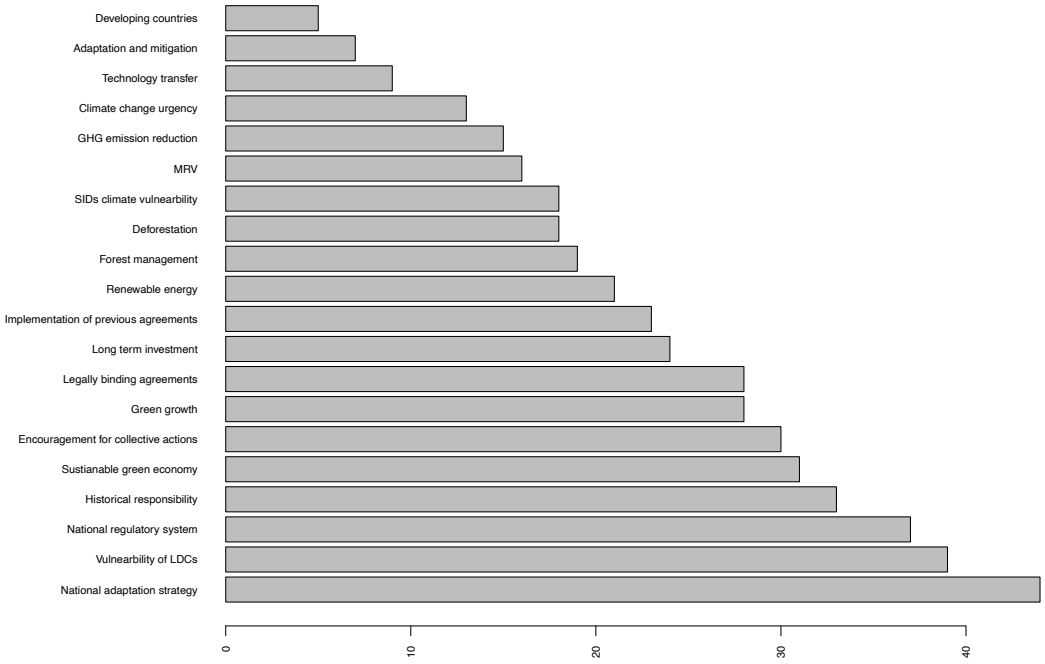

Figure 3. Frequency Distribution of Topics

Figure 3 shows frequency distribution of the 20 identified topics from the UNFCCC speeches from COP16 to COP25. To create this plot, I classified each document according to its most dominant topic, as based upon the topic with which it had the highest probability of association. Using the most dominant topic associations, I then calculated the number of documents per each topic. *National adaptation strategy* was the topic that was discussed in the UNFCCC speeches the most as it appeared 44 times followed by *Vulnerability of LDCs* which appeared 39 times and *National regulatory system* which appeared 37 times. *Developing countries*, *Adaptation and mitigation*, and *Technology transfer* were the topics that were least discussed within the UNFCCC speeches which were discussed 5, 7, and 9 times, respectively.

3.3. Results

With the understanding of the 20 topics that are extracted from the speeches in place, I turn to the tests of Hypothesis 1a and 1b. The variable effect plot depicted in Figure 4 reports the estimated effect of a 0-1 change in the variable *PLE_Populism* upon each topic's prevalence with a confidence interval of 95%. Recall that this binary variable measures whether or not a right-wing populist leader is in power for the corresponding countries in my dataset during each year for the period 2010-2019. Figure 4 shows the estimated speech-level changes in the prevalence of each of the identified 20 topics above given a shift in a country's leader from being non-populist to populist. Hence, an estimated value to the right of the vertical dotted line implies that right-wing populist countries exhibit relatively more attention to a given topic whereas a value to the left of the dotted vertical line implies that a populist country devotes less attention to a particular topic in its speeches, in both cases relative to a non-right-wing-populist country.

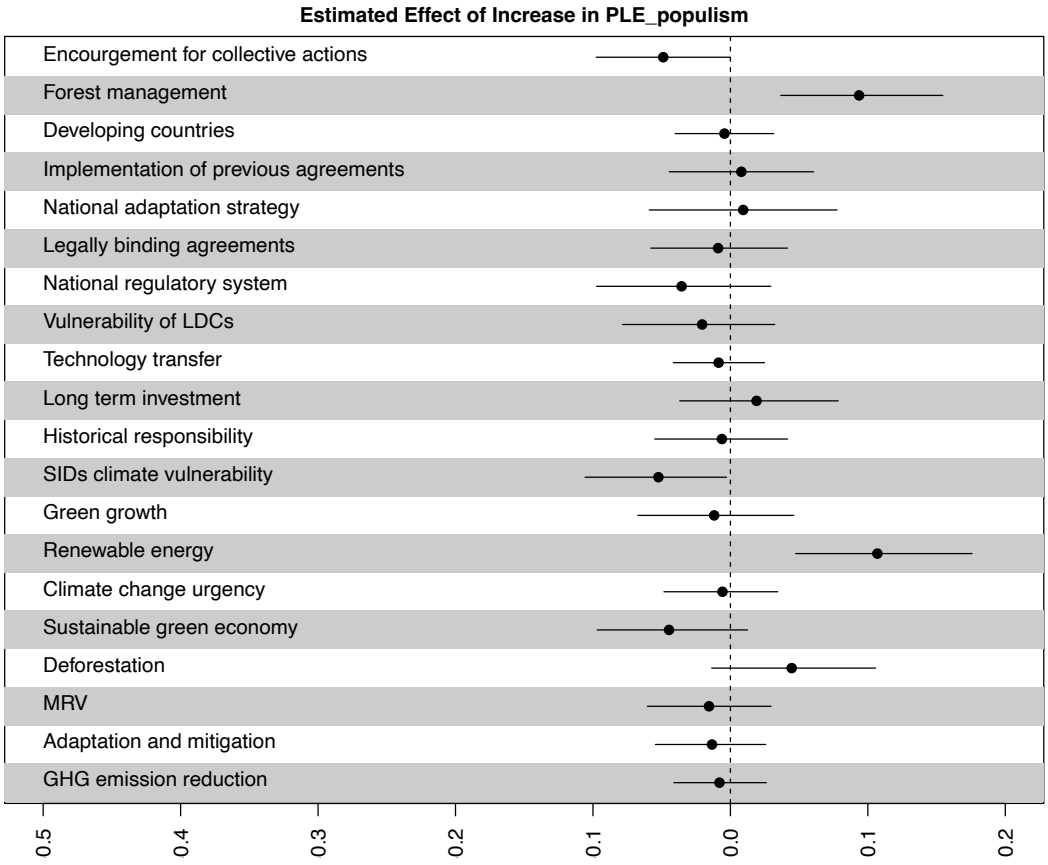

Figure 4. Variable Effects Plot: Changes in Topic Prevalence with Increase in Right-Wing Populism

From the UNFCCC speeches from COP16 to COP25, this analysis controls for all the covariates in the model including log CO2 emission, fossil fuel production, GDP growth, and electoral democracy. Controlling for the covariates, the presence of right-wing populism affects the increase in the following topics: *Forest management,* and *Renewable energy*. The presence of right-wing populism affects the decrease in the following topics: *Encouragement of collective actions* and *SIDs climate vulnerability.* As right-wing populism increased, the prevalence of topics on *Forest*

management, and *Renewable energy* increased by about 10% whereas the prevalence of topics on *Encouragement of collective actions* and *SIDs climate vulnerability* decreased by about 5%. Referring to H1a and H1b, which reads:

> H1a: More populist leaders will express more negative (i.e., less supportive) stances towards climate change cooperation within international climate change cooperation venues.

> H1b: More populist leaders will express more positive (i.e., more supportive) stances towards sovereignty-reinforcing stances within international climate change cooperation venues.

The emphasis on the topics related to *collective actions* and *SIDs climate vulnerability* is analyzed as policies that prioritize global goods and international cooperation which is typically led by global elites. It aligns with hypothesis H1a. Considering only the environmental politics and climate change policy domain, right-wing populists usually tend to pursue policies that go against what global elites would support (Huber, Greussing, et al., 2021; Huynh, 2025; Jylhä & Hellmer, 2020; Kulin et al., 2021; Vihma et al., 2020). In the UNFCCC venue, these are topics led by the international organization and the global elites. They consider climate change as a global threat that every country needs to participate in the process of minimizing the severe consequences. From the views of right-wing populists and their tendency to

value their own country's sovereignty and their own well-being first and foremost, international cooperation on climate change might seem to be against what they prioritize. On the contrary, right-wing populist leaders tend to emphasize and agree with their own country's sovereignty reinforcing policy preferences and going against international cooperation led by the global elites. Emphasis on the topics related to *Forest management* and *Renewable energy* is analyzed as policies that focus on individual countries' innovation and striving to achieve policies that are beneficial to the countries themselves instead of working towards the greater good.

As hypothesis H1b suggests, the result aligns with populist leaders' political strategy tendencies to express more positive stances towards sovereignty-reinforcing policies. Therefore, this result on the decreasing trend of the topic of *collective actions* and *SIDs climate change vulnerability* is consistent with the right-wing populism that was identified earlier. On the other hand, when countries prioritize their own needs before global cooperation, they tend to increase the emphasis on *Forest management*, and *Renewable energy* that bear inherent challenges in facing climate disasters. Therefore, this result on the increasing trend of these topics is consistent with the right-wing populism that is identified earlier in the theory section.

3.4. Conclusion

In this present chapter, I presented the results of speech data collected from the UNFCCC COP analysis using STM. The results showed that right-wing populists take positive stances towards sovereignty-reinforcing policies. This aligned with my

expectations based on populism literature that right-wing populists tend to be anti-elites, anti-cooperation, and they pursue isolationist policy implementations. Therefore, I concluded that my hypotheses 1a and 1b are supported based on the COP speech analyses. In the next chapter, I present my first qualitative analysis on the cases of the United States and Brazil. Both countries have had right-wing populist as their presidents around the same time frame, between 2017 and 2021. Through the qualitative case studies, I delve more into the domestic environment policy implementation of right-wing populists' governments. Based on findings using descriptive qualitative case studies, this ensuing chapter aims to reassure that right-wing populists' policy implementation preferences align with the findings of their speeches at the UNFCCC venues.

Chapter 4

QUALITATIVE CASE STUDIES

4.1 Introduction

In the previous chapter, I conducted a quantitative text analysis examining the Conference of the Parties (COPs) speech data for the period from 2010 to 2019 using the Structural Topic Model (STM). The COP speech data consists of speeches given by high-level representatives of the countries that participated in annual United Nations Framework Convention on Climate Change (UNFCCC) COP venues. The STM analysis from the previous chapter aims to test the effects of right-wing populism on the most prominent discussion topics that arose at roughly ten years of recent UNFCCC COPs. The results partially support my two hypotheses: 1) more right-wing populist leaders will express more negative stances towards climate change cooperation within international climate change cooperation venues; 2) more populist leaders will express more positive stances towards sovereignty-reinforcing stances within international climate change cooperation venues. As my quantitative populism scores increased from 0 (absence of right-wing populist leaders) to 1 (existence of right-wing populist leaders), stances towards sovereignty-reinforcing policies (i.e. *Forest management* and *Renewable energy*) increased. On the other hand, stances towards global public goods and international cooperation (i.e. *collective actions* and *SIDs climate vulnerability*) decreased. The hypotheses are only partially supported

because several other topics that represent sovereignty-reinforcing policies such as (*Deforestation*) and topics that represent international cooperation such as *Sustainable green economy* arguably exist within the 20 topics I extracted from the speech data. However, these topics did not exhibit significant changes as populism scores increased.

While the findings from the previous chapter's quantitative text analysis partially support my hypotheses, analyzing documents and related evidence qualitatively in the present chapter will help to validate these findings in a supplementary manner. In addition, in the current qualitative chapter, I aim to better reveal causal pathways linking my theory on right-wing populism and climate change in manners that were not be possible to demonstrate within the prior chapter's quantitative analysis. In this manner, the qualitative case analysis presented below will reinforce the internal validity of my dissertation's empirical findings and conclusions, even if it is lacking in the external validity offered by my quantitative text analysis and cross-national panel data.

This chapter more specifically consists of two illustrative case studies of the United States and Brazil, two countries that experienced right-wing populists as their presidents. For these case studies, I use the typical case selection method upon which means that I based my cases on typical examples of right-wing populism (Seawright & Gerring, 2008): the United States and Brazil. These two countries both experienced a right-wing populist as their head of state in recent years: Donald Trump served as the

45th president of the United States (2017-2021)[4], and Jair Bolsonaro served as the 38th president of Brazil (2019-2022). Ample evidence supports this contention. From the Populist Leaders and Economy (PLE) dataset (Funke et al., 2021), both Donald Trump and Jair Bolsonaro are classified as right-wing populists. Their speeches and political agendas also corroborate with the current literature's understanding of right-wing populism. For example, populists tend to be anti-elitists and anti-pluralists who thrive on conflict and encourage extreme polarization (Mudde, 2017; Müller, 2016). Another distinct trait of right-wing populists is that they not only criticize elites, but they claim that they are the only people who represent the general will (Mudde, 2017). Alongside these observations, there are several additional justifications for my choices of Trump and Bolsonaro as the two cases for this qualitative chapter.

Trump's political agenda and motto of "Make America Great Again (MAGA)" exemplify his priorities on American exceptionalism and isolationism in domestic and foreign policies. Trump claims that America would continue to make monetary contributions to NATO. However, if other countries do not want to see the US being a moderator of the organization, they would need to show their capability and willingness to support the common defense duties. Trump also iterated that regional allies have been benefiting from the presence of the US army in their countries as we see in the South Korean case (Payne, 2017). These points are examples of one of the

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[4] While I recognize that Trump was also re-elected to serve from 2025-2028, it is beyond the scope of the present qualitative analyses.

right-wing populists' isolationist and nationalistic traits; they always prioritize the benefits of their own country instead of global cooperation. Furthermore, Trump's rhetoric on anti-immigrants, building the wall at the Mexican border, and framing immigrants as a threat to the American economy and job market illustrate Trump's right-wing populist discourse (Béland, 2020; Donovan and Redlawsk, 2018; Greven, 2016). Trump's anti-immigrant rhetoric does not stop only against Mexicans. Although it may seem like Trump's campaign rhetoric rather than realistically executable policies, Trump also proposed to deport all illegal Muslim immigrants from entering the United States (Greven, 2016; Nagel, 2018). Using the "Us vs. Them" mentality and diminishing the validity of experts, right-wing populist Donald Trump exhibits anti-establishment sentiment in his both domestic and foreign policy preferences (Uscinski et al., 2021). For example, Trump paused immigration to secure jobs for Americans first. Trump also replaced the North American Free Trade Agreement (NAFTA) with the United States-Mexico-Canada Agreement (USMCA) claiming that the new agreement would secure jobs for Americans better, and would bring better trade deals for American agriculture (The White House Archives, 2020).

Bolsonaro exhibits similar populist traits to Trump including traits of nativism, anti-establishment sentiment, and manifesting us vs. them mentality as Trump did in his anti-immigrant policies. Coming from a military background, Bolsonaro became known to the public with illiberal political views such as racist, homophobic, and sexist (Silva and Barros, 2020). As Trump shows an adverse sentiment towards the "others" which in his case, the immigrants, Bolsonaro exhibits hatred towards

indigenous peoples, homosexuals, and women. It is visible in the way that Bolsonaro talks about the "others." Bolsonaro once said in 2016 that "he wouldn't employ a woman with the same salary as a man because women get pregnant" (Uchoa, 2018). Showing the "us vs. them" mentality is one of the common right-wing populists' characteristics which we can find both in Trump and Bolsonaro. One of the key factors that Bolsonaro organized his campaign around was a notion of antagonism against the political system of Brazil. Bolsonaro also encouraged his followers to express their rejection of the Brazilian Supreme Court and target the judges who censored supporters of the president (Pires, 2022). This is a way that Bolsonaro convinces his constituents convincing that the existing government and the Supreme Court judges are elites who do not understand and cannot represent the needs of the common people. It emphasizes Bolsonaro's rhetoric that he can be the one who truly represents the common will, which is also a common characteristic of a right-wing populist. Bolsonaro's rhetoric and his way of influencing his supporters accordingly fit the descriptions of a typical right-wing populist who are against traditional institutions. Right-wing populists are only against institutions when they think the institutions "fail to produce the morally correct political outcomes" (Müller, 2016). By criticizing the existing political system in Brazil, he exhibits anti-establishment sentiment and rhetoric preferences. By embracing racist, homophobic, and sexist political views, Bolsonaro broke the stereotypical expectations of politicians who need to be well-spoken, logical, and appropriate just like Trump did in the United States.

In sum, Donald Trump and Jair Bolsonaro exhibit commonalities in populism via being nationalistic, using the "us vs. them" mentality to discriminate certain population in the society, and emphasizing their adverse sentiments against elite politics. They highlight their ability to truly represent the will of the common people. In these manners, they made it possible for politicians to make their speeches entertaining, rather than coherent. They set the example to allow political figures to be as extreme as they wish to be to gain support. Each also exhibited unique populist characteristics such as being nationalistic and discriminatory against immigrants in Trump's case. In Bolsonaro's case, his policy for discriminatory against the indigenous peoples, and women to establish men's and non-indigenous people's superiority compared to the "less" worthy people in his mind. Altogether, both presidencies accordingly align well with the notion of populist leaders in power, while also occurring during comparable windows in time.

The remainder of this chapter is organized as follows. First, I present the United States case by analyzing documents from the White House archives and the transcripts of media interviews. Then I present the Brazil case by analyzing academic articles and archived government documents. In these manners, this chapter aims to illustrate how the right-wing populist's traits translate into and influence domestic environmental policies. I aim to use theory-testing qualitative case studies for each of these case studies (Beach & Pedersen, 2019). This also serves the confirmatory purpose of probing a causal contention that right-wing populists tend to implement sovereignty-reinforcing domestic environmental policies rather than globally

cooperative policies. I evaluate the aforementioned archival documents and selected media reports during the time of Donald Trump's (2017-2021) and Jair Bolsonaro's (2019-2022) presidencies. These documents contain presidential proclamations, statements and press releases, news clips, remarks, fact sheets, and presidential memoranda. I chose to use archival documents and selected media reports and interviews as the primary sources of the qualitative research section because first, archival documents are chronologically arranged during the entirety of both Trump and Bolsonaro's time as presidents. Therefore, I chose to use systemically arranged documents for these qualitative case studies to evaluate the linkages between the right-wing populist traits of Trump and Bolsonaro and how the domestic environment policies have evolved during their tenure. Secondly, I chose to use selected media reports and interviews because these often include direct quotes from Trump and Bolsonaro themselves instead of relying on someone else's interpretation of what they said. These are also good sources for illustrating clearly what Trump and Bolsonaro think and talk about when engaging with climate change and their domestic environmental policies as right-wing populists.

4.2 The United States: The Case of Donald Trump

Having already established that Trump and Bolsonaro are right-wing populists, I next present how Trump's rhetoric and his policies regarding the environment and climate change reflect right-wing populist tendencies. The mechanism that I endeavor to show is that right-wing populists tend to support more sovereignty-reinforcing

policy stances rather than international cooperation or policies that would potentially benefit more than their own country. In other words, I expect to see nationalistic and self-centric policy preferences in a right-wing populists' policy preferences. The primary source for Trump's rhetoric is collected from reading interviews and the aforementioned White House archives documents regarding environmental policies. From the White House archives documents, I went through all of the documents available during Trump's first presidency. Then I filtered sections for documents related to "energy & environment." This source is most systematically organized compared to Trump's media interviews or his social media posts and directly reflects Trump's ideas and policy preferences on energy and environment which is also related to climate change. The information I retrieved from the White House archives was comprised of Trump's direct speeches and quotes which I considered as primary sources. The summaries of his policy preferences composed by government officials such as the chairman of the Council on Environmental Quality are considered as secondary sources. Therefore, I considered these documents as being the most relevant to focus on for the US case study.

Regarding environmental politics, Trump's rhetoric varies; on some occasions, his official stance seems to support environmentally friendly policies and says he is not an anti-climate change person, but in other occasions, his stance is against environmentally friendly policies. Despite the inconsistent spoken stances, the implementation of climate policies under Trump is not always climate-friendly.

Therefore, the speeches I review in this chapter exhibit variations on how pro or against environmentally friendly Trump is.

In 2019 on the remarks by President Trump on America's Environmental Leadership in 2019, Trump said:

> "My administration is now revising the past administration's misguided regulations to better protect the environment and to protect our American workers, so importantly… I will not stand for it. We will defend the environment, but we will also defend American sovereignty, American prosperity, and we will defend American jobs (Trump, 2019b)."

In this case, Trump was talking in an environmentally friendly manner emphasizing that his administration will revise the past regulations for the better. The speech seems to carry a positive note. However, it still does not contain a discussion *how* Trump's administration will revise the past regulations to better protect the environment. The speech also stresses that the reason why Trump wants to revise these regulations is to protect American workers. It accordingly aligns with Trump's right-wing populist rhetoric on isolationism and anti-establishment preferences; the reason why he wants to revise the regulations is to protect American workers, not to cooperate with international efforts to combat climate change together. Explicitly mentioning the defense of American sovereignty, American prosperity, and American jobs likewise aligns with the expectations of right-wing populist leaders. As mentioned in the previous chapter, right-wing populists tend to be nationalistic and isolationistic instead of more global cooperation oriented in their policy making

strategies. This is consistent with research on the isolationistic, and nationalistic tendencies of foreign and domestic policies advanced by right-wing populists (Ferguson et al., 2020; Fiorino, 2022; Lacatus & Meibauer, 2023; Wodak & Krzyżanowski, 2017). In this quote, Trump shows his right-wing populist trait by outwardly prioritizing the benefits for America.

In the White House archive fact sheet on Energy and Environment shows that Trump is committed to modernizing environmental policies and paving the way for vital infrastructure improvements, he said:

> "The administration is committed to ensuring that we are good stewards of our environment, while supporting American prosperity… It is important for our national economic prosperity and for the wellbeing of all our communities that these regulations be reformed (Trump, 2020a)."

In these statements, Trump clearly prioritizes the benefits of America, and cares about domestic sovereignty-reinforcing policies in terms of moving towards building environmentally-friendly infrastructures. This attitude ties back to right-wing populist tendency of isolationism, and more specifically to an America first attitude and dismissing global cooperation or contributing to international agreements. As we saw in the previous quotes on Trump emphasizing American sovereignty and prosperity, Trump consistently pursues isolationistic, and nationalistic policies (Ferguson et al., 2020; Fiorino, 2022; Haynes, 2021; Lacatus & Meibauer, 2023).

In other remarks on National Environmental Policy Act regulations, Trump criticized the previous administration's regulations arguing that previous policies are not helpful to the American people and to workers while stressing that the previous administration wasted time and money.

> "These endless delays waste money, keep projects from breaking ground, and deny jobs to our nation's incredible workers. From day one, my administration has made fixing this regulatory nightmare a top priority. And we want to build new roads, bridges, tunnels, highways bigger, better, faster, and we want to build them at less cost. We'll cut the federal permitting timeline for major projects down to two years. And ideally, we're going to try and get even less than that. So you'll be — instead of 21, 22, 25, 8, 9, 12, 15 — we're going to get it down to 2 years and maybe less, with strong regulation, especially environmental and safety regulation (Trump, 2020b)."

In this remark, the primary thing Trump focuses on conveying to the audience is to criticize the previous administration's work by highlighting delays and waste of money. To emphasize that, he offers that he will build infrastructures bigger, better, and faster. At the end of this excerpt, he notes that he will have strong environmental safety regulations, but similar to other statements he made before, he does not reveal *how* he will implement them. In failing to have concrete plans for how he will implement strong environmental and safety regulations, Trump shows he does not prioritize global efforts to combat climate change or follow international agreements on Nationally Determined Contributions (NDCs). This relates back to Trump's right-wing populist rhetoric the "Us vs. Them" mentality and isolationism (Donovan & Redlawsk, 2018; Fiorino, 2022; Haynes, 2021). By blaming the previous

administration for their quality of work, and promising that his administration will fix the shortcomings, Trump divides his in-group which is purported to be working for the common people's benefit, and the out-group which is framed as harmful and lacking an understanding of what the common people need. On isolationism, Trump insinuates that he will prioritize the benefit of American workers first and foremost, by highlighting how the previous administration failed to do so. All of these tie back to the traits of right-wing populists: utilizing isolationistic strategy in policy making processes and having an "us vs. them" mentality to differentiate ingroup and outgroup.

While Trump seemingly has been anti-climate change and anti-environmental policy, he sometimes delivers messages that have mixed connotations. For example, even though his ultimate choice seems to be promoting jobs for Americans and boosting economy, Trump says things that may lull the audience into believing that he cares about the environment:

> "But, no, I'm a big believer in that word: the environment. I'm a big believer. But I want clean air. I want clean water. And I also want jobs, though. I don't want to close up our industry because somebody said, you know, "You have to go with wind," or "You have to go with something else" that's not going to be able to have the capacity to do what we have to do (Trump, 2020b)."

In these messages, he says he is a believer in the environment but he still prioritizes creating jobs rather than deeply committing to international environment cooperation. The excerpt is vague and contains mixed messages at the same time. First, Trump says, he is a big believer in the word "environment." It is a vague

sentence because he doesn't elaborate on what about the environment he believes in. There should be an explanation of whether he believes in environment-friendly policies, environmental protection, or something else about the environment that he believes in. Just believing in the word "environment" does not describe what exactly Trump means. Furthermore, in the end, the point of this excerpt was that Trump wants to create more jobs. This amplifies his isolationist strategy because he looks after the welfare of American workers first before putting effort into following international efforts to combat climate change. This is another typical portrait of a right-wing populist tendency. Trump prioritizes job creation which is good for his own country rather than emphasizing the importance of global cooperation for combating climate change even when he was saying he is a big believer of the environment. This evidence aligns well with the findings from Fiorino (2022) who argued that Trump is a climate skeptic and against climate mitigation. Trump's anti-climate policies are well exemplified in his pro-fossil fuel industry domestic policies and his depiction of climate issues as the "elite" politics undermining the general will of the common people (Fiorino, 2022; M. Lockwood, 2018).

Trump again delivers typical isolationist and populist remarks in his 75th annual economic report of the president.

> "Since taking office, rather than apologize for America, I have stood up for America. From day one of my Presidency, I have put America First, and I have fought for the American worker harder than anyone ever has (Trump, 2021)."

I identified this quote as isolationist which is a typical trait of a right-wing populist because the entire sentence underscores how he was only focused on fighting for the American workers, and only them, without specific mentions of how he has been fighting for them. This solidifies contentions that Trump is a right-wing populist. Furthermore, in this economic report, Trump does not mention anything about sustainable development, investing in renewable energy sources, or anything relating to environment-friendly economic policies that he could have focused on. Trump does not take opportunities to expand environmentally friendly economic policies where he can. This contrasts with his previous remarks that he is "a big believer of that word: the environment." This too aligns with the right-wing populist qualities as he clearly said that he has put Americans first. Although he does not specify how he has put America first, and what he means by he has "fought for the American worker harder than anyone ever has", it can be inferred that his emphasis is on America first, the nationalistic and isolationist mentality that typical right-wing populists exhibit.

In his remarks to the 75th session of the United Nations General Assembly, when speaking specifically about climate change and China's role, Trump also expressed a similar isolationist rhetoric as was discussed in previous quotes.

> "In addition, every year, China dumps millions and millions of tons of plastic and trash into the oceans, overfishes other countries' waters, destroys vast swaths of coral reef, and emits more toxic mercury into the atmosphere than any country anywhere in the world. China's carbon emissions are nearly twice what the U.S. has, and it's rising fast. By contrast, after I withdrew from the one-sided Paris Climate Accord, last year America reduced its carbon emissions by more than any

> country in the agreement… Those who attack America's exceptional environmental record while ignoring China's rampant pollution are not interested in the environment. They only want to punish America, and I will not stand for it… If the United Nations is to be an effective organization, it must focus on the real problems of the world. This includes terrorism, the oppression of women, forced labor, drug trafficking, human and sex trafficking, religious persecution, and the ethnic cleansing of religious minorities (Trump, 2020c)."

In this speech, by blaming China and not taking responsibility for carbon emissions coming from the US, Trump is neglecting how much America contributes to global emissions. Furthermore, by indicating the Paris Climate Accord as a one-sided agreement and contending that America reduced carbon emissions after it withdrew from the agreement, Trump is able to convey that he is uninterested in global climate change cooperation. Whether the carbon emissions reduced in America after it withdrew from the Paris Climate Accord is yet to be verified. In the end, Trump said, if the United Nations is to be an effective organization, it must focus on the real problems of the world. This also alludes that Trump does not think environmental issues—and global climate change more specifically—are real problems of the world while for the most vulnerable countries, climate change-related extreme weather events are closely related to their survival. This shows that Trump is either unaware of, or underwhelmed by, the severity of climate change as a global issue. In this speech, Trump not only dismisses the dire climate change matter in international politics but also highlights the irrelevance of the Paris Climate Accord, and puts the blame on China while emphasizing that America reduced its carbon emissions. This rhetoric once again exemplifies Donald Trump's right-wing populist characteristic of

being an isolationist and positioning himself against the elites; In this case, the Paris Climate Accord, the product of UNFCC is considered as the "elites." Furthermore, this quote also exemplifies the findings of quantitative text analysis in the previous chapter. Right-wing populist leaders express negative stands towards climate change cooperation within international climate change cooperation venues and instead, they express more positive stances towards sovereignty-reinforcing stances.

At the presidential proclamation on National Energy Awareness Month in 2019, Trump promoted fossil fuel production, which contradicts global efforts to manage climate change.

> "United States is now the largest crude oil producer in the world. For the first time in six decades, we are also a net exporter of natural gas, and in 2018, we supplied liquefied natural gas to more than 36 countries on 5 different continents. Since 2016, annual coal exports have increased more than 90 percent, and by next year, we are set to become a net energy exporter for the first time since 1953. My Administration will continue to build on our country's energy dominance by pursuing policies that fully unleash America's vast energy resources and capabilities while promoting responsible stewardship of the environment (Trump, 2019a)."

In this speech, Trump emphasizes the plans to establish American energy dominance and become an exporter of natural gas and coal. At the end, Trump says, that he would promote America to become an exporter of various fossil fuel sources while promoting responsible stewardship of the environment. The two issues in this statement are: 1. Trump's policy does not consider global agreements on reducing fossil fuel usage and mining. 2. Trump does not explain how to promote responsible

stewardship of the environment in detail. Under Trump, America fully supports the production of fossil fuels while emitting traditionally well-known pollution. While international cooperation is geared towards increasing renewable energy sources and avoiding fossil fuel emissions, Trump's agenda on energy plans is the opposite. This is another example of Trump, as a right-wing populist, being an isolationist thinking the ways to benefit only the Americans and being anti-establishment going against the global policy agreement to reduce fossil fuel emissions. Similar to the quotes I presented previously, Trump consistently shows his right-wing populist traits of pursuing isolationistic and anti-establishment policy preferences in this quote as well (Ferguson et al., 2020; Fiorino, 2022; Lacatus & Meibauer, 2023; M. Lockwood, 2018).

In his remarks in Hackberry, Louisiana on promoting energy infrastructure and economic growth in May 2019, Trump continued to promote fossil fuel production by supporting the Keystone XL pipeline construction.

> "And, you know, I just approved a lot of pipelines going through Texas and other places, including, as you know, the Keystone XL pipeline I approved. (Applause.) The Dakota Access pipeline. These were lines that were worked on for a long time, and they never would have happened. We did them, I think, in my first week. And it's great. It's great. And it's clean and it's environmentally better than the alternatives. You know that… You are not only making our nation wealthier, but you are making America safer by building a future of American energy independence. We are independent. We don't need anybody. We don't need anybody (Trump, 2019c)."

The Keystone XL pipeline's potential damage to the environment, ecosystems, and drinking water of the region is well-known (Lindwall, 2025). The mining process pollutes freshwater, and the extraction and transportation of the oil would cause 178.3 million metric tons of greenhouse gas emissions annually (Lindwall, 2025). It is environmentally damaging and the relative profit from the project does not outweigh the drawbacks. By fully promoting the Keystone XL pipeline without properly considering the environmental damage it will cause, it is clear that Trump does not care about preventing ecological degradation. In the second half of the quote, Trump repeats, "we don't need anybody." This emphasizes again that Trump supports American isolationism and discourages global cooperation which coincides with right-wing populists' tendency to be isolationists, nationalists, and anti-elites (Fiorino, 2022; B. Lockwood & Lockwood, 2022; M. Lockwood, 2018).

Throughout his tenure as the president of the United States, Trump said many things about protecting the environment, increasing energy efficiency, and others on various occasions. However, he never explains how he will implement policies for keeping the environment safe. Trump's environmental policies and promises are empty words without substantial delivery of policy outcomes. In reality, Trump stressed on the importance of creating more jobs for the American people, achieving energy independence, which in turn, ignoring global cooperation in preserving the environment and combating climate change. Considering examples of Trump's quotes I presented here, Trump exhibits right-wing populist typical strategies: 1. Isolationism through pursuing America-first domestic policies; and 2. Neglecting global efforts to

reduce the harmful effects of environmental pollution by labeling climate change as an elite politics that undermines the general will of the people. Overall, US President Donald Trump's quotes serve as an illustration of right-wing populist behavior. In quotes related to environmental politics, by clearly not mentioning or emphasizing the importance of global climate cooperation, Trump highlights his isolationist policy preferences. Tying back to the theory of this dissertation, because right-wing populists prefer isolationism, nativism, and exhibit anti-elite sentiments, I argue that right-wing populists are more likely to support only sovereignty-reinforcing policies. Trump exemplifies this theory with his preference for America first, and anti-cooperation policies throughout ranges of domestic and global policy preferences, and policies related to environment and climate cooperation, in particular.

4.3 Brazil: The Case of Jair Bolsonaro

As the United States' case illustrated Trump's isolationist, nativist, and America first domestic policies, Brazil's domestic policies under Jair Bolsonaro also show similar populist trends. Bolsonaro served as the 38th president of Brazil from 2019 to 2022, and during his tenure, Bolsonaro has endorsed Trump's isolationist and anti-cooperative policies domestically and internationally (Toni and Chaves, 2022). Similar to Trump, Bolsonaro has publicly made misogynistic, anti-international cooperation and denial of international interdependency (Toni and Chaves, 2022). Especially with regard to environmental policies, Bolsonaro has made remarks that ostracize international cooperation and participation in global efforts to reduce the harmful effects of global climate change. Instead, despite deforestation issues in the

Amazon that Brazil specifically faces, Bolsonaro has emphasized the sovereignty of Brazil and expressed his willingness to deal with the Amazon issue on his own. Whether the domestic environmental policies under the Bolsonaro administration are effective enough to save the Amazon from ongoing deforestation or not is yet to be determined. However, Bolsonaro's intentional rejection to cooperate with international environmental regulations illustrates his right-wing populist behavior that is evident in the US President Donald Trump.

In the remarks that Bolsonaro made at the United Nations Summit on Biodiversity on September 30, 2020, he stated:

> "We are well aware of the huge potential of the bioeconomy. We must reach a consensus and properly combine sustainability and development, environmental preservation, and economic innovation…My administration remains firmly committed to the sustainable development and sovereign management of Brazilian resources (Bolsonaro, 2020b)."

In this speech, Bolsonaro seems actively cooperative in meeting sustainable development goals, environmental preservation and economic innovation. In the context of this speech, he even mentions that "all countries must fulfill their responsibility, play their part accordingly and unite against evils such as biopiracy, environmental sabotage and bioterrorism" (Bolsonaro, 2020). This almost seems like Brazil is taking the leadership and encouraging other countries to fulfill their responsibility to contribute to what is needed to fight against environmental degradation. However, Bolsonaro's right-wing populist traits shine through when he

says that his administration is committed to sovereign management of Brazilian resources. Like many other right-wing populists who hide in plain sight, following the democratic procedures until they get political power, then implement their authoritative policies, Bolsonaro said the right things to be seen as a good international player until he emphasized that his administration was committed to sovereign management of Brazilian resources. This statement shows that Brazil is willing to put efforts into keeping sustainable development goals only if Brazil is fully capable of managing its own resources without any kind of international community's directions or suggestions. This commitment can only be met if the Brazilian government is completely and fully willing to commit to environmental preservation and economic innovation. Having such conditions in commitment to sustainable development and mentioning it at a UN Summit depicts Bolsonaro's true intention of emphasizing its sovereign right and preemptively rejecting any kind of international intervention.

In addition, in the remarks that Bolsonaro made at the General Debate of the 75th Session of the United Nations General Assembly, he stated:

> "I stand by my zero-tolerance policy towards environmental crime…Accordingly, Brazil made every effort at the COP25 in Madrid to establish, under the provisions of the Paris Agreement, an effective international carbon market. Unfortunately, however, the forces of protectionism prevailed…Under my administration, Brazil finally puts behind a protectionist tradition and has now adopted trade liberalization as a key tool for growth and transformation (Bolsonaro, 2020a)."

In this speech, Bolsonaro addresses his stance on zero-tolerance policy towards environmental crime. He also emphasizes that his administration would put

protectionist tradition behind and liberalized their trade policy. However, looking at Bolsonaro's policy, it is clear that he does the opposite of protecting the environment of Brazil. This comes from Bolsonaro's policy on the protection of the Amazon as well as the policies towards indigenous peoples. This aligns with Bolsonaro's unique right-wing populist trait, racial discrimination against indigenous peoples, which I discussed earlier in this chapter. Furthermore, even though his speech promises action, his domestic environmental policies do not follow up with his own words.

Similarly, in his speech at the 74th United Nations General Assembly (UNGA) on September 24, 2019, Bolsonaro presented,

> "Firstly, my government has a solemn commitment to the preservation of the environment and of sustainable development in benefit of Brazil and the world (Bolsonaro, 2020b)."

In this remark, Bolsonaro implies that his government is committed to the preservation of the environment and sustainable development, but he does not specify what kind of policies he will implement to achieve the goal. Considering that the venue where he made this speech was the UNGA meeting, the context of the speech can be as detailed or as vague as the speaker makes it to be. Therefore, it is understandable that he did not explain his domestic environment policies in detail in this venue. However, his commitment does not translate into his actions regarding domestic environment policies, especially in the Amazon as I discuss in the section below. Bolsonaro makes another claim that portrays right-wing populist characteristic, nativism.

> "It is a fallacy that the Amazon is the heritage of humanity and a misconception, as scientists say, to say our forest is the lungs of the world. Availing themselves of such fallacies, one or another country, instead of assisting, fell in with the press's lies and behaved disrespectfully, with a colonialist spirit. They questioned that which is most sacred to us: our sovereignty (Bolsonaro, 2019)!"

In this remark that Bolsonaro also made in 2019 at the UNGA meeting, it is difficult to clearly comprehend why saying the Amazon forest is the lungs of the world should be considered a fallacy. Further, Bolsonaro claims that it is disrespectful behavior to believe in this fallacy instead of assisting. It can be interpreted that Bolsonaro is seeking assistance from other countries (mostly the members of the UNGA) and that he is not getting as much as he expected and blaming other countries for not giving enough resources to Brazil. Lastly, in the end, Bolsonaro says their sovereignty is the most sacred thing to them. Bolsonaro once more emphasizes the importance of sovereignty. This implies that Bolsonaro prioritizes his country's wellbeing over global cooperation and the absence of mentions of global cooperation and over-emphasizing the national sovereignty exhibits one of the characteristics of right-wing populists. Finally, Bolsonaro concludes his speech by saying that the preservation of the Amazon should be done by Brazil and not led by anyone else. Recognizing his emphasis on Brazil being the leader in the preservation of the Amazon, we expect to see Bolsonaro's right-wing populist characteristics, which prioritize Brazil's sovereignty and the benefits that Brazil can gain by being involved in Amazon preservation.

> "I want to reaffirm my position that any initiative for assistance or support to the preservation of the Amazon Rainforest or any other biomes must be conducted in full respect to Brazilian sovereignty. We also condemn the attempt at instrumentalizing the environmental matter or indigenous policies toward external political and economic interests, especially those disguised as good intentions (Bolsonaro, 2019)."

In this statement, Bolsonaro re-emphasizes that the preservation of the Amazon must be led by Brazil to fully respect Brazilian sovereignty. He also mentions that Brazil condemns anyone who attempts to instrumentalize Brazil's environmental and Indigenous peoples' issues with political and economic alternative motivations. Here, Bolsonaro insinuates that Brazil and Bolsonaro himself would be the only appropriate actors to implement any policies toward preserving the Amazon. This is a clear example of right-wing populist characteristic that only prioritizes domestic sovereignty first before any possible cooperation to tackle the issues of environmental preservation in the Amazon. By condemning any external actors' involvement, Bolsonaro establishes his intention to handle the environmental policies of Brazil on his own and make foreign countries' involvement a lot more difficult.

At the G20 Summit in 2020, Bolsonaro likewise made a remark addressing the environment.

> "We hold a firm commitment to continue to preserve our environmental heritage. We also remain determined to pursue sustainable development to its fullest, in order to integrate environmental conservation with economic and social prosperity (Bolsonaro, 2020c)."

Furthermore, at the 75th Session of the United Nations General Assembly in 2020, Boslonaro made a similar remark on the Brazilian Amazon and blaming other countries for disinformation campaign.

> "The Brazilian Amazon is known to be immensely rich. That explains the support given by international institutions to this disinformation campaign anchored on shady interests coupled with exploitative and unpatriotic Brazilian associations with the purpose of undermining the Government and Brazil itself… Accordingly, Brazil made every effort at the COP 25 in Madrid to establish, under the provisions of the Paris Agreement, an effective international carbon market. Unfortunately, however, the forces of protectionism prevailed (Bolsonaro, 2020a)."

In both remarks above, based on his words, Bolsonaro seems to understand the importance of environmental protection and sustainable development. However, he continues to make comments like, "the forces of protectionism prevailed", and to insinuate that non-Brazilian actors are spreading disinformation about the Amazon with alternative motivations other than preserving the environment. I interpret this behavior as Bolsonaro being a protectionist and a nativist with an isolationist tactic about the Amazon and Brazilian environmental policies. He preemptively makes comments against non-Brazilian actors who want to work on preserving the Amazon to justify his right-wing populist's isolationist tactics on rejecting any kind of cooperation or allowing international organizations to intervene in establishing policies that can contribute to the environmental conservation of the Amazon. This isolationist tactic from Bolsonaro was expected because preferring isolationist and

nativist tendencies in policymaking processes is one of the most common characteristics of right-wing populists.

In addition, Bolsonaro made remarks at the United Nations Summit on Biodiversity in 2020 that reaffirmed Brazil's commitment to environmental conservation.

> "We have boosted surveillance actions in our biomes and strengthened the means to fight degradation of ecosystems, foreign sabotage and biopiracy. In the Amazon region, we have launched "Operation Green Brazil 2", which has so far successfully reversed the upward trend in the deforested areas, as observed in previous years… In Brazil, Program Forest+, launched by the Ministry of Environment, already establishes payment for environmental conservation projects and the sustainable use of our ecosystems. At the international level, an initiative along these lines could possibly result in even more positive impacts for the environment and for native communities in Brazil (Bolsonaro, 2020b)."

Here again, Bolsonaro mentions programs like "Program Forest+" and "Operation Green Brazil 2" which at first glance, Brazil is taking a proactive approach to environmental conservation. Assessing and understanding Bolsonaro's speeches at various meetings and venues at the United Nations, uncertainty arises about Bolsonaro's intention on his Brazilian environmental policies. The ambiguity comes from the mixed messages that Bolsonaro conveys in his series of speeches on climate change, the environment, and the conservation of the Amazon. In sum, Bolsonaro seems to advocate for conserving the Amazon, protecting the environment, and addressing the climate change issue to take a part in global cooperation. However, he

always lays out the caveat that Brazil is willing to do this only if it dictates the writing of new environmental regulations and policies instead of following internationally agreed guidance or cooperative agreements. Because of a conditional commitment to global environmental policy making processes, it is necessary to explore whether what Bolsonaro said at the UN venues matches with his policy implementation. This is a way to verify whether Bolsonaro's speeches that he has been presenting in the UN settings are reliable.

To test if Bolsonaro's speeches and policy implementations agree, I analyzed existing literature that delves into Brazilian environmental politics and policy changes during Bolsonaro's presidency. Unlike Bolsonaro's somewhat progressive and cooperative themed speeches at the UN venues that exhibit his intention to preserve the environment in Brazil, scholars have assessed that his domestic environmental policies have been restrictive, unhelpful, and ineffective. Bolsonaro's domestic environmental policies can be characterized into three aspects. First, spreading misinformation and dismantling environmental regulations while transforming the environmental government structures as "chaotic, confused, and lacking any particular goal" (Deutsch, 2021; Sedrez, 2022); second, centralized environmental policy-making processes by restricting participatory venues such as National Environmental Council and the National Council of the Legal Amazon (Menezes & Barbosa, 2021); and third, pursuing policies that pose obstacles to ecosystems of the Amazon and the indigenous peoples (Seifert et al., 2023). These three elements of Brazilian domestic

environmental policies under Bolsonaro's presidency are analyzed more in depth in the following section.

Bolsonaro's conservative and populist domestic and foreign policies have been known since his presidential campaign. Idolizing the US President Donald Trump on the legacy of his first term, Bolsonaro branded himself as the one who would follow Trump's policymaking strategies. Like Trump, Bolsonaro downplayed the severity of climate change and positioned himself as one of the climate skeptics (Queiroz-Stein et al., 2023).

To address how Bolsonaro's anti-environment speeches match with his policy, I first focus on Bolsonaro's rhetoric. In this case, I analyze how he invalidated the global efforts on countering climate change, and framed the work as an "elite-driven" matter that is detached from ordinary people's daily lives (Huber, 2020). Bolsonaro's argument for anti-environmentalism surrounds itself with the narrative that following international environmental commitments and regulations would undermine Brazilian national sovereignty by imposing goals that Brazil must follow (Mendes Motta & Hauber, 2023). As presented in one of his quotes from the UNGA earlier in this chapter, he emphasizes his position that any foreign assistance or support to preserve the Amazon should be conducted with respect to Brazilian sovereignty. He condemns any attempts to utilize environmental matters or indigenous policies to influence Brazilian political or economic interests (Bolsonaro, 2019). As a confirmation of his speeches that emphasize respecting Brazilian sovereignty and putting conditions on

global cooperation instead of genuinely endorsing it, Brazilian domestic environment policies have been severely deteriorating.

Furthermore, in an effort to reduce government influence in society and increase liberalization of private sectors such as companies in oil extraction, agribusiness, mining, and others, the Bolsonaro government eased regulations on environmental protection (Motta & Hauber, 2023). As a result of this, more permits to use pesticides were granted, and infrastructure works such as building roads, dams, and railways in the previously protected areas for the indigenous peoples became permitted (Motta & Hauber, 2023). In addition, as a part of removing regulations and restructuring the government personnel, the Bolsonaro government fired the head of the National Institute for Space Research (INPE), the agency that monitored deforestation in the Amazon, denied that the wildfire could occur in the rainforest, and reassigned government officials who used to work in the national parks or the indigenous reservations to new positions that they are unfamiliar with (Sedrez, 2022). As we can see in these examples of Bolsonaro's rhetoric on anti-environmentalism and his efforts to reduce regulations on the preservation of the Amazon, and indigenous peoples' reservations to demolish them and build more infrastructures are clear evidence of the Bolsonaro government's anti-environmental domestic policies. This highlights the mixed messages and conditional commitments to global cooperation in climate change that were evident in Bolsonaro's speeches I analyzed earlier in this chapter.

The second piece of evidence I discovered about Bolsonaro's anti-environmentalism is the centralized environmental policy making processes by restricting participatory venues. This relates to reassigning government workers from their previous positions to unfamiliar positions and removing government bureaus like INPE; his environmental policy was described as "relentless" by many academic scholars (Sedrez, 2022). This relentless environmental policy can be characterized by several actions. First, from the beginning of his term, Bolsonaro was determined to suppress the Ministry of the Environment and merged it under the Ministry of Agriculture. Removing and reorganizing the government structure was just the beginning. After reassembling the government and making the Ministry of Environment de facto powerless, Bolsonaro started attacking public servants who were working in the environmental sectors. The director of the INPE was fired and the major government positions related to indigenous reservations or national parks were given to military personnel who hardly knew the job and were unfamiliar with the tasks (Sedrez, 2022).

In addition to restructuring government offices and targeting individuals who have been working in the environmental sector, Bolsonaro dismantled and restricted participatory institutions within the Brazilian government's environmental sectors, such as the National Environmental Council and the National Council of the Legal Amazon during his presidency(Menezes & Barbosa, 2021; Queiroz-Stein et al., 2023). One of the consequences of dismantling participatory institutions in the country was the removal of the existing social participation framework. This resulted in the

deprivation of opportunities for establishing communication channels between citizens, local communities, and the federal government on sustainable policy-making strategies and monitoring environmental regulation violations (Queiroz-Stein et al., 2023; Seifert et al., 2023). Analyzing more in detail how the participatory process in environmental policies in Brazil deteriorated under Bolsonaro's presidency, Queiroz-Stein et al (2023) illustrate the changes in the number of ordinary and extraordinary meetings of the National Environment Council (CONAMA). The CONAMA has been the avenue where government officials and representatives of civil society meet to discuss issues in environmental policies, program monitoring, and evaluations. From 1984 to 2022, the number of meetings has fluctuated averaging at about 5.3 meetings per year, without a general increasing or decreasing trend. In 2001, the number of meetings at the CONAMA peaked at 11 meetings per year. However, between 2019 and 2022, during Bolsonaro's presidency, the number of CONAMA meetings decreased significantly resulting in 0 meetings in 2022 which was the all-time lowest record (Queiroz-Stein et al., 2023). Besides the changes in CONAMA meetings, the main alterations to the environmental policy under Bolsonaro's government include the following:

> "Abolition of the Secretariat of Climate Change and Forests, the General Sub-secretariat of the Environment, Energy and Science and Technology of the Ministry of Foreign Affairs in January 2019; Transference of the National Agency of Water to the Ministry of Regional Development in January 2019; Abolition of collegiate bodies, including those related to the national contingency plan for oil pollution in April 2019; Abolition of the guiding committee for the Amazon

> Fund in June 2019; Exclusion of civil society from the National Environment Fund (FNMA) in February 2020; Abolition of various commissions, executive groups, working groups, councils, and other collegial environmental groups in February 2020; Exclusion of the state governors, and militarization of the National Council of Amazon Legal in February 2020; and finally over the years between 2019 and 2021, militarization of the directors of public agencies and councils (Seifert et al., 2023)."

As the cases above illustrate under Bolsonaro's presidency, Brazil suffered from diminished opportunities for participatory policymaking processes and communication on the environmental issues. This is the second piece of evidence that depicts Bolsonaro's anti-environmentalism. Despite some of Bolsonaro's speeches conveying the idea that he is aware of environmental degradation issues and he is committed to working on conserving the Amazon and the environment in Brazil in general, there is a clear disconnect between Bolsonaro's speeches and academic scholars' assessment of Brazilian environmental politics under Bolsonaro's administration.

The third and final piece of evidence that demonstrates Bolsonaro's anti-environmentalism is his pursuit of policies that pose obstacles to the ecosystems of the Amazon and the indigenous peoples (Seifert et al., 2023). Following the right populists' policy trends, Bolsonaro labeled environmental politics as elite politics which does not address the needs of the common people. As a right-wing populist, Bolsonaro appealed to his constituents that he was the leader who represented the needs of the common people against the corrupt elites. Despite a strong positive

correlation between right-wing populism and anti-environmental policies is yet to be established, scholars have found that right-wing populists have led the consensus that preserving the environment is a mere inconvenience and an obstacle to economic development (Böhmelt, 2021). Naturally, Bolsonaro's policies towards the preservation of the environment were impractical and actually harmful to the already established environment policies in Brazil, the preservation of the Amazon, and even to the indigenous peoples who live on the reservations (Böhmelt, 2021; Motta & Hauber, 2023; Seifert et al., 2023; Toni & Chaves, 2022).

Bolsonaro's hostile stance toward the indigenous people was clear from the time when he was running for president. One of his rhetorics during the presidential campaign was to pursue anti-indigenous policies that threaten the survival of indigenous peoples focusing on hampering education, social welfare, and development, and reducing the designated indigenous lands (Neto & Moreira, 2023). One of the first actions that Bolsonaro took against the indigenous peoples was diminishing the authority and power from the Fundação Nacional do Índio (National Indian Foundation_FUNAI) and subsumed under the Instituto Nacional de Colonização (National Institute for Land Settlement and Agrarian Reforms_INCRA). Then he made sure that the INCRA was subordinate to the Ministry of Agriculture (Neto & Moreira, 2023). However, this was just the beginning of Bolsonaro's anti-indigenous policies. Bolsonaro's anti-indigenous policies expanded to environmental policies in the Amazon, leading to neglecting forest fires and other environmental

degradation, and large-scale agricultural and mining operations in the traditional territories (Gonzalez, 2023; Rapozo, 2021; Soares & Baines, 2021).

Following his anti-environmentalism, and climate skeptic policy agenda, Bolsonaro declared that he was not going to comply with the Paris Agreement and canceled the COP 25 Climate Conference in 2019 that was going to be held in Brazil (Gonzalez, 2023). Furthermore, he focused on commercializing the areas that needed environmental protection, allowed extensive use of pesticides, and removed barriers against mineral extraction in the indigenous people's reservations under the disguise of economic benefits and job creation during his presidency. As a result, the number of mining sites within indigenous people's areas increased by 495% between 2010 and 2020 which covers the majority of Bolsonaro's presidency (Seifert et al., 2023).

All of these issues align with Bolsonaro's anti-indigenous, racist stance and anti-environmentalist, anti-climate change stances that he has exhibited throughout his presidential campaign and during his presidency. These observations do not come as a surprise since we have established the right-wing populist characteristics and Bolsonaro's speeches, and his policies match the profile. The connection between his anti-environmentalism and how it affected the indigenous peoples can be explained in two clear examples. First, Bolsonaro can be classified as a threat to the Amazon Forest because of his lack of attention to forest fires that caused significant environmental degradation and deforestation (Gonzalez, 2023; Seifert et al., 2023). Since many of the traditional communities are located in the Amazon Forest, Bolsonaro's unwillingness to address the environmental degradation in the region is a direct threat to the

indigenous peoples (Toni & Chaves, 2022). Second, Bolsonaro eroded the integrity of traditional territories by pursuing government-led plans to open up indigenous lands to large-scale agricultural and mining operations, thereby commercializing these lands (Seifert et al., 2023; Soares & Baines, 2021).

On the Amazon forest fires and environmental degradation issue, reports have been released with information that during Bolsonaro's first year as the president in 2019, 77% more fires occurred in the Amazon Forest and deforestation in the Legal Amazon also increased 278% compared to the same period in 2018 (Gonzalez, 2023; Milhorance, 2022). Regardless of the clear evidence of increased forest fires and deforestation in the Amazon, Bolsonaro refuses to take responsibility for not having a clear agenda, not supporting environment-friendly policies, and even defunding and removing existing government offices that were dedicated to handling environmental issues in Brazil. Instead, he continues to consider environmental issues as the problems of elites and undermines the importance of nature conservation (Deutsch, 2021; Gonzalez, 2023; Toni & Chaves, 2022). This tendency of policy implementation, or lack thereof, is quite the opposite of what Bolsonaro has been saying in the UNGA annual meetings. Earlier this chapter, I introduced Bolsonaro's speeches at the UNGA annual meetings that are related to Brazil's environmental issues and summarized the key points. In those speeches, he always mentioned that he is fully committed to addressing the environmental degradation in Brazil, and he is willing to take charge of conserving the Amazon forest. However, when looking at his domestic policies on the same topic, he not only did not take the appropriate actions to

reverse issues such as deforestation, or increased number of wildfires in the Amazon forest. Bolsonaro's government also actively reduced funding and removed government offices that were dedicated to environmental problems.

Bolsonaro's hypocritical commitment to address environmental issues does not stop here. Neglecting the conservation of the Amazon and pursuing economic development led to the dismantling of the livelihood of the indigenous peoples (Rapozo, 2021; Soares & Baines, 2021). Scholars have argued that the Bolsonaro administration's focus on economic development and extreme right conservatism led to the exploitation of the Amazon Forest which resulted in an increased rate of deforestation, increased large-scale agricultural businesses, and even the indigenous people's human rights (Araújo, 2020; Rapozo, 2021; Soares & Baines, 2021). Once again, Bolsonaro exhibits right-wing populist characteristics by concerning Brazil's own economic development over conserving the environment which is prioritizing Brazil's sovereignty. Ignoring deforestation and the degradation of the Amazon, the home of the indigenous peoples exemplifies Bolsonaro's indifference towards these native inhabitants. This aligns with his racism and discrimination against the indigenous peoples as one of his right-wing populist characteristics that I discussed in the beginning of this chapter. Discussing the impact of deforestation and the indigenous peoples together is important. Not only the most of the indigenous peoples' territories are concentrated in the Amazon Forest, but also they are the population that is disproportionately impacted by the Bolsonaro administration's anti-environment, pro-economy policies. Rapozo (2021) depicted:

> "…in relation to all Brazilian indigenous territories, not only those in the Amazonian biome, the impact of fires increased by 87% in 2019, in comparison with those recorded in 2018. In the first years of Bolsonaro's administration, INPE, despite being institutionally fragilized by the administrative changes implemented after the release of data contrary to the official position of the president of the republic, reported, 16,680 fires in indigenous territories in comparison with 8,942 fires registered in 2018 (Rapozo, 2021:5)."

In addition, the government-led expansion of agri-business is one more factor that threatens the livelihood of the indigenous peoples. Historically, Brazilian political actors who have been part of agrarian elites since the Portuguese colonial period have been interested in expanding agri-business and mining. Recently, exacerbating already existing underlining economic interests, under Bolsonaro's administration, there has been an increased number of attempts to pass legislations that call for opening traditional territories to economic activities (Soares & Baines, 2021). While the indigenous peoples want to live their lives adopting sustainable and low-impact economic activities in their lands, the large-scale exploitation of minerals and cattle grazing are gradually becoming more possible when the government passes legislations that allow these kinds of economic activities. This violates the native peoples' exclusive rights to use natural resources in their territories and leaves these indigenous people up for unwanted exhaustion of their resources as well as intrusion of their lands (Soares & Baines, 2021). Indirectly, but surely it aligns with Bolsonaro's right-wing populist traits of racism against the indigenous peoples. Even though the government-led expansion of agri-business has been an ongoing issue in Brazil even

before Bolsonaro, the rate and the scope of exploitation of the indigenous territories in the Amazon accelerated (Soares & Baines, 2021).

This is another important aspect to point out in comparison to Bolsonaro's speeches. Since I noticed that there were too many conditions that Bolsonaro suggested instead of complying with international environmental agreements, it was necessary to delve deeper into Brazilian domestic environmental policies under Bolsonaro's administration. Analysis of domestic policies more clearly revealed Bolsonaro's right-wing populist characteristics. While Bolsonaro made it seem like he was fully supportive of the preservation of the Amazon as long as Brazil was the main actor leading the preservation policy, he did not mention much about his agendas for economic development. Recognizing his policies towards the traditional territories, Bolsonaro allowed more legislation for pursuing economic interests in the indigenous peoples' territories, and expanding large-scale agribusinesses and mining activities. His "us vs. them" mentality as a right-wing populist is exhibited as discrimination against the indigenous peoples. It is clear that Bolsonaro cares less about the indigenous people and their lands, but he is more interested in expanding the economy and seeking possible places to use for development. This also shows Bolsonaro's right-wing populist trait which prioritizes national interests and sovereignty over everything else. Expanding the economy of a country is not always a bad policy. However, when the preservation of the territories and the lives of the people who live there is necessary, and remedying exacerbated deforestation and increased number of

forest fires, expanding the economy can be an inconsiderate and selfish policy agenda for Bolsonaro.

After analyzing Bolsonaro's speeches at the UNGA earlier in this chapter and analyzing various aspects of domestic environmental policies during Bolsonaro's administration, we learned that Bolsonaro emphasizes a lot on prioritizing Brazilian national sovereignty, saying things such as Brazil needs to be the leader of the Amazon environmental conservation. This finding aligns with my expectations for right-wing populist president, Bolsonaro, as one of right-wing populists' characteristics is prioritizing sovereignty reinforcing status and policies. I note that Bolsonaro is aware of the environmental issues that Brazil faces as he mentioned in his UNGA speeches. This contrasts with other right-wing populists such as Donald Trump who tends to be a climate denialist (Gelles, 2025). Additionally, focusing on Brazilian domestic policies under Bolsonaro's administration, I determined that: 1. Even though he is aware of the environmental issues, he is not really looking to remedy these. Instead, he removed government offices that were dedicated to addressing environmental issues, consolidated them under the Department of Agriculture, and reduced the number of workers; 2. Bolsonaro still does not prioritize addressing deforestation, forest fires, and the conservation of the Amazon. But he is more interested in expanding the economy even if it means disrupting the lives of the indigenous peoples and their lands. In sum, I conclude that Bolsonaro's speeches at the UNGA meetings are not the correct representation of his domestic environmental policy. As a right-wing populist president, Bolsonaro neglects environmental

degradation, considers it as the politics of the elites, and is advocating economic expansion at the cost of the indigenous peoples.

4.4 Discussion and Conclusion

Analyzing the speeches of Donald Trump, the President of the United States (2017-2021), and Jair Bolsonaro (2019-2023), the President of Brazil, provided an opportunity to unpack the domestic environmental policies pursued by these two presidents during their tenures. As I discussed at the beginning of the chapter, both Trump and Bolsonaro were classified as right-wing populists for their isolationistic, nationalistic, and anti-environmental policy preferences. Analyzing the domestic policies of the US under President Trump's first term, and the domestic policies of Brazilian President Bolsonaro, it is clear that both of them were consistent with pursuing isolationistic and anti-environmental policies. Reviewing the domestic policy preferences of Trump and Bolsonaro clarified some of the vague expressions I found in the speeches. For example, Trump once said that he is a big believer of the word, "environment", but did not elaborate on what he meant. But his pro-fossil fuel friendly, and climate skeptic domestic policies clearly showed that Trump prioritizes the economic advancement of America and produces jobs for the American people as he mentioned in a few quotes. Similarly, Bolsonaro said that he recognizes the environmental issues in Brazil which made him seem like he is aware of the issue and not an environmental skeptic. However, his domestic environmental policies do not follow up with his promises. His aggressive expansionistic policies in the Amazon prioritize economic development for mineral extractions for Brazil's maximum

economic gain rather than conserving the environment in the Amazon and the livelihood of the indigenous peoples in the region. Both Trump and Bolsonaro have pursued isolationistic, sovereignty-reinforced, policies that maximize economic benefit for their own countries. These policy preferences and choices align with right-wing populists' tendencies.

In contrast to the similarities in the right-wing populist characteristics that both Trump and Bolsonaro had, they also exhibited their country-specific, but still consistent, right-wing populist tendencies through their domestic environmental policies. I found evidence of Trump labeling environmental policies and climate change as the "elite" politics that diminish the importance of the general will. In his quotes, Trump often emphasized he would prioritize defending American sovereignty and American jobs. This shows Trump's reluctance toward global cooperation in addressing environmental degradation. By prioritizing American sovereignty and jobs, Trump appeals to the common people whose priorities are securing jobs and living daily lives. For this, Trump uses the "us vs. them" mentality that right-wing populists use to appeal to their constituents convincing them that they are the ones who can truly represent the general will of the people. Bolsonaro, on the other hand, focused on racial discrimination, anti-indigenous peoples, and restructuring the government. Since the beginning of his campaign, Bolsonaro was known for his misogynistic and vulgar language against the indigenous peoples. Combined with his Brazil-first, isolationistic environmental policies that prevented Bolsonaro from fully cooperating with international climate change efforts, he pursued the expansion of mineral extraction in

the Amazon rainforest which would worsen deforestation and disrupt the living of the indigenous peoples. This is a clear example that depicts Bolsonaro cares little about the conservation of the Amazon for the environment and for protecting the livelihood of the indigenous peoples. Rather, Bolsonaro was eager to search for ways that would be beneficial for Brazil's economic development.

In conclusion, this chapter presents qualitative case studies of the United States and Brazil. By analyzing both Trump's and Bolsonaro's UNGA speeches and their domestic environmental policies, I found some similarities and differences between the two countries. Both Trump and Bolsonaro used isolationistic, and nationalistic domestic policies that prioritized the benefits of their own countries over global environmental cooperation. Specifically in the US, Trump emphasized the "us vs. them" mentality to label environmental issues are politicized for the "elite" only. In Brazil, Bolsonaro pursued racial discrimination and anti-indigenous people policies to expand mineral extractions from the Amazon rainforest. This shows Bolsonaro considers the indigenous peoples as "the others" and the people from the outgroup that he does not need to protect. This domestic policy ultimately stemmed from the sovereignty-reinforced policy preferences since Bolsonaro wanted to maximize the economic benefits of mineral extraction rather than the environmental conservation of the Amazon. In sum, both Trump and Bolsonaro exhibited right-wing populist characteristics: isolationism, nationalism, "us vs. them", and anti-"the others" mentalities through their speeches and domestic environmental policies during their presidencies.

The findings from analyzing Trump's first term, and Bolsonaro's environmental policies show that Trump and Bolsonaro both have pursued environmental policies that are representative of right-wing populists. As I theorized based on populism literature, both Trump and Bolsonaro prioritized sovereignty-reinforcing stances rather than choosing international cooperation. In Trump's case, he focused on increasing job opportunities for Americans, and protecting American sovereignty and workers. Trump also emphasized nationalism and nativism through American isolationism. For example, instead of cooperating with international climate change cooperation efforts in America by promoting renewable energy sources, Trump prioritized building energy independence by continuing to use fossil fuels that are generated within the United States. Similarly, Bolsonaro's environmental policies he pursued during his presidency highlighted his anti-elitist sentiments, and "us vs. them" mentality. For example, Bolsonaro declared that he would cooperate with the Amazon preservation only if Brazil could lead the effort. He also wanted to maximize economic benefits for Brazil by extracting resources even if it meant destroying the indigenous people's habitats. The policy analyses in this chapter holds the expectations that I drew from theory: right-wing populists tend to prioritize sovereignty-reinforcing status, and undermine the importance of international climate change cooperation.

The next chapter illustrates the effect of right-wing populist's tenure on individual countries' environmental policy outcomes. The analysis will include the amount of CO_2 emissions and annual renewable energy consumption as a percentage

of total energy consumption between 2009 and 2023. I expect to see a stagnation or an increase in CO_2 emissions under right-wing populist leaders. I also expect to see a decrease in renewable energy consumption under right-wing populist leaders. I will use lagged measures of CO_2 and renewable energy consumption to capture the changes in environmental policies during right-wing populists' tenure. The analysis will use a time series cross-sectional approach. This chapter will allow me to illustrate concretely the effects of right-wing populists' presence by analyzing quantitatively measurable indicators that are closely related to environmental policies.

Chapter 5

TIME SERIES CROSS-SECTIONAL ANALYSIS

Chapter 5.1 Introduction

In Chapter 3, I quantitatively analyzed the speeches made by high-level country representatives at the UNFCCC's annual Conference of the Parties (COPs) meetings from 2010 to 2019 using a Structural Topic Model (STM). The purpose of that quantitative text analysis of the aforementioned COP speeches was to test the effects of right-wing populism on the discussion topics emphasized by national governments at the UNFCCC COPs. The results show that an increase in a country's degree of right-wing populist leadership resulted in increased stances toward sovereignty-reinforcing international environmental policies. On the other hand, as right-wing populism increased, stances towards global public goods and international cooperation decreased under that same STM analysis. Together, these results align with the broader theoretical expectations of this dissertation: right-wing populism promotes sovereignty-reinforcing stances in environmental policymaking rather than promoting international cooperation. In Chapter 4, I discussed the domestic environmental policies of the United States and Brazil and their populist leaders' associated speeches. The purpose of this chapter was to qualitatively analyze documents and the right-wing populists' remarks on domestic environmental policies to better understand the underpinnings of right-wing populism in regards to

environmental policy, and by extension, international climate change policy. The qualitative case studies illustrated well that both Trump, as a right-wing populist president of the United States from 2017 to 2021, and Bolsonaro, as a right-wing populist president of Brazil from 2019 to 2022, expanded their anti-environment policy preferences. Both Trump and Bolsonaro were likewise reluctant to cooperate with international climate agreements, arguing that cooperation interferes with their country's sovereignty. They also consider environmental issues to be political topics of "the elites" that do not represent the general will of the people. These two cases of the United States under Trump, and Brazil under Bolsonaro, together depicted right-wing populist country leaders' characteristics and policy preferences. The results of Chapter 4 accordingly align with those of Chapter 3: right-wing populists tend to favor stances on sovereignty-reinforcing policies and to distance themselves from global public goods and international cooperation.

This present chapter analyses the effects of right-wing populism on variation in levels of annual CO_2 emissions and renewable energy consumption within countries over time and, secondarily, between countries. These two outcome measures (i.e., CO_2 emissions and renewable energy consumption) allow me to test my expectations concerning populism and climate change policy in distinct and countervailing manners. While the prior two chapters show clear evidence of an association between right-wing populism and environmental policy stances and preferences, they do not show whether and how right-wing populism is tied to the actual policy outcomes arising from such policy preferences. To this end, chapter 3 shows that populism is

linked to international climate change stances but doesn't establish the role of the populist leader directly. Chapter 4 establishes clearer linkages between populist leaders and their international and domestic environmental policies. But, like Chapter 3, it doesn't fully capture policy outcomes. By using two distinct quantitatively measurable indicators, this present chapter provides insight into how right-wing populism and their policy preferences are translated into policy outcomes. Based on right-wing populists' predicted stances towards international and domestic environmental policy, including climate change policy, I specifically expect to see increased CO_2 emissions under right-wing populist leaders when compared to other (prior) leaders. I then expect to see decreased levels of renewable energy consumption under the same conditions, given that renewable energy consumption represents an opposing policy outcome to that of increased CO_2 emissions in regards to countries' efforts to mitigate climate change.

The logic for my choice of these two specific outcome measures is as follows. First, it is important to recognize that global growth in carbon dioxide emissions from fossil fuels outpaced global growth in GDP in 2010 at an unprecedented 5.6% per year (EPA, n.d.). In 2009, consumption-based emissions from developing countries surpassed those of developed countries (EPA, n.d.). While ongoing global climate change is highly correlated with global greenhouse gas (GHG) emissions, I focus on analyzing changes in carbon dioxide emissions, as CO_2 accounts for the largest portion of GHGs. Combining carbon dioxide emissions from fossil fuel and industrial processes and carbon dioxide from forestry and other land use, CO_2 emission makes

up to 76 percent of global greenhouse gases (EPA, n.d.). Measuring the level of CO_2 also has significance because carbon emissions from cities also represent the single largest human contribution to climate change (EPA, n.d.).

The measurement of renewable energy consumption also reflects countries' efforts toward mitigating climate change and their progressive stances towards domestic and environmental policies. The global efforts to increase renewable energy consumption is a part of the Sustainable Development Goals (SDGs). Since the SDGs were developed and presented at the United Nations, cooperating with UN-led policies would be considered as "elite" politics by right-wing populists. As I have established before in previous chapters, being anti-elitist is one of the right-wing populist tendencies. Regarding renewable energy consumption, without exception, right-wing populist politicians have exhibited anti-elitist stances along with other environmental and political issues (Valquaresma et al., 2024). This proposition is supported by previous studies that show the presence of right-wing populist parties in the OECD countries has a negative impact on climate and renewable energy policies (B. Lockwood & Lockwood, 2022). Based on existing studies, at least in the European context, right-wing populist political parties and politicians are against the ambitions of environmental policies—including those ranging from general EU energy and climate policy to specific issues such as the construction of wind turbines in Germany (Huber, Maltby, et al., 2021; Otteni & Weisskircher, 2022).

In addition, as I presented in Chapter 3, while my earlier quantitative (text) analysis focused on country leaders' speeches at the UNFCCC's COPs, I recognize

that this rhetoric may not match reality with regard to actual policy outcomes. This is critically important for global climate change cooperation as countries try to put ambitions and commitment to actionable plans. The illustrative qualitative case studies in Chapter 4 highlighted domestic environmental policy trends in the United States and Brazil under Trump's first term and Bolsonaro's presidency. Both of these presidents are established as right-wing populists by external coding efforts highlighted previously. In Chapter 4, I found that both Trump and Bolsonaro were reluctant to fully commit to global cooperation to combat climate change. They always emphasized domestic benefits and sovereignty first over international cooperation. Therefore, the US and Brazil have fallen short of global ambition to implement more sustainable environmental policies. To support my qualitative findings on domestic environmental policies in the United States and Brazil, I investigate the effects of right-wing populists on environmental policies. In this chapter, I quantitatively evaluate my H_2 and H_3 expectations vis-à-vis changes in countries' CO_2 emissions and changes in renewable energy consumption in order to evaluate more concretely observable policy outcome measures. These hypotheses are:

> H2: Countries with more populist governments will exhibit increased levels of annual CO_2 emissions relative to comparable countries and/or previous periods of non-populist rule.

H3: Countries with more populist governments will exhibit decreased levels of annual renewable energy consumption relative to comparable countries and/or previous periods of non-populist rule.

5.2 Time Series Cross-Sectional Analysis

To test these hypotheses, I employ time series cross-sectional analysis below. Time series cross-sectional analysis is used to analyze changes over time in different units of observation (Beck et al., 1998; Beck & Katz, 2011; Rovny, 2020). Previous studies that have used time series cross-sectional analysis intersect with a variety of topics within the social sciences. One illustrative study investigates the evidence of EU members, both NATO allies and non-NATO members, freeriding on the United States' commitment in defense and security from 1993 to 2017. In this case, the study examines different types of evidence that indicate freeriding by EU members over time. The temporal units are 24 years from 1993 to 2017, and the cross-sectional units are the members of the European Union (Kuokštytė et al., 2021). Another comparable study uses time series cross-sectional analysis to analyze if globalization is negatively affecting governments' fiscal commitments to social security, health, and education within Latin American countries between 1973 and 1997. In this case, the study examines indicators that show government commitments to domestic welfare. The temporal units are 24 years from 1973 to 1997. The cross-sectional units are the Latin American countries (Kaufman & Segura-Ubiergo, 2001). In a different study, Markus investigates how personal and national economic conditions influence people's choice on presidential votes from 1956 to 1984. In this case, the study examines economic

conditions that influence individuals' presidential vote choices. The temporal units encompass 28 years from 1956 to 1984. The cross-sectional units correspond to individuals who took the National Election Studies survey that was used in this study (Markus, 1988). Previous studies show that time series cross-sectional analysis is used to analyze changes in more than one unit over a certain time period. Drawing upon this established framework, I accordingly implement time series cross-sectional analysis in this chapter to determine the causes of changes in CO_2 emissions and renewable energy consumption over time from 2009 to 2023.

In this particular dissertation analysis, my time window of analysis is accordingly 14 years, from 2009 to 2023. This time frame covers the right-wing populist leaders' presidencies of the United States and Brazil that I used for my qualitative case studies (Trump's first term from 2017-2021, and Bolsonaro's term from 2019-2023), and a few years before that. This time frame allows me to analyze the levels of CO_2 emissions and the levels of annual renewable energy consumption before the right-wing populists' presidencies and years before and after that. The cross-sectional units are individual countries that have records of CO_2 emissions or the level of annual renewable energy consumption. In this analysis, I also incorporate standard adjustments in my models for handling time series cross-sectional data which I will provide details on further below.

For the time series cross-sectional analysis that I use to test hypotheses 2-3, as mentioned above the first dependent variable (pertaining to H2) is annual CO_2 emissions. In order to measure this variable, I use the World Bank's annual CO_2

emissions at the country-year level. This data is measured as metric tons per capita from 1990 to 2020 and I use logged values of data in the analyses (The World Bank, n.d.-a). The second dependent variable (pertaining to H3) is annual levels of renewable energy consumption. To measure this variable, I use the World Bank's annual renewable energy consumption at the country-year level. This data is measured as a percentage of final energy consumption from 1990 to 2020 (The World Bank, n.d.b). As discussed further below, my primary models then also include country fixed effects which allow me to primarily focus on the variation in each of these variables within countries over time within my analyses.

5.3 Independent Variables

My primary independent variable is a country's level of populism within its national government in a particular year. For this, I am using Populist Leaders and Economy (PLE) dataset (Funke, 2021). In this dataset, the existence of right-wing populist leaders in a particular country-year is indicated by a 1. Country-years that do not have populist leaders are coded as 0. For the purpose of this dissertation, I consider only the existence of the right-wing populism. I accordingly use a modified binary populism variable equal to 1 for right-wing populist countries, and equal to zero otherwise. I lag this measure by one year within all analyses to account for the fact that the effect(s) of populism on policy outcome such as CO_2 emissions or renewable energy consumption is likely to be at least somewhat delayed due to the length of time it takes for certain policies to have an observable effect on energy usage. Note that with the fixed effects mentioned above, I am effectively looking at the effect of (0-1)

changes in a prior year's populism level within countries over time within my main models, though I relax this assumption for several robustness models.

In my final dataset, I ultimately have 2,726 total datapoints that were classified as either 1 (right-wing populist), or 0 (non-right wing populist) on my final populism measure. Figure 5. shows that the number of right-wing populist leaders as indicated as the variable, *PLE_populism*, continues to increase from 2009 until about 2018 and it starts to decrease from 2019 onward. I note that despite the populist leaders I analyze as case studies in this dissertation were serving as presidents beyond 2019, but the variable shows the aggregated number of right-wing populist leaders in the world between 2009 and 2022. Therefore, the decreased number of right-wing populist leaders after 2019 does not affect the analysis of this dissertation. Since *PLE_populism* is a binary variable, the minimum is 0, the maximum is 1, and the standard deviation of 0.187.

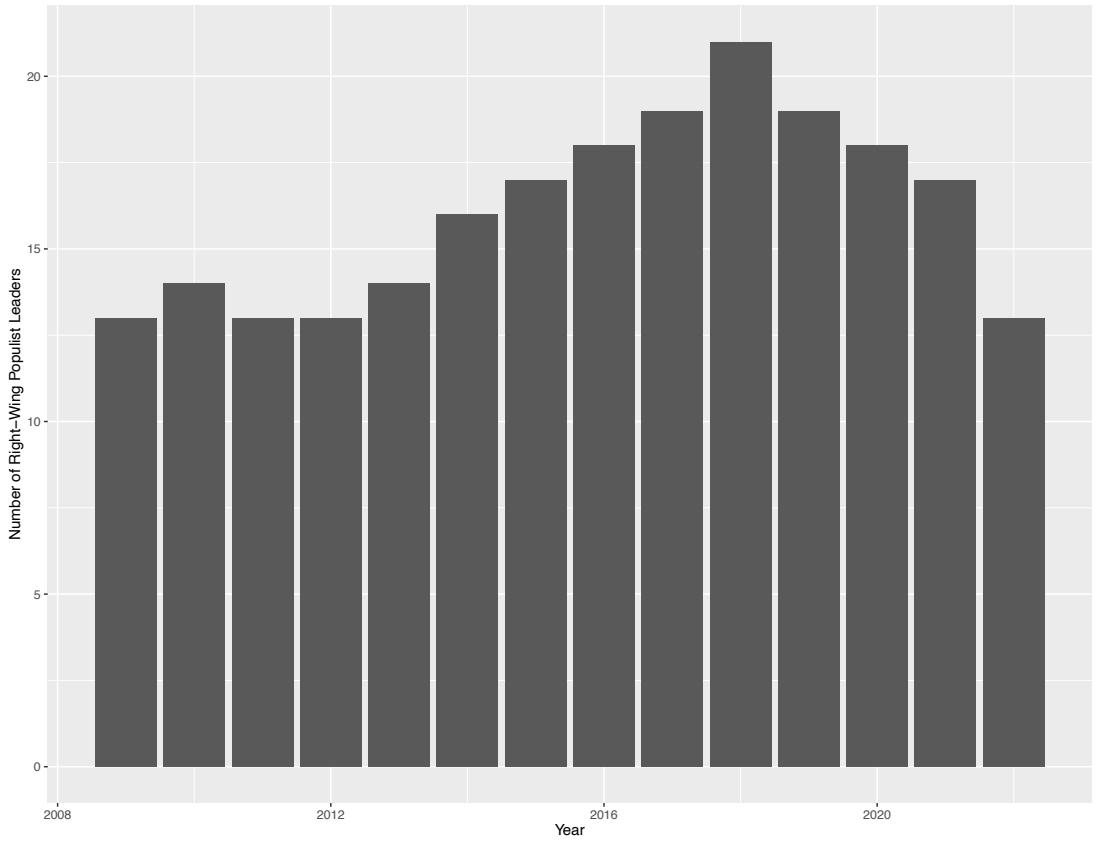

Figure 5. Distribution of Number of Right-Wing Populist Leaders Over Time (2009-2022)

5.4 Dependent Variables

The two dependent variables used in the analyses in this chapter, described further above, are specifically named *LOG_wdi_co2,* which measures a country's logged annual CO_2 emissions, and *wdi_enerenew,* which measures a country's annual renewable energy consumption as a percentage of total final energy consumption, hereafter. Both are continuous (ratio-level) variables, though note that *wdi_enerenew* is bounded between 0 and 100 as it is a percentage.

Excluding missing values, *LOG_wdi_co2* has a total number of 2,290 data points with a mean of 1.3, a minimum of 0.02, a maximum of 3.7, and a standard deviation of 0.8. Figure 6. presents a kernel density plot of annual CO_2 emissions over time from 2009 to 2020. It shows the distribution of the variable overall, where there are more observations towards the lower end of annual CO_2 emissions, and a smaller set of observations (country years) towards the higher end of CO_2 emissions. This variable is heavily right-skewed, which is what led me to log the variable. As one can see in Figure 6., the variable remains moderately right-skewed even after logging.

Excluding missing values, *wdi_enerenew* has a total number of 2,342 data points with a mean of 32.3, a minimum of 0, a maximum of 97, and a standard deviation of 28.9. Figure 7. presents a kernel density plot of annual renewable energy consumption from 2009 to 2020. It shows the distribution of renewable energy consumption variable which is relatively right-skewed. Put differently, there are more observations (country-years) showing lower values on the variable, and a relatively smaller number of observations (country-years) showing high values on *wdi_enerenew*.

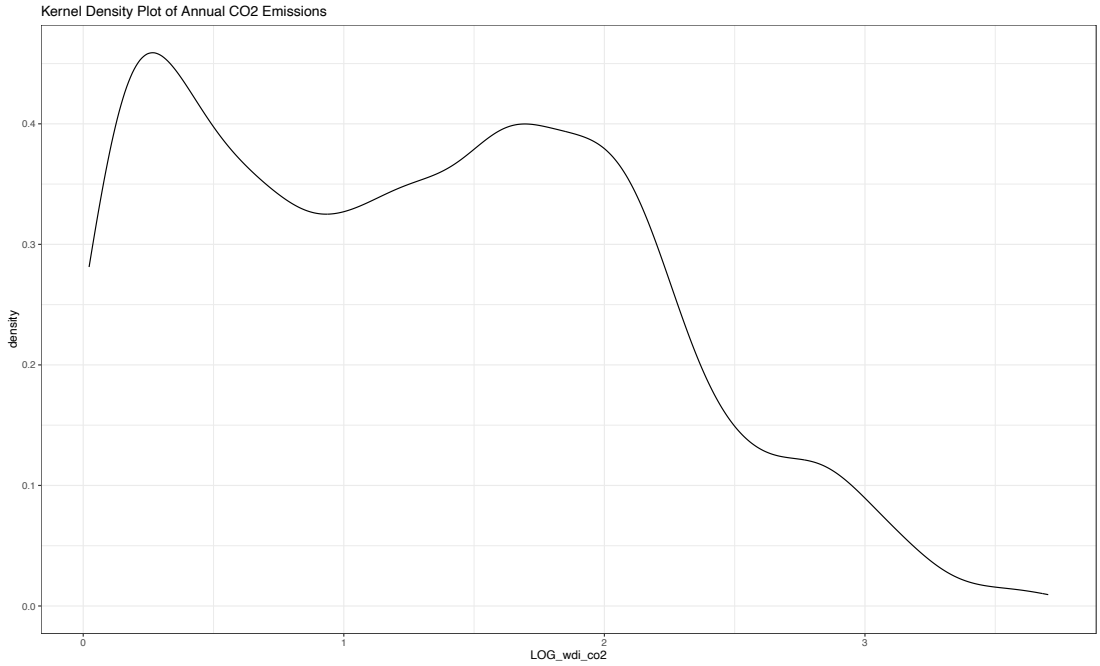

Figure 6. Kernel Density Plot of Logged Annual CO_2 Emissions, 2009-2020

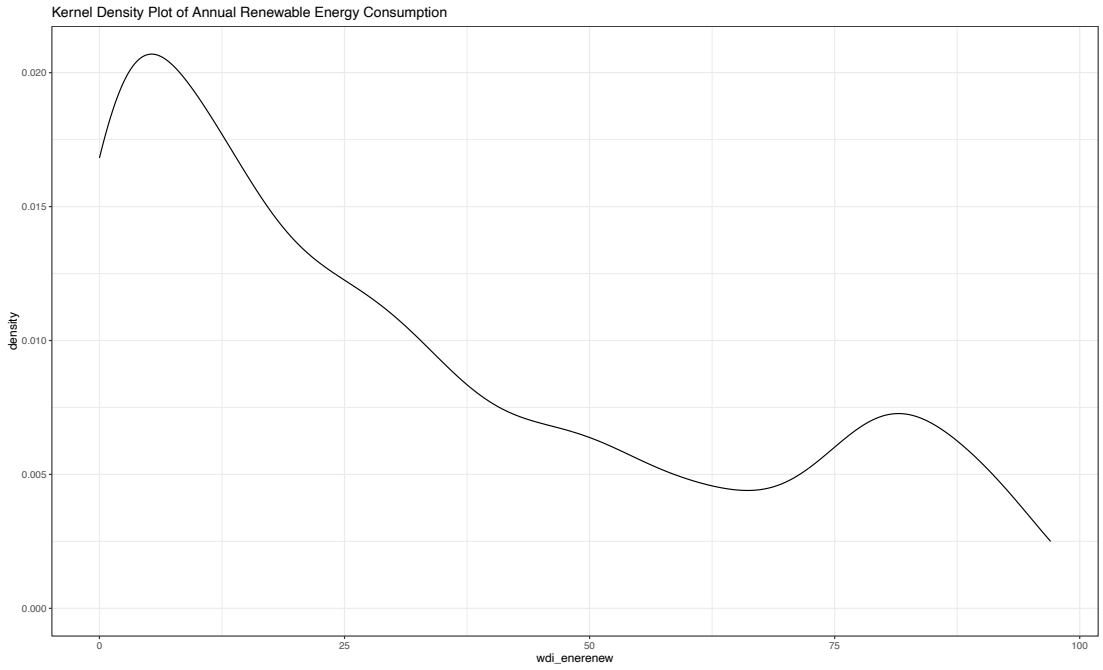

Figure 7. Kernel Density Plot of Annual Renewable Energy Consumption, 2009-2020

In my statistical models, I account for a variety of possible confounds under my time series cross-sectional design. For these control variables, I use a lagged electoral democracy measure from V-Dem dataset (*lagvdem_polyarchy)*(Coppedge et al., 2022) to isolate the effect of right-wing populism on the model in a manner that controls for the effect of democratic-versus-authoritarian governments. I control for the lagged fossil fuel energy consumption (% of total) from the World Bank (*lagwdi_fossi*) (World Bank, 2023) to isolate the effects of annual CO_2 emissions and annual renewable energy consumption in relation to potentially differing levels of fossil fuel dependency (a key correlate of CO_2 emissions and renewable consumption) across right-wing populist and non-populist regimes. I also control for forest area (measured as % of land area) from the World Bank (*lagwdi_forest*) (World Bank, 2023) to isolate the effect of annual CO_2 emissions and control for the potential that forest cover may both be related to countries' policy decisions with respect to energy usage and levels populism. Finally, I control for a standard set of economic confounds such as the lagged log of GDP per capita (constant 2015 US$) from the World Bank (*laglog_wdi_gdpcapcon2015*) (World Bank, 2023), lagged GDP growth (annual %) from the World Bank (*lagwdi_gdpgr*)(World Bank, 2023), and the lagged log of population (*laglog_wdi_pop*) (World Bank, 2023).

Table 1 in the appendix shows the summary statistics of all the variables used in the analyses in this chapter including the independent variable (*lagPLE_populism*), the two dependent variables, (*LOG_wdi_co2,* and *wdi_enerenew*) and other control variables that are described above or below. From this table, I note that most variables

have fairly comparable numbers of observations except for *lagwdi_fossi*, which exhibits relatively more missing values. Most variables are continuous variables except *lagPLE_populism* (my primary independent variable), which as noted previously is a binary variable that indicates the existence of a right-wing populist leader. Lastly, relating each variable's mean to its standard deviation, most variables have comparable levels of standard deviations except *wdi_enerenew* and *lagwdi_fossi*, which have larger levels of standard deviation. This indicates that *wdi_enerenew* and *lagwdi_fossi* variables have higher variability and potentially higher skewness.

For the estimation model, as alluded to above, I employ time series cross-sectional analysis using ordinary least squares linear regression owing to the fact that both of my dependent variables are continuous. In keeping with past research (Bernauer & Böhmelt, 2013; Lujala et al., 2021, 2022), I use robust standard errors clustered on country within all models reported below to account for potential heteroskedasticity concerns. Given the repeated country-over-time structure of my data, these models furthermore employ country fixed effects. As such, I am effectively assessing how changes in countries' populism scores over time affect changes in those same countries' emissions and renewable energy consumption over time within my primary analyses. For each dependent variable and corresponding country fixed-effects model, I present a series of three (small, medium, and large) models that include an increasing number of control variables based upon relevancy. In the small model, I included *lagvdem_polyarchy, lagwdi_fossi, laglog_wdi_gdpcapcon2015*, in addition to my independent variable. In the medium model, I included

lagvdem_polyarchy, lagwdi_fossi, laglog_wdi_gdpcapcon2015, lagwdi_gdpgr, laglog_wdi_pop, lag_wdi_forest, in addition to my independent variable. In the large model, I included *lagvdem_polyarchy, lagwdi_fossi, laglog_wdi_gdpcapcon2015, lagwdi_gdpgr, laglog_wdi_pop, lag_wdi_forest,* and year fixed effects in addition to my independent variable. Altogether, the goal of this analysis is to therefore assess whether over-time variations in countries' populism scores affect the level of amount of annual change in CO_2 emission (i.e., H2) and the amount of renewable energy consumption (i.e., H3).

5.5 Results

VARIABLES	(1) Effects of Right-Wing Populism on Annual CO_2 Emissions_Small	(2) Effects of Right-Wing Populism on Annual CO_2 Emissions_Medium	(3) Effects of Right-Wing Populism on Annual CO_2 Emissions_Large
lagple_populism	0.00374	0.000169	0.00964
	(0.0221)	(0.0199)	(0.0144)
lagvdem_polyarchy	0.136*	0.146**	0.161**
	(0.0725)	(0.0698)	(0.0755)
lagwdi_fossi	0.00843***	0.00795***	0.00617***
	(0.00170)	(0.00164)	(0.00151)
laglog_wdi_gdpcapcon2015	0.171**	0.208***	0.350***
	(0.0737)	(0.0778)	(0.104)
lagwdi_gdpgr		-0.000453	-0.000653*
		(0.000372)	(0.000380)
laglog_wdi_pop		-0.213**	0.107
		(0.0986)	(0.128)
lag_wdi_forest		-0.0184***	-0.0143***
		(0.00585)	(0.00490)
Constant	-0.677	3.098*	-3.487
	(0.650)	(1.609)	(2.734)

Observations	815	815	815
Number of countries	134	134	134
R-squared	0.195	0.221	0.289

Robust standard errors clustered on countries; country-fixed effects included in all models

*** p<0.01, ** p<0.05, * p<0.1

Table 1. Effects of Right-Wing Populism on Annual CO_2 Emissions[5]

Year fixed effects are included in the large model specification

Table 1 shows the estimated effects of right-wing populism on annual CO_2 emissions in my small, medium, and large models, when accounting for each model's associated control variables. Looking across these three country fixed effects models, we can conclude that the presence of right-wing populist leaders within a country does not have a significant effect on changes in the levels of that country's CO_2 emissions in the subsequent year, as measured in metric tons per capita. That is, even though the coefficient estimates for *lagple_populism* are consistently positive in Table 1, which aligns with my expectations, these estimated effects are not sufficiently reliable to conclude that they are statistically distinguishable from zero. As such, Hypothesis 2, which posits that countries with more populist governments will exhibit increased or constant levels of annual CO_2 emissions relative to comparable countries and/or previous periods of non-populist rule, is not supported.

[5] All models include country fixed effects and the large model also includes year fixed effects.

Looking across all three models in Table 1, I also obtain several notable control variable findings. To this end, I find that an increase in electoral democracy is associated with an increase in a country's subsequent CO_2 emissions at the $p<0.05$ level for the medium and large models, and at the $p<0.1$ level for the small model. Even though this finding seems to show unexpected results, as we expect democracy would be associated with lower CO_2 emissions, it is not always true according to previous studies. Although democracies promote better environmental policies than non-democracies, there is weak evidence that shows that democracy can lower CO_2 emissions (Lindvall & Karlsson, 2024). In a similar vein, scholars have found that democracy is only associated with lowered CO_2 emissions only in low-corruption contexts. If there is high corruption, democracies are not better than non-democracies in lowering CO_2 emissions (Povitkina, 2018). This supports what I found from the models I estimated because in the presence of increasing right-wing populism, the corruption rate is expected to rise, and it would not produce a result that democracies are associated with lowered CO_2 emissions. Furthermore, an increase in fossil fuel usage is associated with an increase in a country's CO_2 emissions at the $p<0.01$ level. This finding aligns with previous research in different countries' contexts, including Ghana, Indonesia, Iran, and others that increased fossil fuel consumption is associated with increased CO_2 emissions (Abokyi et al., 2019; Bimanatya & Widodo, 2018; Lotfalipour et al., 2010). In addition, Forest area (measured as % of land area) is also significantly associated with a decrease in CO_2 emissions in the medium and the large models at the $p<0.01$ level. This makes sense because deforestation is known as one of

the causes of unregulated CO_2 emissions into the atmosphere, and CO_2 emissions also cause forest degradation in some contexts (Assis et al., 2020; Van Der Werf et al., 2009; Weissert et al., 2014). Finally, an increase in GDP per capita is associated with an increase in CO_2 emissions at the $p<0.01$ level in the large and the medium models, and at the $p<0.05$ level in the small model. However, GDP growth is only significantly associated with a decrease in CO_2 emissions in the large model at the $p<0.1$ level, and population is only significantly associated with a decrease in CO_2 emissions in the medium model at the $p<0.05$ level. Therefore, we cannot definitively say whether these variables are significantly associated with an increase or decrease in CO_2 emissions within countries over time.

VARIABLES	(1) Effects of Right-Wing Populism on Annual Renewable Energy_Small	(2) Effects of Right-Wing Populism on Annual Renewable Energy_Medium	(3) Effects of Right-Wing Populism on Annual Renewable Energy_Large
lagple_populism	-0.905*	-0.814*	-0.929**
	(0.506)	(0.445)	(0.414)
lagvdem_polyarchy	-1.105	-1.125	-1.641
	(2.186)	(2.041)	(2.123)
lagwdi_fossi	-0.372***	-0.344***	-0.312***
	(0.0551)	(0.0532)	(0.0538)
laglog_wdi_gdpcapcon2015	-3.210**	-2.531	-5.182**
	(1.600)	(1.641)	(2.072)
lagwdi_gdpgr		0.0179	0.0255*
		(0.0132)	(0.0144)
laglog_w		-2.302	-7.564*

di_pop		(2.999)	(4.261)
lag_wdi_forest		0.887***	0.816***
		(0.319)	(0.298)
Constant	83.44***	85.88	196.9**
	(14.80)	(52.01)	(78.89)
Observations	815	815	815
Number of countries	134	134	134
R-squared	0.228	0.270	0.296

Robust standard errors clustered on countries; Country-fixed effects included in all models

*** p<0.01, ** p<0.05, * p<0.1

Table 2. Effects of Right-Wing Populism on Annual Renewable Energy Consumption[6]

Year fixed effects are included in the large model specification

Table 2 evaluates the within-country over-time effects of right-wing populism on annual renewable energy consumption as a percentage of total final energy consumption, again based upon a series of expanding control variables appearing across my small, medium, and large models. Based upon these models, I can conclude that the presence of a right-wing populist has a significant negative effect on a country's renewable energy consumption levels in the subsequent year. In the small model, a 0-to-1 increase in populism is associated with a 0.372 percent decrease in annual renewable energy consumption as a share of energy consumption in the subsequent year for a given country. This effect is statistically significant at the p<0.1

[6] All models include country fixed effects and the large model also includes year fixed effects.

level. In the medium model, a 0-to-1 change in a country's populism score is associated with an 0.814 percent decrease in total final energy consumption in a country's subsequent year—an effect that is significant at the $p<0.1$ level. In the large model, when one shifts a country's populism score from 0 to 1 in the prior year, the annual renewable energy consumption observed in that country decreases by 0.929 percent of total final energy consumption in the subsequent year—an effect that is significant at the $p<0.05$ level. In all three models, an increase in right-wing populism accordingly has a small but statistically significant negative effect on annual renewable energy consumption. Therefore, I can conclude that there is evidence to suggest that the presence of right-wing populists may have a negative effect on global annual renewable energy consumption as a percentage of total final energy consumption. In other words, the presence of right-wing populism is associated with less usage of renewable energy in a year. As such, Hypothesis 3, which posits that countries with more populist governments will exhibit decreased levels of annual renewable energy consumption relative to comparable countries and/or previous periods of non-populist rule, is supported.

Looking across all three models in Table 2, I also obtain a number of notable control variable findings. To this end, I find that a decrease in fossil fuel consumption is associated with a subsequent increase in renewable energy consumption as a percentage of total energy consumption at the $p<0.01$ level. Previous research has shown that countries that pursue rigorous environmental policies generally try to promote renewable energy and phase out the use of fossil fuels (Abdmouleh et al.,

2015; Kilinc-Ata, 2016; Lindvall & Karlsson, 2024; Martins et al., 2018; Schaffer & Bernauer, 2014). Naturally, an increase in fossil fuels would mean these countries use less renewable energy consumptions. Therefore, this finding that shows an increase in the use of fossil fuel is associated with a decrease in renewable energy consumptions, aligns with the findings of previous research. Similar to what I found for the relationship between CO_2 emissions and the area of forest, I also find that an increase in forest area is associated with an increase in renewable energy usage at the $p<0.01$ level for the medium and large models. An increase in GDP per capita is associated with a decrease in renewable energy usage in small and large models at the $p<0.05$ level, but it is not significant for the medium model. Similarly, an increase in population is associated with a decrease in renewable energy usage at the $p<0.1$ level only in the large model. For the small model, the population variable is not included, and for the medium model, the effect is not significant.

5.6. Robustness Tests

To assess the robustness of the country fixed effects models and findings presented above, I conducted three different robustness assessments of the effect of (lagged) right-wing populism on annual CO_2 emissions, and then separately of the effect of (lagged) right-wing populism on renewable energy consumption. In each case, I followed the same staggered (small, medium, and large) control variable approach presented above, while retaining similar modeling decisions to those used in my primary models.

In the first robustness check (Table A2 and A3), I replaced my country fixed effects approach with that of country random effects to assess whether my findings were sensitive to the specific manner that I used to account for the time series cross-sectional nature of my data at the modeling stage. As such, I am no longer controlling for time-invariant differences across countries, nor am I able to as directly focus my assessments on within country changes in my independent and dependent variables over time. However, in shifting to random effects, I am able to better assess whether my findings hinge on my earlier country fixed effects modeling approach while more generally assessing whether my findings hold under conditions of both between- and within-country variation. In this first robustness check, which uses country random effects instead of country fixed effects shown in Tables A2 and A3. To foreshadow the results discussed in more detail immediately below, the presence of right-wing populism did not impact the annual CO_2 emissions, further underscoring the lack of support for H2. But it had a negative impact on the annual renewable energy consumption in all small, medium, and large random effects models (Table A3). In support of H3, this implies again that, as a populism score increases, renewable energy consumption as a percentage of total final energy consumption decreased at the $p<0.05$ level.

Next, I unpack the annual CO_2 emissions and annual renewable energy consumption findings from these particular robustness models separately and in more detail. Implementing country random effects, I present in Table A.2 the random effects robustness models that re-evaluate the relationship between right-wing populism and

the changes in annual CO_2 emissions. Similar to what I found from the main analysis with country fixed effects, I find strong positive correlations between the annual CO_2 emissions and right-wing populism in this first robustness check using country random effects as shown in Appendix Table 1.1. Higher right-wing populism scores are associated with a higher annual CO_2 emission level. Unlike the main model, where a higher electoral democracy measure was associated with an increased level of CO_2, in the robustness check, the *vdem_polyarchy* variable, the measurement of electoral democracy, does not yield any significant effect.

For the renewable energy consumption measurement in the robustness check (Table A.3), similar to what I found in the main analysis in Table 2, I find negative correlations between the populism score and the renewable energy consumption. But in the robustness check, the effects are more reliable with a significance level of $p<0.05$ in all three (small, medium, and large) models, compared to the main model, which only obtained significant results at the $p<0.1$significance level for the small and medium models and $p<0.05$ level only for the large model. This implies that the findings of the main model hold true even with country random effects in the robustness models. Lastly, in the main model (Table 2), lagged GDP per capita has positive significant effects on the use of renewable energy in the small and the large models at the $p<0.05$ level. It did not have a significant effect in the medium model. However, in the first robustness check model (Table A.3), lagged GDP per capita has positive significant effects on the use of renewable energy in all small, medium, and large models at the $p<0.01$ level.

In sum, considering only the effect of right-wing populism on annual CO_2 emissions and annual renewable energy consumption, my first robustness check with the country random effects (Tables A.2 and A.3) resulted in the same conclusions as the original model I used to test the correlation between right-wing populism and annual CO_2 emissions and the correlation between right-wing populism and annual renewable energy consumption. Right-wing populism scores did not reliably affect the annual CO_2 emissions. But an increase in right-wing populism scores had significant negative effects on annual renewable energy consumption, in that an increase in right-wing populism was found to be associated with a decrease in annual renewable energy consumption at the $p<0.05$ level across each random effects specification.

For the second robustness check (Tables A.4 and A.5), I implemented a threshold on electoral democracy scores (*vdem_polyarchy*) that allowed me to narrow my analysis sample to a subset of primarily democratic country-years. Recall that my primary analysis sample included all countries with available data for my years of analysis. For the second robustness check (Tables A.4 and A.5), I only used countries with "above average" electoral democracy scores (*vdem_polyarchy*). In other words, I only analyzed the effects of the presence of right-wing populism on the annual changes in CO_2 emissions and the amount of renewable energy consumption within the countries that have structured electoral democracy, omitting all countries that scored below average on the *vdem_polyarchy* measure. In doing so, I continue to include all control variables mentioned above, as well as my earlier fixed effects and robust standard errors decisions. Altogether, this set of robustness models allows me

to verify that my prior findings are not being driven by an outsized number of (non-right wing populist) authoritarian countries in my main sample. Similar to my primary model specifications shown in Table 1 and Table 2 and the first robustness check (Tables A.2 and A.3), the presence of right-wing populism again did not reliably impact a country's subsequent levels of annual CO_2 emissions. On the other hand, the presence of right-wing populism had a negative and reliable impact on renewable energy consumption across the small, medium, and large models for this particular robustness test. Put differently, in all three (small, medium, and large) models, as the populism score of a country increases, that same country's renewable energy consumption levels in the subsequent year decrease, and this finding holds at the $p<0.1$ level. Even though the significance threshold decreased compared to the first robustness check, the trend of the result still holds the same.

Next, I further unpack the annual CO_2 emissions and annual renewable energy consumption findings for these robustness models separately and in more detail. For the analysis of changes in CO_2 level only within the countries with higher than average electoral democracy score (*vdem_polyarchy*) shown in Table A.4, similar to what I found from the main analysis (Table 1), my right-wing populism score measure still has no significant effects. However, an increase in annual fossil fuel consumption is associated with an increase in CO_2 emissions at the $p<0.01$ level in all small, medium, and large models. Furthermore, in the robustness check model with countries with above-average electoral democracy scores, an increase in lagged GDP per capita is associated with an increase in CO_2 emissions at the $p<0.1$ level for the small model

and at the $p<0.01$ level for the medium and the large models. This is a weaker effect compared to the main model. In the main model, an increase in lagged GDP per capita is associated with an increase in CO_2 emissions at the $p<0.05$ significance level in the small model, and at the $p<0.01$ level in the medium and the large models.

For the renewable energy consumption measurement within the countries with higher than average electoral democracy scores (*vdem_polyarchy*) shown in Table A.4, similar to what I found in the main analysis (Table 2), I find negative correlations between the populism score and the renewable energy consumption at the $p<0.1$ level. The strength of these effects is weaker in the robustness check model with countries with above-average electoral democracy scores than the main model, which includes all the countries in the dataset. The main model had a $p<0.1$ significance level for the small and medium models, and a $p<0.05$ level for the large model. Turning to the control variables, in the robustness check model with countries with above-average electoral democracy scores, an increase in lagged GDP per capita is associated with an increase in renewable energy consumption at the $p<0.01$ level only for the large model. In contrast, in the main model, which includes all the countries in the dataset, an increase in lagged GDP per capita is associated with an increase in annual renewable energy consumption per capita at the $p<0.05$ significance level in the small and the large models.

Overall, considering only the effect of right-wing populism on annual CO_2 emissions and annual renewable energy consumption, the second robustness check only with countries that have above average electoral democracy scores resulted in the

same conclusion as the main models (Tables 1 and 2) and the first robustness check (Tables A.2 and A.3). While an increase in right-wing populism score is not significantly associated with changes in CO_2 emissions, it is associated with a decrease in renewable energy consumption.

Lastly, for the third robustness check, I only included country-years with more than 0% of renewable energy consumption as a percentage of total final energy consumption. This allows me to verify my primary findings within a sample of countries that more realistically could have exhibited changes in their levels of renewables over my sample time period. In doing so, I only retain the countries that have used any measurable amount of renewable energy, preventing the model from being skewed by countries that recorded no amount of renewable energy consumption. In this robustness check (Tables A.6 and A.7), I continue to include all control variables mentioned above, as well as my earlier fixed effects and robust standard errors decisions. Same as the original model (Table 1 and Table 2) and the first two robustness checks (Tables A.2, A.3, A.4, and A.5), the presence of right-wing populism did not impact annual CO_2 emissions. However, the presence of right-wing populism had a negative impact on renewable energy consumption. In the small and medium models, as right-wing populism increases, the annual renewable energy consumption decreases by 0.902 percent and 0.811 percent, respectively at the $p<0.1$ level. In the large model, as right-wing populism increases in a prior year, the annual renewable energy consumption in a particular country decreases by 0.932 percent. This effect is statistically significant at the $p<0.05$ level.

Next, I look at these results for annual CO_2 emissions and annual renewable energy consumption separately, and in further detail. For the third robustness check analysis of changes in CO_2 levels in countries with more than 0% of renewable energy consumption shown in Table A.6, similar to what I found from the main analysis (Table 1), the populism score still has no significant effects. However, similar to the main model shown in Table 1, this robustness check model shows that an increase in electoral democracy score is associated with an increase in annual renewable energy consumption at the $p<0.1$ level in the small model, and at the $p<0.05$ level in the medium and the large models. Furthermore, similar to the main model, an increase in lagged fossil fuel consumption is associated with a decrease in annual renewable energy consumption at the $p<0.01$ level in all small, medium, and the large models. Lastly, similar to the main model, an increase in lagged GDP per capita is associated with an increase in annual renewable energy consumption at the $p<0.05$ level in the small model, and at the $p<0.01$ level in the medium and the large models.

For the third robustness check analysis of changes in renewable energy consumption level in countries with more than 0% of renewable energy consumption shown in Table A7, similar to what I found from the main analysis (Table 2), I find negative correlations between the populism score and the renewable energy consumption. Furthermore, in both the main model and the third robustness check model with countries with more than 0% of renewable energy consumption, an increase in fossil fuel consumption is associated with a decrease in renewable energy consumption at the $p<0.01$ level. Lastly, in both the main model and the third

robustness check model with countries with more than 0% of renewable energy consumption, an increase in the lagged GDP per capita is associated with a decrease in renewable energy consumption in the small and the large models at the $p<0.05$ level.

Overall, considering only the effect of right-wing populism on annual CO_2 emissions and annual renewable energy consumption, the third robustness checks resulted in the same conclusion as the original model and the first two robustness checks. While an increase in a country-year's right-wing populism score (during the prior year) is not significantly associated with subsequent changes in CO_2 emissions, it is associated with a subsequent decrease in renewable energy consumption.

5.7 Conclusion

In conclusion, this chapter presents a time series cross-sectional analyses of the effect of right-wing populism on (i) annual CO_2 emissions and (ii) annual renewable energy consumption. Through the analyses of several main models (that included an increasing number of control variables) and three robustness checks, I find that a shift towards right-wing populism negatively impacts renewable energy consumption within countries over time. On the other hand, right-wing populism does not have an impact on countries' annual CO_2 emissions. As such, the key finding from this chapter is as follows: as a country's right-wing populism score increases in the prior year, its annual renewable energy consumption decreases. These results imply that my second hypothesis, which states: "countries with more populist governments will exhibit increased levels of annual CO_2 emissions relative to comparable countries and/or

previous periods of non-populist rule" does not hold. On the other hand, the results in this chapter imply that my third hypothesis, which states: "countries with more populist government will exhibit decreased levels of annual renewable energy consumption relative to comparable countries and/or previous periods of non-populist rule" holds. Therefore, I can reject the null hypothesis in this case, which assumes no relationship between an increase in right-wing populism and changes in annual renewable energy consumption.

The latter finding aligns with right-wing populists' policy preferences and characteristics, as established in the previous two chapters via my analysis of UNFCCC COP High Level Segment speeches and my more in-depth case studies of the United States and Brazil. Right-wing populist leaders. Specifically, these prior analyses repeatedly illustrated that right-wing populist leaders prioritize sovereignty-reinforcing policies over international climate change cooperation. Within the environmental policy scope, and again referring back to my earlier analyses, right-wing populist leaders tend to downplay the seriousness of climate change. They choose to enforce policies that will increase the number of jobs or yield short-term monetary benefits over cooperating with internationally agreed-upon environmental policy decisions, such as reducing CO_2 emissions or preserving the Amazon forest. With this extant understanding of how right-wing populists pursue environmental policies, my present chapter's finding that an increase in right-wing populism is associated with a decrease in renewable energy consumption is not surprising and helps to reinforce this dissertation's broader theoretical contentions and insights. That

being said, CO_2 emissions were not found to exhibit substantial increases in relation to an increase in right-wing populism score, at least based on standard significance thresholds. The findings may not have held for changes in CO_2 emissions over time because CO_2 emissions are very slow moving and are likely not responsive to any yearly shift in policy decisions by a particular national government. Therefore, even though I used (one year) lagged variables to measure the subsequent effects of right-wing populists' transitions (within countries, over time, given my fixed effects approach), their anti-environment policies may not have been effective enough to show visible changes in CO_2 emissions within that one year time-frame. And at the very least, this analysis did not suggest that CO_2 emissions significantly improved under populist leaders, which is a key aim for most countries under recent climate change agreements and commitments.

In chapter 3, after analyzing speeches of annual COP meetings, I concluded that right-wing populists focus on discussing topics related to sovereignty-reinforcing stances rather than focusing on global environmental cooperation. In chapter 4, I analyzed domestic environmental policies of the US and Brazil during Trump's first and Bolsonaro's presidencies. I concluded that under right-wing populists' rules, both the US and Brazil focused on the economic benefits of their countries instead of cooperating with global efforts in combating climate change or seeking sustainable development strategies. With a prevalent anti-elitist sentiment within the US and Brazilian governments, the domestic environmental policies of the US and Brazil considered environmental issues as politics of the elites and irrelevant to the ordinary

people's daily lives. The current findings at least partially reinforce both sets of earlier analyses, showing that the earlier evidence uncovered for populist opposition to international climate change cooperation (via COP speeches) and domestic environmental policy (via my case studies) also manifests in at least one key policy outcome related to country-level climate change policy: changes in renewable energy usage.

Put differently, after understanding anti-environmental cooperation sentiment at the global level, and anti-elitist sentiment at the domestic levels from case studies, the results of my time-series cross sectional analysis of the impact of right-wing populist on annual renewable energy consumption are highly illustrative and consistent. In light of the presence of right-wing populist country leaders (presidents, or prime ministers) who are likely to be reluctant to pursue cooperative stances on environmental politics, the support for renewable energy would likely to diminish and result in the decline of renewable energy consumption. Throughout my three chapters of empirical analysis, I first show that populism is linked to international climate change stances by using the structural topic model on COP speeches. However, this link doesn't establish the role of right-wing populist leaders directly. The qualitative case studies of the US and Brazil establish clearer linkages between right-wing populist leaders and their international and domestic environmental policy preferences. But the case studies do not fully capture the policy outcomes. The present large-N time series cross-sectional analyses chapter focuses on the policy outcomes and better links the right-wing populism to foreign policy outcomes. In this way, the

three chapters are complementary and provide unique but consistent information that each chapter cannot fully explain alone. The next chapter further synthesizes these various findings while concluding the entire dissertation and suggesting future research plans on this topic.

Chapter 6

CONCLUSION

6.1 Introduction

The motivation of this dissertation started with a question: "Why has there been such a big gap between international efforts to combat climate change and the substantial positive outcome of these negotiations?" The initial recognition of the discrepancy between continuous international climate change negotiations over the past 25 years and the increasing number of climate change related natural disasters led to the foundation of this dissertation. With an effort to find the answer to this primary research question, I searched for possible linkages that drive governments' anti-climate change cooperation sentiments. Here, I paid particular attention to these sentiments in relation to international climate change cooperation outcomes such as (i) reluctance to support the global community's efforts to combat climate change and (ii) opposition to effective solutions that can reverse the advance of climate change. In searching for a recently emergent factor that has arisen in tandem with waning cooperative support for the unprecedentedly fast-paced exacerbation of climate change in the recent decade, I discovered that the rise of right-wing populism was happening at the same period. My observance of these parallel trends led me to then ask: could there be a connection between the rise of right-wing populism and the global community's increasing stagnation in climate change cooperation? To answer this

question, this dissertation sought to then theorize and empirically test for a potential relationship between right-wing populism and opposition to climate change cooperation. That is, with the recent rising trend of right-wing populism as a global phenomenon, and with repeated cooperative failures in addressing a climate change problem that is worsening year-by-year, I endeavored to understand the causal logic linking right-wing populist leaders to low political support for combatting climate change, both domestically and internationally.

6.2 The Theory

In Chapter 2, I began by considering extant literature on both climate change cooperation and populism. Drawing from the latter populism literature, I illustrated right-wing populists' policy preferences and elucidated the possible ways to define what populism is. I observed that, despite the fact that the phenomenon of populism has existed since the late 19th century, the popularity of the term "populism" has gained more traction in the past decade. For these reasons, the definition of populism is still not solid, and scholarly conceptions of what populism is are rather diverse within the political science academic literature. In this dissertation, I accordingly sought to better ground my own conceptual definition of populism by focusing specifically on right-wing populism. Although left-wing populism has existed (primarily in Latin America) in the 1930s and 1940s and onwards, the most recent rise of populism in North America, Europe, and elsewhere in the world is more squarely a right-wing populist movement. This recent rise of right-wing populism is happening

concurrently with increasing negative effects of climate change and worsening climate change cooperation in recent decades. Among the ways to understand right-wing populism and define right-wing populist personality traits, I drew upon the literature to focus on political strategic approach to understand right-wing populism. To analyze the possible linkage between right-wing populism and the absence of substantial global cooperation on climate change, I likewise focused on right-wing populists' tendency of anti-elitism, and prioritizing their sovereignty rights. Because right-wing populists advertise themselves as the people who are against the corrupt elites and represent the general will, I expected them to see international institutions such as the United Nations, where climate change negotiations happen annually, as one of the "elites" and environmental politics as the politics of corrupt elites. I also expected right-wing populists to prioritize policies that are advantageous for the people of their own countries, rather than anyone else. This expectation came from right-wing populists' tendency to prefer an isolationist political strategy, and their claims to be the ones who can represent the common people's needs over anything else (Huber, 2021; Jylhä & Hellmer, 2020; M. Lockwood, 2018; Mudde, 2017; Mudde & Rovira Kaltwasser, 2017; Müller, 2016).

Based on my understanding of right-wing populism, and my research question, "What explains the ever-increasing gap between routine negotiation over climate change agreements and nation-states' (in)abilities to reach effective and timely agreements on climate change?" I then developed and tested four hypotheses in this dissertation.

H1a: More populist leaders will express more negative (i.e., less supportive) stances towards climate change cooperation within international climate change cooperation venues.

H1b: More populist leaders will express more positive (i.e., more supportive) stances towards sovereignty-reinforcing stances within international climate change cooperation venues.

H2: Countries with more populist governments will exhibit increased or constant levels of annual CO_2 emissions relative to comparable countries and/or previous periods of non-populist rule.

H3: Countries with more populist governments will exhibit decreased levels of annual renewable energy consumption relative to comparable countries and/or previous periods of non-populist rule.

6.3 Quantitative Text Analysis

My dissertation's subsequent chapters then set out to empirically evaluate each of these hypotheses. To test the first set of hypotheses, H1a and H1b, I focused on the language of senior country representatives within international climate change cooperation venues. The primary data source in this analysis is the high-level segment speeches made at the Conference of the Parties (COP) in the United Nations Framework Convention on Climate Change (UNFCCC) forum from 2010 to 2019. As I illustrated in Chapter 3, I used the Structural Topic Model (STM), a quantitative text

analysis tool, to estimate the latent themes and topics that are representative of the speeches (Bagozzi & Berliner, 2018). This effectively allowed me to employ a series of regression models to estimate the relationship between the prevalence of each topic as a dependent variable and the right-wing populism score from the Populist Leaders and Economy (PLE) dataset as an independent variable (Funke et al., 2021). The results of this speech-based, text-as-data analysis showed that the presence of right-wing populism affects the increase in the topics: *Encouragement of collective actions* and *SIDs climate vulnerability*. These two topics (*Encouragement of collective actions* and *SIDs climate vulnerability*) emphasize global cooperation on combating climate change and helping countries that are most affected by the effects of climate change-related extreme weather events, as opposed to benefiting individual countries' own domestic objectives. On the other hand, the presence of right-wing populism was associated with reliable decreases in the following two topics: *Forest management (Deforestation)*, and *Renewable energy.* These two topics (*Forest management (Deforestation),* and *Renewable energy*) can be related to domestic policies that focus on individual countries' innovations and development concerns and are hence beneficial to the countries themselves, instead of first and foremost working towards the greater good vis-à-vis climate change. Therefore, I determined that these topics are associated with sovereignty-reinforcing domestic policies. With the results from the STM analysis, I concluded that H1a and H1b are supported based on the high-level speeches at the UNFCCC venue.

I recognize that the subjectivity of the STM analysis since the researcher determines the titles of topics after the STM model estimates topics based upon word co-occurrences, with the most closely related speeches within each topic and each estimated topics' topwords being the primary inputs for researcher interpretation. In this case, to draw the most fitting label for each of the 25 topics I generated, including the four highlighted in italics in the paragraph above, I read the top 25-30 most highly associated speeches. This strategy made it easier for me to draw commonly discussed topics in these top speeches. I also recognize the possibility of these speeches, and my corresponding findings for H1a and H1b, as being at least partly "cheap talk" since the COP speeches are directed to a very specific group of audience at the UNFCCC venues, and are made by high-level representatives of the countries in manners that aren't explicitly binding. Put differently, there is a possibility that UNFCCC High Level Segment COP speeches are not a representation of what the countries actually *do* within the arena of policy vis-à-vis climate change.

6.4 Qualitative Case Studies

To remedy the second criticism on the speeches being "cheap talk", I considered qualitative illustrative case studies of the United States and Brazil in Chapter 4. The purpose of this chapter was to illustrate and understand the microfoundations of domestic environmental policies and especially climate change-related domestic policies under right-wing populist presidents. The chapter did not aim to explicitly test any hypotheses or illustrate any particular causal mechanism. In this

chapter, I instead analyzed domestic environmental policies of the United States and Brazil alongside the speeches and overarching stances of these countries' populist leaders in relation to climate change policy. These two countries have each recently experienced right-wing populists as presidents, within an overlapping time period with that of my speech data and analysis described above. Donald Trump, who is classified as a right-wing populist by the Populist Leaders and the Economy (PLE) dataset (Funke et al., 2021) I used to measure populism as an independent variable in Chapter 3, was the 45th President of the United States from 2017 to 2021, and he was also re-elected to serve his second term, from 2025 to 2028. Similarly, Jair Bolsonaro, who is also classified as a right-wing populist, also by the PLE dataset (Funke et al., 2021), served his term as the 38th president of Brazil from 2019 to 2022. With these characteristics in mind, in Chapter 4, using the White House archives for the US case, and the Brazilian Presidential Archives to collect quotes from both Trump and Bolsonaro, as well as both the US and the Brazilian governments' official documents on environmental policies, I conducted qualitative case studies of two countries that experienced right-wing populist rule. In these cases my specific focus was on environmental and climate change policy during these periods of rule.

The results of these case studies showed that both Trump and Bolsonaro's speeches and their domestic environmental policies corroborate with the findings from STM models shown in Chapter 3, and the current literature's understanding of right-wing populism according to leading scholars in populism such as Huber (2020), Lockwood (2018), Mudde and Kaltwasser (2017), Müller (2016) and others. The

speeches exhibited anti-elitism, anti-establishment sentiments, along with prioritizing their own citizens over international cooperation. Trump has repeatedly given messages that he supports environmentally friendly policies as long as they generate jobs for Americans and as long as they guarantee American national economic prosperity. He has also been supportive of fossil fuel industries, which contradicts global efforts to manage climate change. Similar to Trump, Bolsonaro emphasized that any initiative or support for the preservation of the Amazon Rainforest must be conducted with full respect to Brazilian sovereignty. In this remark, Bolsonaro clearly prioritized Brazilian sovereignty over receiving aid from international organizations or community. Leaving this caveat of "full respect to Brazilian sovereignty", Bolsonaro remained more ambiguous about how cooperative he chooses to be about global efforts to preserve the environment, and in the Brazilian case, the Amazon forest. By delving into literature on Brazilian domestic environmental policies under Bolsonaro, I found that Bolsonaro has not implemented any substantial policies to act towards environmental preservation. Nor has he joined the global efforts to combat climate change. Rather, scholars have assessed that Brazilian environmental policies have been restrictive and ineffective by dismantling environmental regulations and government structures (Menezes & Barbosa, 2021; Queiroz-Stein et al., 2023).

Throughout Chapter 4, I outlined the domestic environmental policies and policy orientations of two countries, the United States and Brazil, under right-wing populist presidents. Both countries have shown that Trump and Bolsonaro prioritized the sovereignty of their countries over global cooperation on preserving the

environment. Their policies in this area were only helpful for only a few selective groups of their constituents. In Trump's case, by supporting the fossil fuel industry, he implemented policies that directly benefit people who work in the fossil fuel industry. In Bolsonaro's case, by not actively preserving the Amazon forest, he disadvantaged the indigenous peoples who live in that region. The findings from the illustrative case studies of the United States and Brazil in Chapter 4 address the shortcomings of the STM analysis in Chapter 3. I noted at the end of Chapter 3 that analyzing speeches and not actual policy implementations may not be a reliable representation of a country's stance on climate change and its domestic environmental policies because they are deemed to be cheap talk. In Chapter 4, by presenting domestic environmental policies of the United States under Trump and Brazil under Bolsonaro that take part in worsening climate change cooperation, I address the shortcomings of the STM analysis and remedy the concerns of speech analysis being spurious. My case studies of the countries with right-wing populists have climate change policies that are disruptive and uncooperative to international climate change cooperation efforts. However, I recognize that my case studies are only two illustrative examples of domestic policies of the countries with right-wing populist presidents. Therefore, the concern over the generalizability of these illustrative case studies is valid.

6.5 Time Series Cross-Sectional Analysis

To remedy the generalizability issue of my case studies, while further addressing the earlier mentioned concerns that my STM analysis and UNFCCC COP

speech data may reflect patterns of cheap talk more so than actual policy change, I conducted a global time-series cross-sectional (panel) analysis of country-level policy outcomes relating to climate change contributions in Chapter 5. More specifically, in this chapter, I assessed the effects of the presence of right-wing populism on varying levels of annual CO_2 emissions and renewable energy consumption as a proportion of total energy consumption within countries over time and, secondarily, between countries. By doing so, I tested my second and third hypotheses which state:

> H2: Countries with more populist governments will exhibit increased levels of annual CO_2 emissions relative to comparable countries and/or previous periods of non-populist rule.
>
> H3: Countries with more populist governments will exhibit decreased levels of annual renewable energy consumption relative to comparable countries and/or previous periods of non-populist rule.

The results of the panel data analysis on the effects of right-wing populism on CO_2 emissions showed no significant effect of right-wing populism, although the effects were positive (implying, if significant, that populism increases such emissions). Therefore, I failed to reject the null hypothesis of H2, which states, "there is no relationship between right-wing populism and CO_2 emissions." On the other hand, the results of the panel data analysis on the effects of right-wing populism on lagged annual renewable energy consumption as a proportion of total energy consumption, I

found a significant negative effect at the $p<0.1$ level for the small and medium models, and at the $p<0.05$ level for the large model. From this result, I can assume that the presence of right-wing populism is correlated with a decrease in renewable energy consumption as a proportion of total energy consumption within countries over time. This finding aligns with previous studies by Huber et al., (2021), Valquaresma et al., (2024) and others on right-wing populists' anti-climate change cooperation sentiments and their tendency to avoid cooperating with global efforts to mitigate the harmful effects of climate change. Based on these results, I can reject the null hypothesis of H3, which says, "there is no relationship between right-wing populism and annual renewable energy consumption." This implies that populism leads to decreased levels of renewable energy usage within countries, ostensibly through right-wing populists' own deprioritization of such efforts.

To ensure that the results of my main panel analysis models for lagged CO_2 emissions and renewable energy consumption are reliable, Chapter 5 also implemented three different robustness checks. For the first robustness test, I implemented country random effects in place of country fixed effects in the main models. The reason for this is to better assess if the findings hold both between- and within-country variation. For the second robustness test, I included only the countries with above-average electoral democracy scores. By doing so, I was able to verify whether the findings of the main models are driven by an outsized number of non-right-wing populist authoritarian countries (the countries with below-average electoral democracy scores). In this robustness test, I kept the original country fixed effects that

I used in the main models. Finally, for the third robustness test, I only included countries with more than 0% of renewable energy consumption as a percentage of total annual energy consumption. By doing so, I only included the countries with measurable renewable energy consumption and prevented the results from being skewed by countries that recorded no amount of renewable energy consumption. All three robustness tests yielded the same results as the main analysis models. Therefore, I concluded that the presence of right-wing populism does not affect the amount of annual CO_2 emissions. However, the presence of right-wing populism is associated with a decreasing amount of renewable energy consumption as a proportion of total annual energy consumption.

In sum, this dissertation presented several interesting findings for the possible effects of right-wing populism on global climate change efforts. Throughout most of the results from quantitative text analysis, illustrative case studies, and the panel models, I found evidence to suggest that right-wing populism is associated with anti-elitism, isolationistic, and sovereignty-reinforcing domestic environmental policies over global cooperation, which align with past studies by Mudde (2017), Jylhä and Hellmer (2020), Huber et al. (2021), and others. I also found that right-wing populist country leaders lack in the implementation of effective environmental policies that will help the country as a whole in the long run, and benefit the more severely affected population within their countries in the short term. The motivation of right-wing populists' anti-environment, anti-climate cooperative domestic policies is not solely attributed to their nationalistic policy-making preference. Even though the right-wing

populist leaders portray their rhetoric as sovereignty-reinforcing and prioritizing benefits for their own citizens, it is not entirely true. I observed this in the Brazilian case, where Bolsonaro implemented ambiguous environmental policies on the preservation of the Amazon rainforest. Even though the indigenous peoples demanded more substantial preservation policies from the government, Bolsonaro did not respond to them by removing environmental regulations and reducing the government offices that deal with the country's environmental affairs.

6.6 Policy implications

Throughout this dissertation, I found that right-wing populist governments tend to emphasize domestic priorities over global priorities within the UNFCCC's COP speeches during each year of negotiation. I found that populist leaders, in both their domestic speeches and environmental policies, tend to favor their own constitutions and exhibit clear populist tendencies (isolationist and anti-elitism), often to the detriment of the environment, even if they do not always do so explicitly. Finally, I found that right-wing populist periods of rule tend to see declines in renewable energy usage and no improvements (albeit also no increases either) in CO_2 emissions. This suggests that right-wing populists undermine climate change in several nuanced and interrelated manners: through their international and domestic speech and through their ultimate policy actions.

By analyzing right-wing populist policy preferences and policy implementation tendencies, I expand the ideological debate on the ways to understand

right-wing populism. Conventionally, scholars have analyzed and understood right-wing populism as the perpetuation of a good vs. evil mentality, where right-wing populists argue that they are the ones who represent the morally good and pure people against evil elites (Mudde, 2017; Mudde & Rovira Kaltwasser, 2017; Müller, 2016). However, in the context of climate change and environmental policy, right-wing populists pursue more than the good vs. evil mentality. They tend to be skeptical about climate change saying that the global warming that we experience is the natural cycle of the earth (Dunlap, 2013; Huber, 2020; Matthews, 2015). The right-wing populists also pursue an isolationist domestic policy by moving away from global cooperation and trade. We observed this from Trump's quotes, where he claimed he put American workers first, and he expanded his policy to be energy independent by increasing oil pipelines within the United States. Lastly, I identified right-wing populists' tendency to prioritize their sovereignty from both Trump and Bolsonaro. One of Bolsonaro's quotes was a clear example of this; when he said that Brazil has to be the driving force of any envrionmental protection effort done in Brazil, and outside entities are only trying to take advantage of Brazil's resources. In sum, regarding environmental policies and climate change, right-wing populists operate under more than just a good vs. evil mentality, but also climate skepticism, sovereignty-reinforcing, and isolationist ideologies.

In terms of policy implications, this implies that if a country elects a right-wing populist as its president, prime minister, or even a strong right-wing populist political party that is influential in domestic policy making, it is safe to assume that that

country will deviate from any existing level of support for its common but differentiated responsibilities that were agreed at the UNFCCC venue. However, as I established at the beginning of this dissertation, the tragedy of the commons nature of the global climate change problem necessitates that all countries contribute to global efforts to reduce the harmful consequences of climate change. The question is, how do we bring right-wing populists to the negotiating table, so as to compel them to cooperate with the global community and to implement environmental policies that are beneficial for managing climate change? One aspect of right-wing populists that was repeatedly confirmed through my analyses is that they care about their own people (the definition of "their own people" may vary depending on the context, but right-wing populists almost always have a group of people that they cater to with their policies, more so than cooperating with global climate change efforts). Therefore, to bring right-wing populists to the negotiation table, the global community needs to give them a reason. In other words, the UNFCCC needs to make climate change matter to the right-wing populists by telling them that (or how) cooperating with other countries, setting the policy goals, and implementing them in their own countries is beneficial to the people.

So far, rhetoric on climate change has emphasized the worsening effects of climate change, the discrepancy between the environmental agenda setting and the achievement of those goals, and that climate change is threatening humanity's survival. All of these points are uninteresting to right-wing populists who care about how to benefit their constituents, the audience that they care about, and their countries

while pursuing anti-elitism and isolationist foreign and domestic policy preferences. To get right-wing populists to join the conversations, the climate change issue needs to be reframed so it sounds interesting to them. The topics identified as seeing increased right-wing populist attention are one starting point to consider in terms of this reframing. However, beyond this, the global community should emphasize further additional aspects of relevancy to climate change, such as how many domestic jobs can be generated to produce parts for solar panels, or how many more foreign importers domestic companies will attract if they use sustainable resources in their production. This process is not going to be an easy one, and the conventional emphasis on climate change (i.e., extreme weather events caused by climate change, and the discrepancy between the goals and execution) will continue to be discussed. However, if more practical aspects (i.e., attracting importers of sustainably made products) that can benefit at the domestic level, it may help avoid right-wing populists' opposition towards climate change policies.

6.7 Limitations and Future Work

Although this dissertation presents the effects of right-wing populism on domestic environment policies and global climate change cooperation, a few limitations remain. First, the case studies and theory only considered some mechanisms of (right-wing) populism. Since the concept of populism applies to both right and left spectrums of political ideology, considering the policies of left-wing populists may be worth additional emphasis in the future. For example, how are left

wing-populists distinct from right-wing populists in relation to support for climate change? Do left-wing populists exacerbate or offset right-wing populist stances towards climate change at the UNFCCC's COPs?

Second, the UNFCCC speech data did not always capture speeches from the right-wing populist leaders themselves, but rather by their appointed officials, ensuring some potential disconnect between populist tendencies and my manifest speech topics. Coding more fine grained data on the specific speakers within the UNFCCC's High Level Segment speeches, including their periods of appointment and their political distance from a given leader would help to better capture these nuances, while also facilitating additional broader research into the politics environmental cooperation within the contexts of the UNFCCC and its High Level Segment.

Third, my various analyses, aside from some robustness tests, did not restrict the sample to subsets of only democratic populist leaders. This could lead to some difficulties in parsing out the effects of populism vs. authoritarian democracy variation on these climate change cooperative factors. More fine-grained limitations could be that although I established the general policy preferences of right-wing populists, it is still unclear what exactly motivates right-wing populists to pursue such anti-environmental and anti-global climate change cooperation domestic policies, specifically. Delving into right-wing populist leaders and their associations with large corporations, such as fossil fuel industries, could start a way to investigate why right-wing populist leaders are against climate cooperation. If a right-wing populist leader has established symbiotic connections with companies within certain economic

sectors, that might lead them to pursue domestic environmental policies that are beneficial for these companies, which comprise certain types of citizens, but not all.

For future research, I could also consider other measures of international climate change cooperation, such as the time taken to join or ratify new agreements rather than analyzing speeches and (non)renewable usage. I could also extend this work to look at other areas of international environmental cooperation, given that some of the qualitative findings pertaining to populism (i.e., domestic environmental policies in the United States and Brazil) could also be generally interpreted as environmental policy preferences. Another way to build upon this dissertation is to find a better measurement that can be representative of a country's domestic environmental policies. Even though lagged annual CO_2 emissions and lagged annual renewable energy consumption measures are good proxies to assess domestic environmental policies, the changes in CO_2 emissions in the air can take more than one year for the effects to be visible. That might be why the effects of right-wing populism were not significant for the lagged annual CO_2 emissions in my panel analysis. Finally, in the future, I could consider adding the left-wing populism or subsets of more authoritarian/democratic right-wing populists to see how they interact differently with support for climate change and environmental policies.

These finer points aside, future work should more broadly continue to understand the underpinnings of populist stances towards climate change and global climate change cooperation. It is hoped that this dissertation will serve as a starting point for such extensions and explorations.

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APPENDIX

Variable	N	Mean	Standard Deviation	Min	Max
lagPLE_populism	2,726	0.1	0.3	0	1
LOG_wdi_co2	2,290	1.3	0.8	0.02	3.7
wdi_enerenew	2,342	32.3	28.9	0.0	97.0
lagvdem_polyarchy	2,416	0.5	0.3	0.01	0.9
lagwdi_fossi	834	67.7	26.8	2.7	100.0
lagLOG_wdi_gdpcapcon2015	2,618	8.6	1.4	5.6	12.2
lagwdi_gdpgr	2,618	2.7	5.8	-50.3	86.8
lagLOG_wdi_pop	2,618	15.6	2.2	9.2	21.1

Table A.1. Descriptive Statistics of Variables

VARIABLES	(1) Effects of Right-Wing Populism on Annual CO2 Emissions_Small	(2) Effects of Right-Wing Populism on Annual CO2 Emissions_Medium	(3) Effects of Right-Wing Populism on Annual CO2 Emissions_Large
lagple_populism	-0.00517	-0.00388	0.00470
	(0.0199)	(0.0195)	(0.0142)
lagvdem_polyarchy	0.0875	0.0928	0.0865
	(0.0701)	(0.0695)	(0.0746)
lagwdi_fossi	0.00966***	0.00933***	0.00774***
	(0.00127)	(0.00127)	(0.00114)
laglog_wdi_gdpcapcon2015	0.335***	0.341***	0.423***
	(0.0352)	(0.0328)	(0.0384)
lagwdi_gdpgr		-0.00116***	-0.00101**
		(0.000422)	(0.000460)

laglog_wdi_pop		-0.0488**	-0.000695
		(0.0244)	(0.0238)
lag_wdi_forest		-0.00205	-0.00282*
		(0.00161)	(0.00152)
Constant	-2.177***	-1.349**	-2.772***
	(0.270)	(0.536)	(0.578)
Observations	815	815	815
Number of countries	134	134	134

Robust standard errors clustered on countries in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A.2 Robustness Check 1. Effects of Right-Wing Populism on Annual CO_2 Emissions

VARIABLES	(1) Effects of Right-Wing Populism on Annual Renewable Energy_Small	(2) Effects of Right-Wing Populism on Annual Renewable Energy_Medium	(3) Effects of Right-Wing Populism on Annual Renewable Energy_Large
lagple_populism	-1.013**	-1.041**	-1.047**
	(0.462)	(0.448)	(0.468)
lagvdem_polyarchy	1.404	0.447	0.286
	(1.605)	(1.717)	(1.730)
lagwdi_fossi	-0.610***	-0.574***	-0.557***
	(0.0427)	(0.0464)	(0.0486)
laglog_wdi_gdpcapcon2015	-4.770***	-5.266***	-5.775***
	(0.790)	(0.817)	(0.926)
lagwdi_gdpgr		0.0355**	0.0365**
		(0.0158)	(0.0159)

laglog_wdi_pop		-0.394 (0.567)	-0.649 (0.621)
lag_wdi_forest		0.149*** (0.0512)	0.159*** (0.0533)
Constant	111.8*** (6.001)	116.1*** (10.89)	123.9*** (12.57)
Observations	815	815	815
Number of countries	134	134	134

Robust standard errors clustered on countries in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A.3 Robustness Check 1. Effects of Right-Wing Populism on Annual Renewable Energy Consumption

VARIABLES	(1) Effects of Right-Wing Populism on Annual CO2 Emissions_Small	(2) Effects of Right-Wing Populism on Annual CO2 Emissions_Medium	(3) Effects of Right-Wing Populism on Annual CO2 Emissions_Large
lagple_populism	0.00784 (0.0227)	0.00102 (0.0182)	0.000770 (0.0152)
lagvdem_polyarchy	0.213 (0.225)	0.271 (0.219)	0.0620 (0.209)
lagwdi_fossi	0.0112*** (0.00247)	0.00957*** (0.00230)	0.00704*** (0.00207)
laglog_wdi_gdpcapcon2015	0.142* (0.0730)	0.286*** (0.0795)	0.484*** (0.0729)
lagwdi_		-0.00233*	-0.00163

gdpgr		(0.00130)	(0.00169)
laglog_ wdi_pop		-0.551** (0.276)	0.0264 (0.305)
lag_wdi _forest		-0.0375** (0.0147)	-0.0247** (0.0113)
Constant	-0.594 (0.719)	8.357* (4.249)	-3.028 (4.913)
Observat ions	475	475	475
Number of countries	81	81	81
R-squared	0.241	0.304	0.386

Robust standard errors clustered on countries in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A.4 Robustness Check 2. Effects of Right-Wing Populism on Annual CO_2 Emissions

VARIABLES	(1) Effects of Right-Wing Populism on Annual Renewable Energy_Small	(2) Effects of Right-Wing Populism on Annual Renewable Energy_Medium	(3) Effects of Right-Wing Populism on Annual Renewable Energy_Large
lagple_po pulism	-1.096* (0.634)	-1.168* (0.596)	-1.135* (0.590)
lagvdem_ polyarchy	-4.898 (9.203)	-8.884 (10.26)	-2.820 (11.17)
lagwdi_fo ssi	-0.354*** (0.0764)	-0.306*** (0.0647)	-0.226*** (0.0555)
laglog_wd i_gdpcapc on2015	-1.896 (2.658)	-2.084 (3.325)	-8.627*** (2.754)

lagwdi_gdpgr		0.0851**	0.103**
		(0.0406)	(0.0450)
laglog_wdi_pop		-6.768	-23.00*
		(10.47)	(12.00)
lag_wdi_forest		1.150**	0.776
		(0.526)	(0.482)
Constant	71.20**	142.3	470.9**
	(29.29)	(156.7)	(188.5)
Observations	475	475	475
Number of countries	81	81	81
R-squared	0.220	0.291	0.374

Robust standard errors clustered on countries in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A.5 Robustness Check 2. Effects of Right-Wing Populism on Annual Renewable Energy Consumption

VARIABLES	(1) Effects of Right-Wing Populism on Annual CO2 Emissions_Small	(2) Effects of Right-Wing Populism on Annual CO2 Emissions_Medium	(3) Effects of Right-Wing Populism on Annual CO2 Emissions_Large
lagple_populism	0.00383	-0.000548	0.00927
	(0.0222)	(0.0196)	(0.0144)
lagvdem_polyarchy	0.137*	0.149**	0.163**
	(0.0728)	(0.0692)	(0.0751)
lagwdi_fossi	0.00838***	0.00794***	0.00615***
	(0.00171)	(0.00166)	(0.00153)
laglog_	0.170**	0.227***	0.355***

wdi_gdpcapcon2015	(0.0746)	(0.0823)	(0.105)
lagwdi_gdpgr		-0.000539	-0.000667*
		(0.000384)	(0.000400)
laglog_wdi_pop		-0.281**	0.0767
		(0.114)	(0.141)
lag_wdi_forest		-0.0193***	-0.0148***
		(0.00613)	(0.00502)
Constant	-0.678	4.065**	-3.032
	(0.657)	(1.742)	(2.865)
Observations	803	803	803
Number of countries	132	132	132
R-squared	0.193	0.222	0.288

Robust standard errors clustered on countries in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A.6 Robustness Check 3. Effects of Right-Wing Populism on Annual CO_2 Emissions

VARIABLES	(1) Effects of Right-Wing Populism on Annual Renewable Energy_Small	(2) Effects of Right-Wing Populism on Renewable Energy_Medium	(3) Effects of Right-Wing Populism on Annual Renewable Energy_Large
lagple_populism	-0.902*	-0.811*	-0.932**
	(0.505)	(0.445)	(0.416)
lagvdem_polyarchy	-1.087	-1.131	-1.637
	(2.185)	(2.033)	(2.131)
lagwdi_fossi	-0.375***	-0.346***	-0.314***
	(0.0555)	(0.0538)	(0.0551)

laglog_wdi_gdpcapcon2015	-3.277**	-2.654	-5.117**
	(1.619)	(1.781)	(2.093)
lagwdi_gdpgr		0.0194	0.0259*
		(0.0134)	(0.0147)
laglog_wdi_pop		-1.961	-7.897
		(4.176)	(5.647)
Constant	84.43***	81.37	202.2**
	(14.94)	(66.94)	(97.62)
Observations	803	803	803
Number of countries	132	132	132
R-squared	0.230	0.272	0.297

Robust standard errors clustered on countries in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A.7 Robustness Check 3. Effects of Right-Wing Populism on Annual Renewable Energy Consumption