The Environmental Security Paradox: the conflict between achieving economic growth and securing the environment

M.A Thesis International Relations in Historical Perspective

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Russell, William T. *Pittsburgh from the Salt Works at Saw Mill*, 1843. From the Library and Archives Division, Historical Society of Western Pennsylvania, Pittsburgh, PA.

Table of Contents

Abstract: Many international and state policy agreements claim sustainable development efforts can be adopted as part of economic growth strategies. Currently there is a rise in the awareness of environmental security risks caused by climate change, however, notions and pursuits of unlimited economic growth have been institutionalized in politics and society. Human activity during the second half of the century came to known Great Acceleration, its impacts have affected many of the Earth's ecosystems and geology. Efforts to protect the environment were developed by the state during the Clinton administration. However, the efforts were maintained through realist strategies that did not directly account for the sources causing environmental security risks, such as the deregulation of the markets and the increase in fossil fuel production. This discourse analysis case study follows a constructivist approach to analyze the relationship between the fossil fuel industry and environmental security. The case study examines perspectives adopted by the U.S government, Barack Obama, and the Paris Agreement that refrain from explicitly challenging the fossil fuel industry. It argues that despite the growing global environmental security risks the efforts to adopt sustainable development approaches have been neglected over pursuits of economic growth and realist national security agendas.

Introduction

Beliefs that human societies are exhausting environmental resources have shaped the sentiment that man is challenging nature beyond its limits. Although environmental security was not new after the end of the Cold War, the collapse of the Soviet Union changed America's security direction.[1] Today, in academia and policy making, high levels of consumption have been correlated with biodiversity loss, land degradation, a shortage of forest land, water pollution, scarcity, the contamination of plants, animals, and people, climate change and rising sea levels.[2] In traditional environmental security these risks have been correlated with population growth, and the presumed environment security risks associated with population growth led to the emergence of environmental security as a major national security concern at the end of the twentieth century.

Today environmental security has many contested definitions and has slowly moved away from its traditional understanding within a national security framework. This paper defines environmental security as the emergence of ecological processes and natural resources as sources or incentives for conflict that can cause barriers or limits to ecological systems and human well-being.[3] A major natural resource that remains a catalyst of conflict and a threat to ecological and human well-being has been the reliance on fossil fuels as a major energy source. The reliance on fossil fuels, however, also presents major economic opportunities that continue to be secured by the state. This paper analyzes the paradox between promoting economic growth and securing the environment. The first chapter provides a brief historical analysis of events surrounding the 1973 oil embargo and the Energy Policy Conservation Act of 1975, but will primarily focus on events that occurred during the Obama administration between 2008 - 2016. In 2012 the Obama administration began pushing for an energy plan known as the "All-of-the-Above" Energy Strategy which pushed for an increase in the use of fossil fuels and the development of renewable energy. However, just before the energy strategy was developed, and despite growing environmental security concerns linked to the effects of climate change, several states in the U.S experienced oil booms that incentivized the repeal of the ban on crude oil exports during the Obama administration. To understand the emergence of these developments during Obama's presidency, this case study aims to answer the following questions: Why was there an oil surge during the Obama administration? Did this create environmental security risks?

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[1] Floyd, Rita. "The Rise of US Environmental Security." Chapter. In *Security and the Environment: Securitisation Theory and US Environmental Security Policy*, p.63. Cambridge: Cambridge University Press, 2010. p. 73 doi:10.1017/CBO9780511730146.004.

[2] Richard Anthony. Matthew, *Global Environmental Change and Human Security* (Cambridge, MA: MIT Press, 2010) p. 3

[3] Christopher A. Scott and Bhuwan Thapa, "Environmental Security," *Oxford Bibliographies Online Datasets*, 2015, https://doi.org/10.1093/obo/9780199363445-0012.

Concerns regarding the environment as a major national security to the U.S began circling in academia in the 1980s and the fall of the Soviet Union allowed the security concerns surrounding environmental politics to develop as a major subject of security in U.S politics. Richard Ullman, an international affairs professor at Princeton University, was one of the first scholars to write about the importance of including environmental threats alongside traditional military threats into the national security framework.[4] In the late 1980s and early 90s, other academics including Robert Kaplan and Thomas Homer-Dixon began to argue that population growth would lead to mass consumption, the exhaustion of resources and create high levels of pollution, which would ultimately create disruptions ranging from external wars to internal rebellions and natural disasters. However, these realist and neo-Malthusian frameworks were criticized by other scholars for not including alternative perspectives or accounting for other variables that also lead to environmental security concerns.

The first chapter, a theoretical analysis, discusses the emergence of the environment as a national security concern that developed during the Clinton administration. It examines the neo-Malthusian narrative of Robert Kaplan and Thomas Homer-Dixon's work that led to the development of the environment as a major security concern, but one that offered only one of the several dominant theoretical discourses on environmental security. The chapter then discusses the alternative narratives, cornucopian and sustainable development, two distinct environmental security discourses that offer different perspectives and solutions to environmental security concerns. Each following chapter analyzes historical events, policy suggestions, discourse, and documents to understand where individual, state, and international actors stand in regards to environmental security concerns. The paper also briefly touches on the subject of energy security due to its relationship to environmental security. Using Adam Simpson's definition, energy security in this paper is defined as having been achieved when sufficient energy is available and affordable in a state's population, in a reliable, and sustainable manner that refrains from causing environmental threats as described by the concept of environmental security.[5]

The second chapter, a state level of analysis, provides historical context on the oil embargo of 1973 and examines the role the state took to secure oil production in the U.S. It discusses state efforts between 2013 - 2015 that led to the repeal of the ban on crude oil exports that was enacted after the oil embargo of 1973 as part of the Energy Policy Conservation Act of 1975. The chapter answers the subquestion: *Why did the state support the repeal of the 1975 ban on crude oil exports despite the rise in environmental security concerns?* The efforts to repeal the ban on crude oil exports during the Obama administration were heavily criticized by environmentalists who claimed that the repeal would lead to a worsening of climate change effects. The chapter focuses on discourse surrounding state policy suggestions given by former

[4] Ullman, Richard H. "Redefining Security." *International Security* 8, no. 1 (1983): 129-53. doi:10.2307/2538489.
[5] Simpson, Adam, "Challenging inequality and injustice: A critical approach to energy security". Environmental Security: Approaches and Issues. London: Taylor & Francis Group. (2013). p. 248

U.S House Representative Joe Barton and Charles K. Ebinger, a former senior fellow in the Energy Security and Climate Initiative at Brookings that took place during a House subcommittee meeting on energy in 2014. Their rhetoric on energy policy is used to understand the states position on environmental security.

The third chapter, an individual level of analysis, examines three addresses given by Barack Obama in 2012. The addresses consist of two speeches titled *Presidential Remarks on Energy Policy* and the third speech is the 2012 *State of the Union Address*. The remarks on energy policy were part of the Obama administration's "All-of-the-Above" Energy Strategy. To promote the energy strategy, Obama gave several speeches on the subject across several college campuses. This chapter focuses on the discourse Obama used to incentivize further fossil fuel production as an energy security measure. The chapter answers the subquestions: *Why does Obama promote an increase in fossil fuel production? And for what benefit?* Although efforts to repeal the ban on crude oil exports officially began in 2013, in 2012 the U.S had already experienced a surge in domestic oil production. The aim of this discourse analysis is to examine the priorities of the energy strategy and if Obama, as an individual, has a different or similar approach to energy policies than the state has; and how do his energy policies affect environmental security?

The fourth and final chapter examines the relationship between multinational oil companies and the Paris Agreement by answering the subquestion: *Why does the emergence of multinational oil companies as non-state actors present environmental security risks that the Paris Agreement attempts to mitigate?* The chapter briefly analyzes articles five and eight of the Paris Agreement and the measures fossil fuel companies are taking to meet their emission targets. Due to the nature of the fifth article of the agreement, many fossil fuel companies are not expected to cut their production of oil and gas. Instead, many corporations have attempted to neutralize their emission output and have branded themselves as part of the solution, despite the effects of climate change having been directly linked to their presence. The chapter analyzes these efforts and ongoing technology projects that are fundamentally cornucopian. Finally, it briefly discusses what, according to a simulation project produced by a think tank, the best approach to mitigate climate change effects, in accordance with fossil fuel companies, might look like.

Efforts to mitigate environmental security risks were traditionally carried out by the state. However, climate change concerns in the twenty-first made it clear that environmental security concerns are a global collective issue that requires different demands beyond the protection of national security. Many of the leading causes of environmental security risks are linked to societal preoccupations with economic growth on a state and international level. By providing a state, individual, and international level of analysis, the paper will observe measures of accountability and the influence one international actor might have over others. The case

study intends to examine how and if this actor has also created some of the current major environmental security risks.

Methodology

Using a constructivist approach this qualitative case study answers the research questions: Why was there an oil surge during the Obama administration? Did this create environmental security risks? To analyze the consensus in international relations on environmental security the case study examines discourse expressed in policy agreements and by political actors in relation to the fossil fuel industry and environmental security. The state and individual level of analysis, chapter two and three, focus primarily on events in the U.S. during the Obama administration and the oil embargo of 1973. Primary sources consist of C-SPAN network archive videos that include U.S House of Representatives subcommittee meetings and presidential addresses. Secondary sources include literature by authors such as Timothy Mitchell, who frequently provides revisionist historical accounts. Sources also include carbon briefings, research reports on climate change and environmental security risks, and several news reports highlighting the events during the congressional debates regarding Obama's energy plan and the repeal of the 1975 ban on crude oil exports.The third chapter focuses on the relationship between multinational oil companies and the Paris Agreement. The chief primary sources of this chapter are the fifth and eight articles of the Paris Agreement. Secondary sources include literature on the discussion of the role oil companies take to meet the goals of the agreement. While this case study attempts to outline the general consensus in international relations on environmental security, the topic remains limited in scope to events in U.S policy and the diplomatic efforts of the United Nations in the Paris Agreement.

Chapter 1: Environmental Security Theoretical Framework

Introduction

The traditional approach in national security has been largely dominated by realist theoretical frameworks. National security discourse indicates that states must seek their own protection above all else. Historically, writers such as Rousseau, Machiavelli, and Hobbes perceived the international system as a callous terrain where states are driven to achieve their own security at the expense of their neighbors.[6] According to these notions, permanent peace is unlikely to be achieved due to the nature of interstate relationships as a struggle for power and attempts to achieve security at the expense of neighboring states.[7] The realist perspective in national security continued to be influenced in the twentieth century by writers such as John Mearsheimer and Kenneth Waltz, who emphasized that the international system is inherently set for violence. At the end of the twentieth century, the environment became an additional concern recognized by the U.S as an interest to national security. The exploitation of finite resources such as oil and gas has been linked to climate change and its effects have now been correlated to environmental security risks. The production and flow of oil, however, has been closely tied to the means of survival and well being of the nation-state and its protection has been sought by national security for decades. Before environmental security concerns were recognized by the state, in the twentieth century, as the U.S population expanded and the demand for oil grew, the state took acute measures to protect finite energy resources from becoming depleted.

Technological advancements in the late twentieth century, however, have revealed that reserves of both natural gas and oil are much higher than previously estimated, and fears of resource scarcity have largely diminished. Today, industrialized societies depend on the use of inexpensive and abundant resources of energy which often come in the form of oil and gas. Consequently, the overuse of these resources has been linked to an increase in greenhouse gases and a shift in weather patterns which have led to droughts, floods, threats to agriculture and food production, emerging infectious diseases, melting ice caps, rising sea levels, and an increase in natural disasters - all considered to be environmental security risks. The publication of Racheal Carson's book, *Silent Spring,* in 1962 helped launch the environmental movement.[8] However, it

[6]John Baylis, Steve Smith, and Patricia Owens, "Chapter 15 - International and Global Security," in *The Globalization of World Politics: an Introduction to International Relations* (Oxford: Oxford University Press, 2017), pp. 239-242.
[7] Ibid.
[8] Jill Lepore, "The Right Way to Remember Rachel Carson," The New Yorker (The New Yorker, March 19, 2018), https://www.newyorker.com/magazine/2018/03/26/the-right-way-to-remember-rachel-carson.

was not until the 1990s that environmental security strategies were adopted by U.S National Security. Although security remains a highly contested term, the term is generally understood as the responsibility of a state to prevent the risk of damage or loss for the means of survival and well-being of the nation-state and the ability to take the necessary means to protect itself from attacks.[9]

This theoretical chapter begins by discussing beliefs that frame the discourses of danger in national security and how the fall of the Soviet Union prompted the environment as a national security concern. The chapter will then proceed to discuss the dominant discourse of environmental security in national security, neo-Malthusianism. This is followed with a brief state of the art in relation to the arguments made by Robert Kaplan and Thomas Homer-Dixon's work on developing countries that led to the emergence of the environment as a major security risk during the Clinton administration. The chapter will examine their realist and neo-Malthusian theoretical approaches that were adopted by the state to analyze and mitigate resource scarcity and environmental security risks. It will also discuss criticism by other scholars that claim the neo-Malthusian perspective is too narrow of a framework and does not account for other variables that cause environmental security risks. The chapter ends with the discussion of two alternative perspectives to the neo-Malthusian perspective on the environment. First it will discuss the cornucopian theoretical framework that explains many of the approaches fossil fuel companies adhere to in order to provide energy security and economic growth. Finally, the chapter will discuss the alternative narrative of sustainable development as a means to ensure environmental security by expanding the use of renewable energy resources to both mitigate the effect of climate change and provide energy security.

Discourses of Danger in National Security

National security, which protects the survival of the state and its citizens through the use of economic power, diplomacy, power projection and political power, has been traditionally approached through military action that seeks to protect that state from problems that arise from beyond domestic borders.[10] Generally, national security threats have been perceived as more dangerous and threatening to a state than domestic security risks. Through military action, national security has sought to protect the quality of life for the inhabitants of its state by preventing: interruptions of the flow of energy resources, protecting scarce resources, terrorist attacks, restraints on the liberties of its citizens, urban and ethnic conflict, and environmental degradation.[11]

Government funding for national security in the U.S is concentrated in areas meant to relieve or prevent the degradation to the quality of life. However, perceived dangers in national

[9] Richard Ullman, "Redefining Security." *International Security* 8, no. 1 (1983): p.133. doi:10.2307/2538489.
[10] Paul Rogers, *Losing Control: Global Security in the Twenty-First Century* (London: Pluto, 2010).
[11] Richard Ullman, "Redefining Security." *International Security* 8, no. 1 (1983): p. 134. doi:10.2307/2538489.

security are highlighted through discourse that is pushed for in policy agendas. For example, the possibility of an outbreak of nuclear war has remained a priority across many national security agendas. In the U.S the congressional budget office projected that the cost of U.S nuclear forces between 2019 - 2028 would cost $494 billion dollars, an average of $55 billion dollars a year.[12] While in 2017, domestic U.S natural disasters caused an unprecedented record in damages worth $306 billion dollars.[13] Hurricane Harvey, Maria, and Irma alone cost approximately $265 billion of the $306 billion dollars and scientists have linked their magnitude to the effects of climate change.[14] Between 1980 - 2018 the U.S experienced 219 weather and climate disasters and the cumulative costs of the events has exceeded $1.5 trillion dollars. However, despite the steady increase in natural disasters over the course of 12 years between 2005 - 2017 only a total of $37 billion dollars was used by the Federal Emergency Management Agency (FEMA) to mitigate and prepare for natural disasters.[15]

The prevailing discourse in national security prioritizes the prevention of hundreds of millions of deaths during a nuclear attack, over the death of a few hundred deaths during a monumental natural disaster. Fears of a nuclear attack have been a priority for U.S National Security since the Cold War when both the U.S.S.R and the U.S developed nuclear missiles and tensions between both countries grew. While health risks correlated to the effects of climate change present environmental security risks such as air pollution and agricultural droughts, these risks define separate domestic dimensions of security that have not been of high priority to U.S national security.[16] In the 1990s however, on an international level, the discourse of environmental security was quickly recognized by policymakers. The fall of the Soviet Union left the U.S without an easy definable national security policy that had been clearly depicted

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[12] Michael Bennett et al., "Projected Costs of U.S. Nuclear Forces, 2019 to 2028," Congressional Budget Office, January 2019, p.1 https://www.cbo.gov/system/files/2019-01/54914-NuclearForces.pdf.

[13] Adam B. Smith, "2017 U.S. Billion-Dollar Weather and Climate Disasters: a Historic Year in Context: NOAA Climate.gov," 2017 U.S. billion-dollar weather and climate disasters: a historic year in context | NOAA Climate.gov (NOAA, January 8, 2018), https://www.climate.gov/news-features/blogs/beyond-data/2017-us-billion-dollar-weather-and-climate-disasters-historic-year.

[14] Ibid.; Robert McSweeney and Jocelyn Timperley, "Media Reaction: Hurricane Irma and Climate Change," Carbon Brief (Carbon Brief, September 12, 2017), https://www.carbonbrief.org/media-reaction-hurricane-irma-climate-change.; David Keellings and José J. Hernández Ayala, "Extreme Rainfall Associated With Hurricane Maria Over Puerto Rico and Its Connections to Climate Variability and Change," *Geophysical Research Letters* 46, no. 5 (December 2019): pp. 2964-2973, https://doi.org/10.1029/2019gl082077.; Mark D. Risser and Michael F. Wehner, "Attributable Human-Induced Changes in the Likelihood and Magnitude of the Observed Extreme Precipitation during Hurricane Harvey," *Geophysical Research Letters* 44, no. 24 (2017): pp. 12,457-12,464, https://doi.org/10.1002/2017gl075888.

[15] "A Look at FEMA's Natural Disaster Mitigation and Preparedness Funding," USAFacts (USAFacts, January 14, 2020), https://usafacts.org/articles/look-femas-natural-disaster-mitigation-and-preparedness-funding/.

[16] Irene C. Dedoussi et al., "Premature Mortality Related to United States Cross-State Air Pollution," *Nature* 578, no. 7794 (February 12, 2020): pp. 261-265, https://doi.org/10.1038/s41586-020-1983-8.; D.L. Swain et al., "The Extraordinary California Drought of 2013-2014: Character, Context, and the Role of Climate Change,"September 2014,https://www.ioes.ucla.edu/publication/extraordinary-california-drought-2013-2014-character-context-role-climate-change/.

before the end of the Cold War.[17] To maintain the integrity of the security agencies there was a need for new discourses of dangers, and national security turned to some pre-existing but overlooked discourses that presented threats, one of which was environmental security.[18] Although ill-defined, during the Cold War, a language around environmental security had already been loosely constructed.[19] During the Clinton administration, however, environmental security made it into mainstream discourse and became a major national security concern.

In every area of national security strict measures are taken to decrease vulnerabilities for the inhabitants of a state.[20] Security policies seek to reduce vulnerabilities, but it is necessary to calculate the costs and benefits involved. In *Redefining Security*, an early environmental security essay, Ullman argues that interventions, which are a common national security strategy, give rise to inefficiencies. He questions national security rationales that are accustomed to policing and stockpiling resources. Instead, he contends that national security could work to develop new production techniques that may cost the same.[21] Similarly, he discusses that one way to cope with resource depletion is to find substitutes for the commodities. Although it may not be possible for all commodities such as water and clean air, it applies to non-renewable resources such as minerals and fossil fuels.[22] Systems seeking alternative fossil fuel sources have, however, not been of high priority to national security. It has been difficult to persuade the state to allocate sizable funding to put these ideas into action.[23]

Despite the earliest literature by scholars such as Ullman urging the state to seek the mitigation of environmental security effects through sustainable development efforts in the 1980s, it was Robert Kaplans and Thomas Homer-Dixon's neo-Malthusian and realist approaches that became the framework for environmental security. The following sub-section will discuss and examine the methodologies and theoretical framework of the article that galvanized national security and helped establish the environmental security framework in the U.S.

The neo-Malthusian Theory

Traditional environmental security literature, such as *Environment and Security* by Thomas Homer Dixon, has used the work of Thomas Malthus, who for many continues to be regarded as a scholar who predicted the current environmental security risks developing

[17] Floyd, Rita. "The Rise of US Environmental Security." Chapter. In *Security and the Environment: Securitisation Theory and US Environmental Security Policy*, p.63. Cambridge: Cambridge University Press, 2010. doi:10.1017/CBO9780511730146.004.
[18] Ibid.
[19] Ibid.
[20] Richard Ullman, "Redefining Security." *International Security* 8, no. 1 (1983): p.146. doi:10.2307/2538489.
[21] Ibid. p.150
[22] Ibid. p.145-6
[23] Ibid.

countries are experiencing due to population growth and resource depletion.[24] The neo-Malthusian theory describes all resources as finite and as the human population expands there is a greater need to contain human agency to preserve resources - this outlook leads to the common resource scarcity discourse.[25] For centuries, Thomas Malthus has been commemorated for his principle on population growth. His theory posits that humanity's tendency to reproduce faster than the rate of food production leads to a life of hardship, famine, and disease. The betterment of humanity is impossible without strict limits on reproduction.[26] However, the publication of *The Limits to Growth* by the Club of Rome in 1972 extended the Malthusian theory to the environment. The addition of environmental concerns to the traditional Malthusian theory introduced the term neo-Malthusian. *The Limits to growth* presented claims that population growth would lead to environmental stresses that would affect economic development and cause irreversible damage to the environmental systems that support life.[27] Population growth in traditional environmental security literature has predicted that environmental resource scarcities would lead to cultural and racial conflict, geographic migration, and the transformation of war.

State of the Art - The Emergence of Environmental Security During the Clinton Administration

Robert Kaplan's article, *The Coming Anarchy: How scarcity, Crime, Overpopulation, Tribalism, and Disease are Rapidly Destroying the Social Fabric of Our Planet*, helped publicize the concept of environmental security, a topic which had previously been addressed mostly by academics. The publication of the article generated an environmental angle in U.S politics and national security that had not previously extended outside academia.[28] However, Kaplan's arguments and observations reflect traditional realist concerns that claim the international system is inherently violent and that states must achieve their own security at the expense of other states. In *The Coming Anarchy*, it is suggested that the fates of modern states are now tied to the fate of the environment and asserts ecological disruptions are a security concern.[29]

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[24] Robert D. Kaplan, "The Coming Anarchy," The Atlantic (Atlantic Media Company, February 1, 1994), https://www.theatlantic.com/magazine/archive/1994/02/the-coming-anarchy/304670/.
[25] Peter M. Haas, "Constructing Environmental Conflicts from Resource Scarcity," *Global Environmental Politics* 2, no. 1 (February 2002): p. 5, https://doi.org/10.1162/152638002317261436.
[26] MAYHEW, ROBERT J. "Malthus and the Making of Environmental Economics." In *Malthus*, p.108. Cambridge, Massachusetts; London, England: Harvard University Press, 2014.
[27] Oxford References"Overview - Neo-Malthusian,", https://www.oxfordreference.com/view/10.1093/oi/authority.20110810105455393.
[28]Simon Dalby. "The Environment as Geopolitical Threat: Reading Robert Kaplan's "Coming Anarchy"." In *The Environment in Anthropology (Second Edition): A Reader in Ecology, Culture, and Sustainable Living*, edited by Haenn Nora, Wilk Richard R., and Harnish Allison, NYU Press, 2016 p.104 .www.jstor.org/stable/j.ctt180410k.18.
[29] Ibid. p.106.

The neo-Malthusian theory was also adopted by Thomas Homer-Dixon whose own work on environmental security inspired much of Kaplan's work on the subject. The adoption of Malthus's Theory into environmental security literature by both authors claimed that population growth would lead to anarchy. Kaplan provided a fifty-year prediction in which world anarchy would be inevitable unless environmental security measures were not taken. In his article, Kaplan recounts many of his personal experiences during his trip across Africa. He visited Sierra Leone during its civil war and described the condition of the state as a microcosm of what is occurring worldwide, but at a more moderate and gradual pace. The main premise of his article argues that states are not as strong, stable, and capable as presumed and that conflicts over resources, the environment, and identities are going to tear states apart unless strict security measures are taken. Kaplan says that foreign policy approaches should be shaped by upcoming surging populations and environmental problems such as deforestation, soil erosion, water depletion, air pollution, and the spread of disease.

Sierra Leone, according to Kaplan, is a natural point of reference that is telling what the environmental and political character of the world is likely to become in the twenty-first century. The country is described as a global symbol that represents worldwide demographics, environmental, and societal stressors where criminal anarchy can materialize as a real strategic danger. All of which derive from a resource scarcity perspective. Sierra Leone, West Africa, and large parts of the underdeveloped world are described as having collapsing central governments, a rise of tribal and regional domains, a high spread of disease, and a growing pervasiveness for war. *The Coming of Anarchy* predicted that the increasing lawlessness found in West African cities such as Sierra Leone is a reflection of what cities will look like in the U.S in the coming decades if environmental security measures are not taken.[30]

Kaplan's article used compelling neo-Malthusian rhetoric that advocated for a fairly narrow and state-centric version of environmental security, but also emphasized a focus on the well-being of the individual that allowed national security to be easily positioned with a human and environmental security approach. Floyd argues that it was not the state that suffered from a crisis of representation in the absence of securitization measures after the Cold War, but national security agencies. Providing security is their primary role and the emergence of environmental security concerns that could be established through a state centric manner fit the traditional national security discourse of securitization.[31] The solutions to environmental security risks that Kaplan presents serve first and foremost the wealthy industrialized nations of Europe and the United States. Kaplan's solutions seek the protection of environmental resources and population control that have been commonly understood to be realist and neo-Malthusian. However, neo-Malthusianism has been criticized by other scholars as an inadequate framework for

[30] Robert D. Kaplan, "The Coming Anarchy," The Atlantic (Atlantic Media Company, February 1, 1994), https://www.theatlantic.com/magazine/archive/1994/02/the-coming-anarchy/304670/.
[31] Floyd, Rita. "The Rise of US Environmental Security." Chapter. In *Security and the Environment: Securitisation Theory and US Environmental Security Policy*, Cambridge: Cambridge University Press, 2010. p.69 doi:10.1017/CBO9780511730146.004.

environmental security because it does not analyze other variables that lead to famine, disease, pollution, and violent conflict. For example, neo-Malthusianism does not take into consideration shifts in weather that have occurred due to the accumulation of greenhouse gases that derive from the use of fossil fuels.

Just as Thomas Malthus, Kaplan also argues that population growth is one of the major forces that will inevitably push many countries further into poverty. Kaplan falls into the neo-Malthusian framework that essentially claims there is a limited amount of land and by adding more people to the same land they will no longer be able to produce enough food for each additional person and eventually they will begin to starve.[32] Kaplan predicted we would begin to see great famines across West Africa and on a global scale over the following decades. While Kaplan and Homer-Dixon's methodologies helped develop the environmental security framework, their methods have generated serious academic criticism. Their themes have not resonated with many environmentalists who are concerned with confronting the roots of environmental security risks instead of only securing and protecting resources from the effects of environmental degradation.

State of the Art - Criticisms of the neo-Malthusian Environmental Security Approach

While the neo-Malthusian framework generated much of the conversation around environmental security, by the end of the twentieth century academics such as Peter Haas, Micheal Watts, and Nancy Peluso challenged the dominant environmental security perspective and encouraged alternative theoretical frameworks in environmental security. Simon Dalby has argued that Kaplans analysis parallels U.S media coverage of Africa, and Rwanda in particular, in its representations of Africa as a place of “tribal,” “hostile,” and “violent” expression. Kaplan's article, according to Dalby, is notable for its pessimism, forceful prose, and the absence of any suggested substantive political remedies for the imminent dystopia.[33] Other criticisms argued that the language of environmental scarcity as a security issue calls for the use of armed forces that may lead to violence. The traditional concept of environmental security has been criticized as too narrow of a concept because it reflects a realist materialistic notion of security that overtakes the political agenda instead of allowing for other concepts of environmental security.[34] It is not the nature of resource scarcity that makes violence likely but embedded ideas that create a political atmosphere where scarcity is likely. Scarcity may amplify pressures that are acute through a misuse of the term “security” that then require the use of the military and

[32] Matt Peterson and Charles Kenny, “Why the World Didn't Fall Apart,” The Atlantic (Atlantic Media Company, April 8, 2019), https://www.theatlantic.com/membership/archive/2019/04/why-the-world-didnt-fall-apart/586696/.
[33] Simon Dalby. "The Environment as Geopolitical Threat: Reading Robert Kaplan’s “Coming Anarchy”." In *The Environment in Anthropology (Second Edition): A Reader in Ecology, Culture, and Sustainable Living*, edited by Haenn Nora, Wilk Richard R., and Harnish Allison, NYU Press, 2016 p.103 .www.jstor.org/stable/j.ctt180410k.18.
[34] Peter M. Haas, “Constructing Environmental Conflicts from Resource Scarcity,” *Global Environmental Politics* 2, no. 1 (February 2002): p. 1, https://doi.org/10.1162/152638002317261436.

leads to conflict or violence.[35] The traditional state-centric understanding of environmental security requires the use of national security because scarcities are framed as zero-sum in the international system where states must remain distrustful and defend their own interests.

Hass describes these doctrines of resource scarcity and environmental security that frequently bear the weight of justifying U.S interventions as fundamentally flawed. This is partly because the doctrines have been selectively implemented by national security to justify their preexisting Cold War role of security.[36] The attractiveness of these doctrines is due to the dominant discourse and the values embedded in the discourse. The prevailing perspective on resource scarcity derived not solely from the nature of the argument, but rather from the ability to establish realist values, beliefs, ideologies, and narratives in the discourse. Understanding discourse remains crucial because it institutionalizes cognitive frames, identifies problems, and sets agendas that have defined the important aspects of the current understanding of environmental security.[37] The meaning of the term 'security' - through a constructivist perspective, provides an interpretive approach that narrates how scholars, such as Kaplan and Homer Dixon have used discourse to highlight the impact of specific events and formulate them to fit national security concerns that ultimately set U.S foreign policy agendas.

When environmental security was added to the national security agenda, it was approached in a realist neo-Malthusian manner that required military use to protect the country's borders against resource depletion through the policing of resources, management of forest conservation, protection against biological threats, the ease of international ethnic tensions, and ensuring of energy security. The state did not, however, seek to mitigate the source of many of these problems. And while concerns over climate change in the twenty-first century have been widely acknowledged as a threat to human and environmental security both domestically and internationally, in the 1990s, environmental security was framed primarily as a national security concern. On the eve of the twenty-first century, hydraulic fracturing and horizontal drilling became increasingly widespread and they provided energy companies with the opportunity to increase their production of oil and gas. From a state perspective, these technologies which aggravate effects of climate change and lead to the environmental security threats, are not acknowledged. In the twenty-first century, these technological advancements have allowed oil companies to pursue cornucopian policies that do not readily mitigate the effects of climate change. While the state seeks to secure the environment through neo-Malthusian approaches, its agenda does not include state or international regulations of its oil companies that have directly, through the production of fossil fuels, created environmental security risks. Instead many energy companies have set their own environmental regulations that often do not prioritize the environment but economic growth. With practices of deregulation, it has become easy for corporations to adopt a cornucopian framework, one of the four major environmental security

[35] Ibid. p.8
[36] Ibid. p.6
[37] Ibid. p.1

discourses. The following subsection will introduce the remaining three dominant discourses identified by anthropologists that relate to the environment and security.

Alternative Discourses in Environmental Security

The current discourse linking the forms of conflict to environmental processes has been largely influenced by the scholars Thomas Homer-Dixon and Robert Kaplan. Their projects have provided the theoretical building blocks for most of the work on environmental security and the discussions on environmental policy intervention. However, other scholars explain that none of these discourses are "right" and that instead a good approach to developing foreign policy should be based on a public discursive dialogue between proponents of each set of environmental security discourse.[38] The two dominant discourses in environmental security today are neo-Malthusian and cornucopianism, they stem from embedded social discourses such as neo classical economic theories that advocate for consistent economic growth and notions in politics that claim conflict and competition are inevitable in the international system. These discourses have helped establish the narrative between security and environmental discourses in international relations. There are other discourses in environmental security, but because each discourse rests on its own unique propositions that are upheld by different political angles, some of which remain negligible in state affairs, it is difficult to envision a committed discussion that accounts for and considers each discourse on environmental security.[39]

Cultural anthropologists studying environmental politics have identified a total of four prevailing sets of discourse, but none have remained as prevalent as neo-Malthusian and Cornucopianism.[40] Altogether, the discourses have been placed into the following categories: neo-Malthusian, Cornucopian, Sustainable Development, and Radical and Postmodern.

Dominant Discourses in Relation to the Environment and Security

- neo-Malthusians perceive nature as vulnerable, unforgiving, and precarious. Resources are limited and as the human population expands there is a greater need to contain human agency to preserve resources - this outlook leads to the common resource scarcity discourse and is akin to realism.
- Cornucopians perceive nature as boundless and are therefore less likely to require

[38] Ibid. p.2
[39] Ibid.
[40] Michiel Schwarz and Michael Thompson, *Divided We Stand: Re-Defining Politics, Technology & Social Choice* (University Of Pennsylvania, 1990).

constraints over human action that may be necessary to protect nature.[41] Anthropologists Jordan and O' Riordan describe this perspective as "the management style associated with this view is relaxed, non interventionist and laissez-faire. It is associated with a market perspective on institutional functioning, and a belief in the prominence of the individual in coping with challenges."[42] Human resources are limitless and there is no need to take precautions to conserve resources because there are infinite substitutions and by prioritizing the markets and economic growth technological developments will always prevent resource scarcity.

- Sustainable Development perceives nature as resilient. Nature is manageable as long as its limits are taken into account, either by holding back or by the application of ecological principles to human affairs. This perspective takes into account the potential for technological innovations as an alternative to prevent conflict common in current resource scarcity approaches.[43]

- Radical and Postmodern, which will not be thoroughly explored in this paper, perceives nature as unrelated to discourse and environmental security. Instead of discussing resource availability in abstract terms, Radical and Postmodern authors argue that the true questions lie in the discussion of inequitable resource access and distribution.[44] Radicals and Postmodernists look to issues of redistribution to address concerns of resource scarcity.

Cornucopian Theory

The promise of cornucopianism holds that future discoveries developed through economic growth will solve every ecological concern whether induced by nature or humans. It assumes that nature can be molded and mastered to meet the increasing desires of consumption.[45] As a result of technological advancements, oil and gas scarcities have become nearly obsolete and these developments have validated cornucopian beliefs that constraints from nature can be overcome. Prevailing neoclassical economic theories have been used to advocate for models of growth as the remedy to both poverty and environmental problems. Similarly, cornucopian beliefs claim that modern technology and economic growth are the only way to prosperity. While it may be true that many technological developments such as the facilitation of clean water and air in many industrialized nations have improved humanity's relationship with the environment, the theory of cornucopianism ignores many environmental problems. [46]

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[41] H. Kahn and J. L. Simon, *The Resourceful Earth: a Response To Global 2000* (New York: Basil Blackwell, 1984). Haas, p.3
[42] Andrew Jordan and Timothy O'Riordan, *Social Institutions and Climate Change: Applying Cultural Theory to Practice*(Norwich: CSERGE, 1997). ; Haas, 2002. p.3
[43] Haas, 2002. p.3
[44] Michael Redclift, *Sustainable Development: Exploring the Contradictions* (London: Routledge, 1987). Haas, p.3
[45] Raymond Murphy. "Environmental Realism: From Apologetics to Substance." *Nature and Culture* 1, no. 2 (2006): p.182. www.jstor.org/stable/43304087.
[46] Ibid.

Cornucopianism has strong overlapping themes with neoliberalism, however, cornucopianism was first discussed in relation to the environment in the seventeenth century and its theoretical origins have been linked to David Ricardo's concept of rent which was discussed in his book *Principles of Political Economy and Taxation*.[47] Ricardo rejected the classical Malthusian theory that now supports many realist perspectives on security. Contrary to Malthus' concerns on the limitations of food production, Ricardo believed that when nature, such as soil, became unusable that other soils could also be developed and improved for food production through human ingenuity, capital, and labor - for Ricardo constraints from nature could be escaped through economic growth and technological innovation.[48] Currently, these beliefs are shared by many and it is often assumed that sacrifices are not necessary because a new technology will inevitably be discovered and end scarcities, repair ecological damage, or find a substitution for the resource. The deregulation of many corporations has given energy investors incentives to adopt cornucopian frameworks because they no longer run the risk of being held accountable by the state or on an international level. Several intergovernmental organizations now also embrace cornucopian values. In 1992, during his time as the chief economist at the World Bank, Larry Summers said, "There are no limits to the carrying capacity of the earth that are likely to bind any time in the foreseeable future. There isn't a risk of apocalypse due to global warming or anything else. The idea that we should put limits on growth because of some natural limit, is a profound error and one that, were it ever to prove influential, would have staggering social costs."[49] Summers' comment reflects the idea that human ingenuity and adaptation through the development of technology, not natures boundaries, sets the limits for human well-being and prosperity.[50] Yet ecologists now predict rapid accelerations of environmental crisis', some of which include declining resilience of ecosystem functioning due to biodiversity loss, mass extinction, a rise in greenhouse gas emissions, changes in weather patterns, water scarcity, and agricultural instability in several parts of the world. It is difficult to defend Summers' statements that claim limitations on growth only dampen human progress when piling scientific evidence has demonstrated how economic growth linked to the fossil fuel industry has led to the environmental security crisis. Numerous scientific studies have shown that cornucopian doctrines are myopic and a threat to environmental and human security.[51]

Before the oil economy, early negative ecological effects due to capital accumulation were similarly felt through the erosion of soil, loss of biodiversity, and deforestation; and the exhaustion of these resources simply marked new frontiers for resource exploitation. Under cornucopianism, the logic of substitution persists as part of an economic doctrine that seeks

[47]Fredrik Albritton Jonsson, "The Origins of Cornucopianism: A Preliminary Genealogy," Critical Historical Studies (University of Chicago, 2014), p.153. https://www.journals.uchicago.edu/doi/10.1086/675081.
[48] Ibid.
[49] Ibid. p.152
[50] Ibid.
[51] ScienceDirect. "Global Warming," Global Warming - an overview | ScienceDirect Topics (Science Direct, 2017), https://www.sciencedirect.com/topics/social-sciences/global-warming.

unlimited growth and therefore infinite resource substitutions that do not take into account the limits of nature. In practice finding substitutions has been subsequent to the exhaustion of a resource. In both the United States and Europe, the expansion of urban settlements was met with the exhaustion of resources. Extensive construction in Europe led to the exhaustion of Norwegian timber in the seventeenth century. In the nineteenth century New England fisheries were rapidly depleting and the overhunting of whales, beavers, and other species amongst new settlement frontiers revealed some of the ecological costs of human expansion.[52]

The end of the second world war marked the beginning of the Great Acceleration. Human innovation and the development of the markets appeared to offer unlimited growth opportunities. The Great Acceleration, a term coined by environmentalists, addresses the relationship humans have had with the environment since 1950. It was the result of socio-economic changes that had an impact on the biophysical spheres of the Earth System that have now been linked to many environmental security risks.[53] It was marked by material growth, an increase in economic activity, an expansion of the human population from three to six billion people, and increase in petroleum production in the twentieth century. Warnings of resource exhaustion were raised shortly after World War II when members of the American Petroleum Institute advised the transition toward renewable energy systems after the fuel shortages of 1947-48.[54] With the unprecedented rates of economic growth that occurred in the twentieth century, environmentalists William Vogt and Fairfied Osborn Jr. also warned about environmental degradation and resource exhaustion. However, these concerns have been overshadowed by the principles of cornucopianism that are inextricably linked to economic growth and neoliberal thought.

Notions of growth have been indoctrinated into globalization which shares the beliefs that unlimited growth is the only viable economic option. As a result in the current oil economy, it has been difficult to end a reliance on fossil fuels to mitigate environmental security risks because the industry is directly associated with economic growth and relies on cornucopian ideology and the use of oil, a finite exhaustible resource. Efforts to alleviate ecological concerns have been made by oil companies, but without compromising their industry model, many fossil fuel companies have developed schemes that do not change the foundation of their business, but provide a veneer of climate change concerns.

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[52] Fredrik Albritton Jonsson, "The Origins of Cornucopianism: A Preliminary Genealogy," Critical Historical Studies (University of Chicago, 2014): p.160. https://www.journals.uchicago.edu/doi/10.1086/675081.
[53] Will Steffen et al., "The Trajectory of the Anthropocene: The Great Acceleration," *The Anthropocene Review* 2, no. 1 (2015): pp. 81-98, https://doi.org/10.1177/2053019614564785.
[54] Fredrik Albritton Jonsson, "The Origins of Cornucopianism: A Preliminary Genealogy," Critical Historical Studies (University of Chicago, 2014), p.165. https://www.journals.uchicago.edu/doi/10.1086/675081.

Sustainable Development Theory

The concept of sustainable development was first introduced in a 1987 report by the World Commission on Environment and Development, commonly referred to as the Brundtland Commission. The report, *Our Common Future: From One Earth to One World*, looked past the traditional definitions of development and advocated for new interpretations of the concept that still consisted of economic, social, and environmental progress but did not deprive future generations of the resources required to lead a decent livelihood.[55] The concept of sustainable development emerged as a new paradigm due to major criticisms of previous definitions on development, some of which included: 1) "Economic growth does not automatically improve people's lives, either within nations or internationally"[56] 2) Rich and poor countries compete in the global marketplace as unequal partners 3) The systemic solutions required to meet the development challenges confronting the world's developing countries require fundamental readjustments in both the goals of development and their methods of achievement. [57]

Unfortunately, sustainable development has been criticized for not always translating well from theory to practice and the term has been reclaimed by many corporations, intergovernmental organizations and state members to continue advocating primarily for economic growth through practices presumed sustainable, "To view the sustainable development movement as only a passing fad or as yet another feeble effort to capture the imagination of development policy makers, however, is to miss the power of the concept."[58] Scholars, however, have agreed that certain values are essential in the transition process from theory to the practice of sustainable development. In 1999 the think tank, Lincoln Institute of Land Policy outlined the key characteristics as the following:

1. The first key characteristic of sustainable development outlined is "reproduction". This feature focuses on replicability. To achieve sustainable development, environments must be built with resources that are not at risk of exhaustion and can be replicated and used for human environments indefinitely.[59]
2. "Balance", the second key characteristic, must be realized between environmental, social, and economic values. According to environmental planning and protection professor Edward J. Kaiser, unless all three values are not represented, sustainability cannot be

[55] Richard Estes. "Toward Sustainable Development: From Theory to Praxis." In *Transnational Social Work Practice*, edited by NEGI NALINI JUNKO and FURMAN RICH, p.77. New York: Columbia University Press, 2010. doi:10.7312/negi14448.7.
[56] Ibid. p.78
[57] Ibid. p.79
[58] Ibid. p.76
[59] Berke, Philip, and Maria Manta. *Planning for Sustainable Development: Measuring Progress in Plans*. Report. Lincoln Institute of Land Policy, 1999. p.3 . Accessed August 11, 2020. www.jstor.org/stable/resrep18489.4.

promoted.[60] These values, however, are often in competition with one another and in modern day society, economic values outshine social and environmental values.[61]

3. The fourth characteristic involves a "dynamic process" and has been identified as the need for communities to adapt to the needs of their environment. A dynamic process requires the evaluation of necessary changes in sustainability that should be oriented toward regularly moving in the direction of becoming more sustainable.[62]
4. The final characteristic of sustainable development is that plans must "link local to global concerns". The Lincoln Institute of Land Policy defines this trait as the ability of communities to look past their own interests. It requires societies to think on a global level instead of zero sum terms that only seek the highest benefit for its own society. The characteristic "link local to global concerns" requires states to look past their own interests.[63]

Sustainable Development in Practice

In recent years, U.S national security has shown an interest in adopting sustainable development practices. However, environmental security in national security continues to be approached primarily through the securitization and policing of natural resources. Sherri Goodman, a current senior fellow at the Wilson Center on environmental change and security and former deputy undersecretary of defense for environmental security, discussed the negligence of climate change in environmental security, "When I was in the Defense Department, I commissioned a study on reducing the fuel burden to the military. Nowhere in there did it ever mention the word climate change."[64] And while the effects of climate change in environmental security have over the last few years gained recognition, action against climate change in national security does not remain a primary concern. However, the state according to Goodman has slowly begun to incorporate sustainability into its military operations on environmental and energy operations and has had beneficial effects both for national security strategy and for communities across the country.[65]

While discourse on sustainability has been partially embraced by the state and the markets, nearly every sustainable development characteristic has yet to be fully incorporated. Embracing sustainable development as a single doctrine would mean foregoing many cornucopian and neo-Malthusian practices. There are, however, many corporate efforts that attempt to adopt sustainable development efforts, but have unfortunately been associated as

[60] Edward John. Kaiser, David R. Godschalk, and Francis Stuart Chapin, *Urban Land Use Planning* (Urbana: University of Illinois, 1995).
[61] Ibid.
[62] Ibid.
[63] Ibid.
[64] Sherri Goodman, "What Is Environmental Security?," Yale Insights, April 15, 2012, https://insights.som.yale.edu/insights/what-is-environmental-security.
[65] Ibid.

insincere displays of concern for the environment because they continue to deplete natural resources and prioritize economic growth. Many cornucopian and neo-Malthusian discourses have become a standard way to perceive environmental degradation, not because they are accurate, but because they have been ingrained both socially and politically.

Conclusion

The environmental scarcity concerns conveyed by academic scholars in the 1980s and early 1990s introduced an opportunity for national security to establish a new discourse of danger to secure its crisis or representation that occurred with the end of the Cold War. With the use of Robert Kaplan and Thomas Homer-Dixon's work, the Clinton administration was able to make the case that the environment needs to be prioritized to protect the existing order of the international system that directly affects American citizens. However, the early prevailing discourse on environmental security offered solutions primarily through a neo-Malthusian framework. This required military policing of many natural resources such as minerals and oil, an ease of ethnic conflicts in the Global South, forest conservation, etc. Despite national security attempts to mitigate environmental degradation, the source of many of these issues was rooted in the economic values promoted by the state. The second dominant environmental security discourse, cornucopianism, has been adopted by economists who have encouraged state deregulation to prioritize the markets, innovation, and economic growth. The values embedded in cornucopian discourse have required state oversight of the markets and businesses. Like many corporations, the fossil fuel industry has embraced notions of unlimited growth that sideline environmental concerns with the hope that a technological innovation will provide infinite substitutes or repair diminishing resources. Cornucopian notions of infinite economic growth have led to the mass production of gas and oil; and fossil fuel companies are now responsible for high levels of CO2 emissions that worsen the effects of climate change. Requiring independence from the state through policies of deregulation have made it difficult to hold the fossil fuel industry accountable for the effects of climate change because economic growth has precedence over environmental concerns.

From a constructivist perspective the neo-Malthusian and cornucopian discourses persist because they have been taken for granted by the state and many economists who accept and promote these worldviews that condition the public to believe capital accumulation and economic growth are essential to humanity's well-being. The third prevailing discourse in environmental security is sustainable development. The discourse of sustainable development still promises some economic development benefits and seeks improved energy efficiency strategies, and contributes to democratic processes of governance. However, sustainable

development frameworks have only been partly adopted in the international system through measures that still allow cornucopian and neo-Malthusian values to thrive.[66]

[66] Peter M. Haas, "Constructing Environmental Conflicts from Resource Scarcity," *Global Environmental Politics* 2, no. 1 (February 2002): p. 8, https://doi.org/10.1162/152638002317261436.

Chapter 2: Implications of the 1975 Ban on Crude Oil Exports

State Level of Analysis

Introduction

Energy reliance from fossil fuels has become an increasing vulnerability to modern industrialized societies as global wealth and consumption levels continue to increase. Industrialized states have become reliant on access to low-cost energy systems and an uneven distribution of energy resources can lead to significant vulnerabilities because low-cost energy systems are essential to modern-day industrialized life. Traditionally, energy security has been overseen by national security and the military, and the quest to secure energy has not changed considerably since the 19th century. Today energy security, specifically the securitization of oil, continues to be one of the main reasons for many modern imperial interventions and conflicts.[67]

The securitization and policing of many natural resources such as oil is a common realist strategy that was reflected as part of early academic and governmental research in security studies that dates back to the early 1960s just a decade before the 1973 energy crisis in the United States.[68] Many policy problems and energy security concerns emerged during this second half of the twentieth century, but concerns over energy crisis' can be found dating back to the nineteenth century when England expressed concerns over coal shortages and predicted an energy crisis.[69] Research in both policymaking and some parts of academia have treated environmental security in the traditional state-centric manner which links environmental degradation to a looming gap energy particularly in relation to the oil industry. This gap, which causes energy insecurity, according to environmental security theorists, is likely to cause international conflict.[70] As a policy issue, energy security fully developed during the 1973 - 1974 oil crisis that left many people in Europe and North America faced with a shortage of oil, a commodity that had once been plentiful.[71] However, by the 1980s and 1990s, oil prices stabilized and many of the fears revolving around the possibility of a new energy crisis had subsided. The topic of energy self-sufficiency, however, gained momentum once again in the

[67] Simpson, Adam, "Challenging inequality and injustice: A critical approach to energy security". Environmental Security: Approaches and Issues. London: Taylor & Francis Group. (2013)
[68] Aleh Cherp and Jessica Jewell, "The Concept of Energy Security: Beyond the Four As," *Energy Policy* 75 (2014): pp. 415 , https://doi.org/10.1016/j.enpol.2014.09.005.
[69] Lubell, Harold. "Security of Supply and Energy Policy in Western Europe." *World Politics* 13, no. 3 (1961): p. 400-22.
[70] Simpson, Adam, "Challenging inequality and injustice: A critical approach to energy security". Environmental Security: Approaches and Issues. London: Taylor & Francis Group. (2013) p. 249
[71] Aleh Cherp and Jessica Jewell, "The Concept of Energy Security: Beyond the Four As," *Energy Policy* 75 (2014): p. 415 , https://doi.org/10.1016/j.enpol.2014.09.005.

early years of the twenty-first century, but there were key differences that emerged in energy security that extended beyond securing oil.[72] Today energy self sufficiency is closely entangled with environmental security risks such as the pressure to mitigate the effects of climate change.

The oil crisis of 1973 assumed a policy agenda that followed typical realist and Malthusian strategies that sought to restrict and secure the growing dependence on oil and natural gas. This state level of analysis examines the securitization measures the state took following the oil embargo of 1973 to realize energy self sufficiency, but that led to modern day environmental security risks. The chapter analyzes the role oil companies played in ensuring the state sought the securitization of oil by preventing the development of alternative energy resources. However, during the early years of the twenty-first century, several U.S states experienced oil booms that led the oil industry to lobby for a repeal of the 1975 ban on crude oil exports. The ban was initially part of a securitization measure passed by the state to limit oil exports and secure the resource in case of a second oil crisis. However, the widespread availability of technologies such as hydraulic fracturing and horizontal drilling allowed oil companies to access deeper layers of rock and extract more oil and gas which had been previously difficult to access. Hydraulic fracturing, also known as fracking, and horizontal drilling have expanded gas and oil reserves, and as oil production in the country continues to grow, previous fears of another oil shortage have diminished. Today in the U.S, despite growing environmental security risks, oil companies, now with the support of many state members, have succeeded in expanding gas and oil exploration and production. While previous policies such as the Energy Policy and Conservation Act of 1975, which included the ban on crude oil exports, sought to protect and restrict the use of non-renewable resources such as oil and natural gas, current policies, such as the 2015 repeal of the crude oil export ban, reflect a shift toward a cornucopian framework that prioritizes the markets over mitigations of environmental security risks. The oil industry has expressed cornucopian thinking by ignoring environmental risks such as climate change and instead seeking economic growth while claiming that technological advancements such as carbon capturing technology will mitigate the effects of climate change.

In 2015 many U.S politicians such as former house majority leader Kevin Mckarthy and former Speaker of the United States House of Representatives John Boehner publicly spoke out about the benefits of repealing the crude oil ban. Today many U.S state politicians have also prioritized economic growth through the use of fossil fuels and continue to approach environmental security in a state-centric manner that approaches the solutions of environmental degradation through national security strategies. This state analysis chapter answers the subquestion: *Why did the state support the repeal of the 1975 ban on crude oil exports despite the rise in environmental security concerns?* The chapter begins by discussing developments that led to the 1973 oil crisis that have often been directly associated with the OPEC oil embargo. However, several accounts of history in this chapter will examine how the oil crisis was also the result of earlier policy actions that were influenced by oil companies

[72] Ibid.

which sought to increase the country's reliance on oil out of fears that consumers could seek alternative and more affordable fuels in the late 1960s and early 70s. The chapter then discusses how energy deregulation and the creation of the U.S Department of Energy, which promotes technological energy advancements, encouraged the widespread use of fracking and horizontal drilling that led to an oil and economic boom in several U.S states. Finally, the chapter will examine testimonies by former U.S House Representative Joe Barton and Charles K. Ebinger, a former senior fellow in the Energy Security and Climate Initiative at Brookings Institute, during a 2014 subcommittee meeting on the topic of energy and power that discussed the potential impacts of repealing the ban on crude oil exports as part of the Energy Policy and Conservation Act of 1975 in light of increased domestic energy production in the U.S. during the Obama administration. The conservation act included provisions intended to increase domestic production and reduce energy demand. During the House subcommittee meeting, most of the panelists agreed that it was time to repeal the ban. The discourse focused chiefly on its economic benefits that reinforce the economic benefits the fossil fuel industry has to offer. While environmental security was not a widely discussed topic in the 1970s, the events that took place throughout the decade such as the increased reliance on oil production encouraged a dependence on oil which has led to an increase in environmental security risks. This chapter challenges traditional notions on energy self sufficiency and argues that the classic approach to achieving energy self sufficiency leads to environmental security challenges that have largely been ignored over economic incentives.

The 1973 Oil Crisis

Eleven days after the outbreak of the Arab-Israeli Yom Kippur War, in October of 1973, the Arab members of the Organization of the Petroleum Exporting Countries (OPEC) announced a five percent cut in their supply of oil to the United States and other European states as a penalty to their support for Israel. The six Arab oil producing countries promised an additional five percent reduction every additional month until the United States stopped obstructing a settlement of the Israel–Palestine conflict.[73] With each cut the price of oil rose and the OPEC oil embargo led to an oil crisis in Europe and North America. The shortage of oil, a commodity that had once been plentiful, led to harrowing gas lines that sometimes ended with signs reading "sorry, no gas". As former U.S House Representative Joe Barton recalled in the House subcommittee meeting, " The OPEC oil cartel had an oil embargo against the United States and Western Europe and it devastated our economy [...] on odd days I could go to the gas station and buy 10 gallons of gas based on the last digit of my license plate, that was not fun".[74] After the Arab embargo, it became widely understood that the energy crisis was the result of the country's high dependence on foreign oil. The decision of Iran and the Arab members of OPEC to cut off

[73] Timothy Mitchell, "The Crisis That Never Happened," in *Carbon Democracy: Political Power in the Age of Oil*, (London: Verso, 2013): p. 175

[74] Barton Joe, Conservation Act of 1975, C-SPAN, 11 December 2014, 00:10:15 - 00:10:46 https://www.c-span.org/video/?323243-1/hearing-relevance-conservation-act-1975

oil at any given moment meant that the U.S supply oil could be interrupted by a foreign country at any moment. To protect the flow of oil, former U.S Secretary of State Henry Kissinger, an archetypal realist, indicated that the United States was prepared to send military forces to the Persian Gulf to maintain the flow of oil.[75] He argued that 'aside from military defense, there is no project of more central importance to national security and indeed independence as a sovereign nation than energy security'.[76] In the 1970s, at the height of the Cold War, the United States experienced a devastating shock that undermined its energy security. The oil embargo was lifted in March of 1974 and the global economy was in ruins. In the United States the GNP had fallen by 6 percent and the employment rate had doubled.[77]

To protect the flow of oil and prevent another energy crisis at the hands of foreign leaders, congress passed the Energy Policy and Conservation Act of 1975 (EPCA). Kissinger's statement that the U.S was prepared to send military forces to the Persian Gulf to secure the flow of oil demonstrates the state's realist thinking of the time which sought to secure oil at all costs. EPCA granted authority to restrict exports on coal, petroleum, natural gas, petrochemical feedstocks, and supplies of material and equipment for the exploration, production, refining and transportation of energy[78]; certain exceptions on exports were frequently made for countries including Canada and Mexico.[79] Additional plans to secure energy were made by Nixon in 1975. In response to the crisis, President Nixon launched "Project Independence" which sought energy self sufficiency for the country through its domestic production of energy and was designed to eliminate oil imports by 1980.[80] U.S domestic oil production rose in the 1970s and the plan to eliminate all oil imports by 1980 and the restrictions to export multiple energy sources was a securitization measure that was expected to create energy security and prevent scarcity at the expense of foreign hands.

EPCA intended to create energy security by protecting domestic oil reserves. However, it has been a common misunderstanding that the U.S relied heavily on Arab oil exports and that the oil cuts led to the energy crisis. Oil cuts from the Arab embargo were not the root cause of the energy crisis. The United States has never been highly dependent on the Middle

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[75] D. Moran and J. A. Russell, 'Introduction: The Militarization of Energy Security', in D. Moran and J.A. Russell (eds), *Energy Security and Global Politics: The Militarization of Resource Management*, London and New York: Routledge, 2009, p. 2.

[76] Simpson, Adam, "Challenging inequality and injustice: A critical approach to energy security". Environmental Security: Approaches and Issues. London: Taylor & Francis Group. (2013). p. 252

[77] Gal Luft and Anne Korin, "The Myth of U.S. Energy Dependence," Foreign Affairs (Foreign Affairs, October 17, 2016), https://www.foreignaffairs.com/articles/middle-east/2013-10-15/myth-us-energy-dependence.

[78] Charles Ebinger, Conservation Act of 1975, C-SPAN, 11 December 2014, 00:26:18 - 00:33:11 https://www.c-span.org/video/?323243-1/hearing-relevance-conservation-act-1975

[79] Jay S. Creswell, Scott M. Harvey, and Louis Silvia, "MERGERS IN THE U.S. PETROLEUM INDUSTRY 1971-1984: AN UPDATED COMPARATIVE ANALYSIS," Federal Trade Commission , May 1989, https://www.ftc.gov/sites/default/files/documents/reports/petroleum-industry-mergers-structural-change-and-antitrust-enforcement-report-staff-federal-trade/040813mergersinpetrol84.pdf.

[80] Richard Nixon, "Nixon's Speech on Energy Policy and 'Project Independence', 1973," Council on Foreign Relations (Council on Foreign Relations, November 25, 1973), https://www.cfr.org/world/nixons-speech-energy-policy-project-independence-1973/p24131.

East for its oil supply. In 2019, the Persian Gulf accounted for only 11 percent of total petroleum imports in the United States[81]. At no point in history have the figures surpassed 15 percent.[82] However, OPEC states hold three quarters of the world's oil reserves at the lowest cost per barrel, and they continue to produce just over 30 million barrels a day, relatively the same number of barrels produced four decades ago. Gal Luft argues that "OPEC deliberately produces much less oil than its reported reserves would allow in order to keep prices higher than they would otherwise be".[83] The reason the embargo led to an energy crisis was not because the Persian Gulf has a hold of U.S oil flow, but rather oil *prices,* and it continues to do so today. The Arab oil embargo of 1973 created a deep sense of vulnerability and historically it has been understood that the response was to end the United States' high dependence on oil from the Middle East. For over 40 years these beliefs have marked the pursuits for energy security and independence.

Often, the solutions to achieve energy self sufficiency have been divided amongst members of congress, but neither party has entirely sought to transition away from the use of oil as an energy resource due to the strong economic tie to the fossil fuel industry. Republicans have traditionally pushed to increase domestic oil production while Democrats have sought to develop technologies that provide better fuel efficiency.[84] The unifying factor of this debate is that both policies share the use of cornucopian rhetoric. Despite the abundance of scientific data that links the use of fossil fuels to an increase in environmental security risks, many congress members continue to prioritize economic growth in the fossil fuel industry and hope it will lead to energy independence. Others, such as several members of the Democratic Party, hope that technological developments, such as better gas mileage, will lead to a reduction in the use of fossil fuels rather than directly promoting an alternative energy transition.

The rhetoric of American energy independence has failed to highlight the role of OPEC. Since the 1960s the founders of OPEC have agreed to limit their oil production and have frequently renegotiated their oil contracts with oil companies to control oil prices to their liking. One part of achieving energy independence would be to transition entirely away from the use of oil and toward alternative energy sources. Cornucopian efforts that prioritize economic growth through the increase of domestic oil production or technological developments that hope to rely less on fossil fuels cannot end OPEC'S control over oil prices.

A Fabricated Energy Crisis

An opportunity to transition away from oil as a significant energy source emerged in

[81] U.S Energy Information Administration (EIA)"How Much Petroleum Does the United States Import and Export?," EIA, 2020, https://www.eia.gov/tools/faqs/faq.php?id=727.
[82] Gal Luft and Anne Korin, "The Myth of U.S. Energy Dependence," Foreign Affairs (Foreign Affairs, October 17, 2016), https://www.foreignaffairs.com/articles/middle-east/2013-10-15/myth-us-energy-dependence.
[83] Ibid.
[84] Ibid.

the late 1960s and early 70s. A few years before the oil embargo, OPEC states began taking control of the oil production and as a result they began to increase their prices. To increase their profit, international oil companies also sought to rise their price, by as much as fifty percent.[85] The increase in prices from both the oil companies and oil producing countries was expected to be paid by consumers.[86] One major problem that emerged from the increase in oil prices was that oil consumers could potentially seek alternative fuels, such as natural gas, coal, nuclear energy, and the development of solar energy. As Timothy Mitchell explains "It was not enough to collaborate in restricting the supply of oil: the oil companies, with the help of the Nixon White House, had to extend the system of 'sabotage' to other forms of fuel".[87] Oil companies consolidated their control of natural gas production and by the end of the decade U.S oil firms produced three quarters of the U.S natural gas. They purchased coal companies and entered the nuclear power industry, particularly in the mining of uranium. By 1970 oil companies controlled 40 percent of U.S uranium reserves.[88] To enable a rise in oil prices, oil companies pushed for even higher natural gas prices.[89] However, because the energy sector was still largely regulated by the state, the request to increase gas prices was rejected in 1968 by the Federal Power Commission. From then on the producers of natural gas claimed a shortening of the supply and a fall in the rate of natural gas discovery.[90]

Political theorist, Timothy Mitchell, has pieced together a unique angle on the events that led to the oil embargo and the securitizations strategies that the oil industry took to prevent the expansion of alternative forms of energy in the U.S. At the time of the embargo, there were Malthusian fears that perceived that the growing demand for fossil fuels would lead to a shortage of energy resources. However, many of these shortages had been purposefully misreported by both corporations and some state members. The misreports regarding the decline of the rate of natural gas discovery created a deeper reliance on oil that continues to affect national security's relationship in the Middle East today.

In 1969, John Nassikas, the man who would declare a natural gas energy crisis, was appointed to head the Federal Power Commission by President Nixon and approved an unprecedented increase in the price of gas. He claimed this would encourage the industry to invest in domestic production.[91] [92] However, investments did not develop and congressional

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[85]Timothy Mitchell, "The Crisis That Never Happened," in *Carbon Democracy: Political Power in the Age of Oil*. (London: Verso, 2013): p.178

[86] Ibid.

[87] Ibid, p.178-9

[88] Joe Stork, *Middle East Oil and the Energy Crisis* (Monthly Review Press, 1975). p.121-5

[89] James Ridgeway, "The inside Story, or Some of It, from a Secretary of the Interior; Who Owns America?," The New York Times (The New York Times, October 24, 1971), https://www.nytimes.com/1971/10/24/archives/who-owns-america-by-walter-j-hickel-328-pp-englewood-cliffs-n-j.html

[90] Joe Stork, *Middle East Oil and the Energy Crisis* (Monthly Review Press, 1975): p.128

[91] Timothy Mitchell, "The Crisis That Never Happened," in *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2013): p. 179

[92] Robert Sherill, 'Nassikas Sets Your Gas Bills' , *The Nation*, (The Nation 1972) p.73-9

investigations on fossil fuel shortages later revealed that Nassikas had presented the same oil reserve estimates oil companies had, as opposed to state figures from his commission's staff which had been originally much higher.[93] In addition to the concerns on the scarcity of natural gas, oil companies began to speculate about potential oil shortages. In the early 1970s, oil companies expressed concerns about poor oil supplies. They claimed that this would lead to a reduction of recoverable petroleum from reserves; the companies also began to increase their estimates of future oil demand.[94] The over estimates of oil companies reached the state and in 1972 the U.S National Petroleum Council predicted that petroleum consumption was expected to reach 125 quadrillion Btu in 1985. However, in 1985 the total amount of petroleum consumed only reached 74 quadrillion Btu, 40% less than the original estimates.[95]

In 1975, The Federal Energy Administration published a report discussing the national shortage of natural gas.[96] The misreported calculations helped structure the National Energy Act of 1978. The National Energy Act claimed there was a shortage of natural gas and that existing supply was overused, underpriced, and was being wasted on nonessential industrial and utility uses. To prevent further shortages of natural gas, the energy act banned the use of natural gas in power plants and industrial boilers. Many of these reports were based on reports from the oil industry who had a vested interest in increasing oil demand in the U.S. The energy act marked the start of natural gas deregulation and allowed oil companies to raise the price of gas eightfold.[97] [98] The energy act sought to move toward energy self sufficiency as it was essential for national security. The state claimed the rise in prices for both gas and oil were meant to promote their conservation, which was to be paid by consumers.[99]

However, gas had been banned, not because there was a shortage that needed to be protected, but because its producers (oil companies) claimed a reduction of the supply and a fall in the discovery of gas. Between 1973-1986, there was a 26% decline in the use of natural gas. [100] This was interpreted as a success that protected the nation's reserves as a defence against Arab oil, because in case of another embargo, the state would have the option of using its saved reserves. The energy act, however, encouraged the use of a single energy source - oil. The

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[93] Timothy Mitchell, "The Crisis That Never Happened," in *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2013): p. 179
[94] Ibid. p.180
[95] U.S Energy Information Administration (EIA), "Total Energy - Primary Energy Overview, 1949-2011 (Quadrillion Btu)," EIA, (EIA September 27, 2012), https://www.eia.gov/totalenergy/data/annual/showtext.php?t=ptb0101.
[96] "The Natural Gas Shortage: A Preliminary Report," August 1975. https://www.fordlibrarymuseum.gov/library/document/0204/1511759.pdf.
[97] Richard J. Pierce, "Natural Gas Regulation, Deregulation, and Contracts," *Virginia Law Review* 68, no. 1 (1982): p. 63, https://doi.org/10.2307/1072705.
[98] Timothy Mitchell, "The Crisis That Never Happened," in *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2013): p.180
[99] Richardson, Julia, and Robert Nordhaus. "The National Energy Act of 1978." *Natural Resources & Environment* 10, no. 1 (1995): 62-88.
[100] Timothy Mitchell, "The Crisis That Never Happened," in *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2013): p.180

suppression of natural gas discovery and the rise in prices created a higher demand for oil and made the state more vulnerable to OPECs demands. Following his retirement in 1987, as director of the Institute of Gas Technology, Henry Linden admitted, 'I am now troubled by the fact that . . . I participated in these seemingly self-serving exercises', which helped produce the exaggerated estimates. 'I also accepted many other tenets of what turned out to be a fictitious "energy crisis".'[101] [102]

The 1973 oil embargo and the subsequent events reveal that the laws of supply and demand can often be fabricated to create scarcity where there is none. The Malthusian perspective taken by the state sought to protect resources that had been misreported. Meanwhile, the oil industry sought to increase the nation's reliance on oil and to achieve its goals it consolidated its ownership of several alternative fuels and fabricated fuel shortages. This drove the state to continue its path toward classical realist and Malthusian policies instead of attempting to achieve energy self-sufficiency through alternative sources such as the development of solar energy or nuclear power. However, the widespread development of hydraulic fracturing and horizontal drilling created an opportunity for oil companies to shift the state's perspective toward one of energy abundance and cornucopianism. In 2013 lobbying efforts on behalf of the oil industry began the process of repealing the 1975 ban on crude oil exports. The oil industry claimed it would be beneficial to repeal the oil ban to protect the country against the worldwide surge of oil demand and to lower gas prices. The development of both fracking and horizontal drilling led to an abundance of fossil fuel resources, and the myriad of these resources pushed for policy changes entirely contrary to the realist policy frameworks that had created the ban due to reported oil and gas shortages.

The Twenty-First Century Oil Boom

The technological advances in hydraulic fracturing and vertical drilling provided oil companies with the opportunity to further expand their operations. The ability to extract oil from deeper layers of rock expanded oil and gas reserves and offered a change in perspective from one that had to secure oil to one that allowed oil and gas to be extracted at higher volumes despite environmental consequences. For oil companies the development of hydraulic fracturing and vertical drilling provided a clear path toward cornucopianism while already having secured the country's dependence on oil. Although hydraulic fracturing was developed in the 1940s, it only became widespread until the twenty-first century along with horizontal drilling. In the early years of the twenty-first century, states such as North Dakota experienced oil surges.[103] Fracking and horizontal drilling provided an uninterrupted flow of

[101] Ibid.
[102] Linden, Henry R., The Evolution of an Energy Contrarian (November 1996). Annual Review of Energy and the Environment, Vol. 21, pp. 31-67, 1996, p. 32, 33, 38 http://dx.doi.org/10.1146/annurev.energy.21.1.31
[103] Monica Davey, "Oil in North Dakota Brings Job Boom and Burdens," The New York Times (The New York Times, January 1, 2008), https://www.nytimes.com/2008/01/01/us/01dakota.html.

oil and natural gas and between 2005 - 2015 oil production increased over 1,000 percent from 35 million barrels to 432 million barrels over that period.[104] In 2008, despite the ongoing recession, the North Dakota oil industry continued to grow, in 2012 the state had the lowest unemployment rate in the country at three percent and that same year it was estimated that an average of 65,000 new jobs had been created.[105]

The successes of the oil industry led to an increase in oil and gas exploration. In 2018 proved reserves of crude oil rose by 12% and stood at 43.8 billion barrels.[106] That same year the U.S became the largest producer of crude oil, surpassing Russia and Saudi Arabia.[107] The oil boom, which began in the early twenty-first century kept rising, partly as a result of the repeal of the 1975 crude oil export ban. Lobbying efforts to remove the crude oil export ban began in 2013. Oil and energy companies including Hess Corporation, Devon Energy, ConocoPhillips, and the American Petroleum Institute (API) helped finance a campaign that raised thousands of dollars to help lobby funds to repeal the ban.[108] The companies, API, and their allied lobbying coalition enlisted the help of at least eleven lobby and consulting firms in Washington to help sell their message to the media, state members, and the public.There were several state members who pushed to repeal the ban, including Heidi Heitkamp, a former senator from North Dakota who was also credited for engineering the congressional discourse to push to repeal the ban, and former House Speaker John Boehner, who in July 2015 came out in support of ending the ban for economic purposes.[109]

In a 2014 House Energy and Commerce subcommittee meeting on energy and power called "The Energy Policy and Conservation Act of 1975: Are We Positioning America for Success in an Era of Energy Abundance?", former U.S House Representative Joe Barton, who introduced the bill to repeal the ban, expressed that although placing a ban on crude oil exports in 1975 made sense, today it is no longer appropriate. That year, the United States produced an average of nine million barrels of oil per day. After the repeal, in 2019, the daily average soared and hit a record high of 12.23 million barrels per day.[110] In his 2014 testimony to repeal the ban,

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[104] Dean A. Bangsund and Nancy M. Hodur, "Petroleum Industry's Economic Contribution to North Dakota in 2015," North Dakota Petroleum Council (North Dakota State University, May 2017), p. 55 https://www.ndoil.org/wp-content/uploads/Petroleum-Industry-Contribution-in-2015.pdf.

[105] Weber, Bret A., Julia Geigle, and Carenlee Barkdull. "Rural North Dakota's Oil Boom and Its Impact on Social Services." *Social Work* 59, no. 1 (2014): p. 62-72. www.jstor.org/stable/23719543.

[106] Steven Grape. "U.S. Crude Oil and Natural Gas Proved Reserves, Year-End 2018," U.S. Energy Information Administration (EIA, December 23, 2019), https://www.eia.gov/naturalgas/crudeoilreserves/.

[107] Tyler Hodge. "The United States Is Now the Largest Global Crude Oil Producer," U.S. Energy Information Administration (EIA, September 12, 2018), https://www.eia.gov/todayinenergy/detail.php?id=37053.

[108] Catherine Ho, "Inside the Lobbying Campaign to End the Ban on Crude Oil Exports," The Washington Post (WP Company, December 17, 2015), https://www.washingtonpost.com/news/powerpost/wp/2015/12/17/inside-the-lobbying-campaign-to-end-the-ban-on-crude-oil-exports/.

[109] Ibid.

[110] This includes only crude oil; Emily Geary, "U.S. Crude Oil Production Grew 11% in 2019, Surpassing 12 Million Barrels per Day," U.S. crude oil production grew 11% in 2019, surpassing 12 million barrels per day - Today in

Barton explained that consumption in the United States was down and that as a result there was an average of 2-3 million surplus barrels on the market each day that could be exported for profit were it not for the ban. Additionally, Barton claimed the state's high exports would put pressure on OPEC states by helping set oil prices based on real supply and demand instead of withholding oil production as OPEC states have previously done.[111] Although the increase in oil production on behalf of the countries such as the United States and Norway has helped shift some pricing power back, OPEC states hold three quarters of the world's oil reserves at the lowest cost per barrel. OPEC can respond to the increase in oil production by decreasing their supply accordingly, keeping the overall amount of oil and price in the market the same.[112]

Charles K. Ebinger, who served as the senior fellow in the Energy Security and Climate Initiative at Brookings, also testified in 2014 before the U.S. House Energy and Commerce Committee. His testimony provided several major historical accounts that led to the 1973 oil embargo, he discussed the former and current influence of OPEC, data on oil exports, and provided an analysis of energy security policy in the United States.[113] Like Barton, Ebinger argued that the early oil market conditions of the 1970s could not be anymore different than they are today. He begins by saying "I think it's important to look back and remind ourselves how our energy situation has evolved since 1975", in the 1970s demand for oil throughout the industrialized world was skyrocketing, Ebinger explains that the U.S could not have been more ill prepared for the embargo but that today it is no longer in the national interest to keep the ban on crude oil exports. Ebinger and Barton's argument to repeal the ban is centered almost entirely around an economic standpoint. Both actors maintain that it is necessary to continue on the path toward economic progress through the extraction and use of oil. Despite Ebinger's role as senior fellow in the Energy Security *and Climate Initiative*, neither testimony reflects the limitations or consequences from an environmental perspective that can lead to an increase in the effects of climate change and environmental security risks. Instead both testimonies claim economic progress is essential to the state and that the economy can continue to progress with the repeal of the crude oil export ban of 1975, making their rhetoric fundamentally cornucopian.

Ebinger's testimony, which echoes those frequently made by the oil industry, explains that government deregulation over the energy sector have helped improve technological and economic developments which are of interest to national security. Previously, Ebinger explains, government regulations on natural gas prices have created devastating economic impacts on energy projects such as the construction delays and cost overrun of Alaska's natural gas

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Energy - U.S. Energy Information Administration (EIA) (EIA, March 2, 2020), https://www.eia.gov/todayinenergy/detail.php?id=43015.

[111] Joe Barton, Conservation Act of 1975, C-SPAN, 11 December 2014, 00:11:50 - 00:13:15 https://www.c-span.org/video/?323243-1/hearing-relevance-conservation-act-1975

[112] Gal Luft and Anne Korin, "The Myth of U.S. Energy Dependence," Foreign Affairs (Foreign Affairs, October 17, 2016), https://www.foreignaffairs.com/articles/middle-east/2013-10-15/myth-us-energy-dependence.

[113] Charles Ebinger, Conservation Act of 1975, C-SPAN, 11 December 2014, 00:26:18 - 00:33:11 https://www.c-span.org/video/?323243-1/hearing-relevance-conservation-act-1975

transportation system in the 1970s.[114] Ebinger's testimony ends by explaining how the energy system of today is fundamentally different and that as crude oil production continues to rise it would be detrimental to the U.S energy systems, the markets, and economic policies to retain the crude oil export ban. Arguments similar to Ebinger's continued to be expressed amongst the media, the public, and congress; and exactly forty years after the ban, On December 18 2015, members of congress voted to repeal the ban on crude oil exports as part of a spending bill. Data supporting the threats fossil fuels pose to climate change and environmental security have been presented by scientists and politicians for decades. It was assumed that leaders would eventually notice and that action against these threats would be seen in policy changes. However, despite the emergent environmental discourse and copious amounts of data proving that environmental degradation will worsen, many state actors continue to be moved by incentives that drive capital and economic growth; and the fossil fuel industry offers both, despite their business model proving it will have detrimental effects on the environment.[115]

Conclusion

This chapter began by analyzing the historical events that led to the Energy Policy and Conservation Act of 1975 (which contained the crude oil ban) after the Arab oil embargo of 1973. EPCA was a state effort to achieve energy security, protect domestic energy resources from becoming scarce due to the rise in global demand, and protect energy resources in case of a second embargo. However, despite state efforts to achieve energy security through domestic production and resource protection, energy independence in the U.S cannot be achieved as long as oil continues to be a major source of energy. Since the twentieth century, oil prices have been dictated by OPEC members who hold three fourths of the world's oil reserves and until a shift toward alternative energy is made, energy independence will not be attainable.

The state's Malthusian efforts to protect energy resources partly derived from oil company reports which contained misreports that included overestimates of future oil demand. This presented the state with the opportunity to invest in alternative energy sources, however oil companies conveniently decided to purchase and invest in alternative energy sources to ensure oil remained the primary source of fuel in the U.S. A period of oil abundance arrived with the widespread use of horizontal drilling and fracking in the twenty-first century. The use of both technologies expanded oil and natural gas reserves: current oil estimates stand at 43.8 billion barrels. The economic success of the oil boom incentivized oil companies, with endorsement of some state members, to push for a repeal on the crude oil export ban. In 2015 members of congress approved of the ban based on evidence that it would lead to further economic growth

[114]U.S. Department of Energy Office of Scientific and Technical Information. “Alaska Natural Gas Transportation Systems. White House Task Force Lead Agency Report on Construction Delay and Cost Overruns,” (Department of the Interior and Department of Transportation, July 1, 1977), https://www.osti.gov/servlets/purl/6215406.
[115] Ryan Lizza and Bill McKibben, “A Good Week for the Climate Movement,” The New Yorker (The New Yorker, July 9, 2020), https://www.newyorker.com/podcast/political-scene/a-good-week-for-the-climate-movement.

despite growing evidence that it would worsen the effects of climate change. For decades oil companies have had the ability to advance their agenda onto the state by expressing rhetoric that it's in the country's best interest to do so because their industry drives the markets and economic progress despite the environmental security consequences.

Chapter 3: Obama's Cornucopian Legacy

Individual Level of Analysis

Introduction

In the last decade, the United States energy system has undergone major energy transitions, such as the increase in domestic oil and gas production during the Obama administration. However, many state and non-state actors in international relations have expressed concerns over the need to transition toward renewable energy systems. While climate change concerns were not part of the energy policy discourse in 1975 when the U.S passed the ban on crude oil exports, its repeal in 2015 led to many environmental concerns. This chapter, an individual of level of analysis, examines three speeches given by former President Barack Obama that were given to address an ongoing energy strategy that took place during his two presidential terms. The chapter answers the subquestions: *Why does Obama promote an increase in fossil fuel production? And for what benefit?* This chapter analyzes rhetoric used by Obama in 2012 that encouraged the oil industry in the U.S to maximize its oil production. Environmental security scholars have noted that traditionally the state has enforced realist, neo-malthusian national security policies to protect energy systems and police natural resources. However, the oil industry has routinely abided by the cornucopian doctrine that discredits the risks of climate change or assumes the markets and technological breakthroughs will provide a quick fix. To understand Obama's environmental security outlook, this chapter examines his rhetoric in relation to his energy policy strategies.

The selected set of sources includes three C-SPAN archive network videos, the first is an excerpt from the annual State of the Union Address that was given January 24, 2012, by former President Barack Obama. The speech takes place in the U.S House of Representatives Chamber; the selected excerpts time falls between 33:55 to 40:45. The second and third sources are also speeches given by Obama on March 1, 2012 and March 15, 2012. Both are titled *Presidential Remarks on Energy Policy*, and were given at the Nashua Community College in Nashua, New Hampshire and at Prince George's Community College in Largo, Maryland. The energy plan discussed aimed to support economic growth and job creation, to enhance energy security, and to deploy low-carbon energy technologies and lay the foundation for a clean energy future.[116] Similar speeches had been given throughout the month at several different college campuses. The subheadline description of the videos describes the topic of the speeches as a focus on higher fuel-efficiency standards enacted during the administration as well as the increase in U.S. oil production since 2009.[117]

[116] Scholars at Harvard. "The All-of-the-Above Energy Strategy as a to Sustainable Economic Growth," July 2014, https://scholar.harvard.edu/files/stock/files/all_of_the_above_energy_strategy.pdf.
[117] Barack Obama, "Presidential Remarks on Energy Policy," C-SPAN (C-SPAN, March 1, 2012), https://www.c-span.org/video/?304681-1%2Fpresidential-remarks-energy-policy.

This set of sources was selected in part due to the variation of audience members. The purpose was to grasp rhetorical differences and approaches used by the former president to motivate the American public and congress members to develop various energy strategies. Although the State of the Union Address is broadcasted on national television, the direct audience members are the members of congress and other highly influential people who help shape U.S policies. The two other sources had a more general audience consisting of community college students, its staff members, and city locals. Additionally, these sources were selected to analyze the rhetoric as it relates to the subject energy and environmental security. The aim of this analysis is to examine the priorities of the energy plan and if Obama's discourse directly reflects the opinions of the state and oil companies on energy policies that affect energy environmental security.

The All-of-the-Above Energy Strategy

In 2012 the Obama administration pushed toward developing an energy strategy titled "All-of-the-Above Energy Strategy". The strategy was an ongoing energy project aimed at producing more domestic oil and gas in the United States while simultaneously developing a clean and renewable energy sector, it was designed to increase oil and gas exploration throughout the country and to develop more sustainable growth technologies such as wind and solar energy power. All together, the intention of the energy plan was for the country to become less dependent on foreign oil, to securitize energy sources, create jobs, and economic growth in the coming decades.

The energy plan was rooted in the belief that the U.S will always remain dependent on other countries for oil unless it takes matters into its own hands. In 2012 gas prices skyrocketed, it was the most expensive year for gas on record with the annual average price per gallon at $3.60.[118] In his Nashua and Prince George's Community College address, Obama explains that high gas prices are always due to tensions in the Middle East.[119] [120] He adds that each time there is instability in the region, it will result in driving oil prices up, which was the case at the time of the speech. He proceeds to discuss how the rising levels of global wealth also pose a threat in keeping gas prices low. In 2010 China alone added approximately 10 million new cars to its roads; in 2012 there were about 1 billion Chinese people and because China's wealth has continued to steadily grow, it will continue to add cars, which will undoubtedly lead to more oil demand and continue to drive prices up.[121] Obama framed both the tensions in the Middle East

[118] Energy.gov. "Fact #915: March 7, 2016 Average Historical Annual Gasoline Pump Price, 1929-2015," March 7, 2016, www.energy.gov/eere/vehicles/fact-915-march-7-2016-average-historical-annual-gasoline-pump-price-1929-2015.
[119] Barack Obama. "Presidential Remarks on Energy Policy", C-SPAN (C-SPAN 2012), Prince George's Community College 00:14:40, https://www.c-span.org/video/?304927-1%2Fpresidential-remarks-energy,
[120] "Presidential Remarks on Energy", C-SPAN (C-SPAN 2012), Nashua Community College 00:11:55, https://www.c-span.org/video/?304681-1/presidential-remarks-energy-policy
[121] Prince George's Community College 00:15:45, Nashua Community College 00:12:40

and the rising levels of global wealth as a major threat to the daily lives of the average American. This is why according to the former U.S president, it is crucial to develop a good energy strategy - to secure energy sources on domestic ground. The "All of the Above" energy strategy, according to Obama, requires extensive drilling of natural gas and oil, but also expects to simultaneously develop wind power, solar power, and biofuels, "the key part of this strategy over the last three years has been to increase safe, responsible oil production here at home while also pursuing clean energy for the future. We don't have to choose between one or the other, we've got to do both."[122]

Proposals to repeal the 1975 ban on crude oil exports, which lobbyists began to propose the following year, worked well with the Obama administration's energy strategy. A repeal of the oil export ban, just as the "All-of-the-Above Energy Strategy" provided the opportunity to further expand the fossil fuel industry, create more jobs, strengthen the economy, and gain energy independence, all while claiming an eventual transition to a strong renewable energy industry. However, the ban was repealed not due to state or Obamas efforts, but due to the extensive lobbying efforts from the fossil fuel industry such as producers for american crude exports and the american petroleum institute.[123] To repeal the ban, the gas and oil industry appealed to democrats and republicans including former Texas Republican U.S House Representative Joe Barton, who became a strong advocate for the repeal and had a history of accepting donations from PACS tied to the oil industry.[124]

Energy Security in the 21st Century

Despite the heavy increase in oil drilling, the U.S contains only two to three percent of the world's oil reserves relative to OPEC member states who have approximately 75% of the world's crude oil reserves.[125] [126] With the U.S using approximately 17% of the world's total energy, continuing to drill without investing in other energy sources until oil and gas reserves are exhausted, would create a setback.[127] Traditionally, the state has invoked realist, neo-malthusian policies that place environmental security as a national security risk. However, cornucopian thinking is rooted in the country's continuous reliance on fossil fuels as a primary source of energy and its use to promote economic growth. In every speech, Obama explains the need to secure energy resources despite the environmental security risks by drilling more and increasing

[122] Nashua Community College 00:12:40
[123] Catherine Ho, "Inside the Lobbying Campaign to End the Ban on Crude Oil Exports," The Washington Post (WP Company, December 17, 2015), https://www.washingtonpost.com/news/powerpost/wp/2015/12/17/inside-the-lobbying-campaign-to-end-the-ban-on-crude-oil-exports/.
[124] Open Secrets. "Rep. Joe Barton - Campaign Finance Summary," 2018, https://www.opensecrets.org/members-of-congress/summary?cid=N00005656.
[125]OPEC. "OPEC Share of World Crude Oil Reserves," 2019, https://www.opec.org/opec_web/en/data_graphs/330.htm.
[126] Steven Grape. "U.S. Crude Oil and Natural Gas Proved Reserves, Year-End 2018," Energy Information Administration (EIA, December 13, 2019), https://www.eia.gov/naturalgas/crudeoilreserves/.
[127]U.S Energy Information Administration (EIA) "What Is the United States' Share of World Energy Consumption?," (EIA) (EIA, June 10, 2020), https://www.eia.gov/tools/faqs/faq.php?id=87.

gas and oil exploration. Fracking, according to Obama, is safe. He claims that the U.S will continue to extract oil and gas without putting the health and safety of the country's citizens at risk.[128] However, assuming that natural gas continues to be extracted throughout the next century, as Obama says is possible, then it becomes difficult to understand what measures are being taken to secure the health and safety of Americans considering the proven hazards reported on fracking, such as the contamination of groundwater and methane pollution.[129] He explains that his administration would like to take every possible action to safely develop more natural gas production because in addition to securitizing the resource, they expect to create an additional 600,000 jobs in the next decade. However, the only measure regarding the safety of Americans that is discussed is the new requirement that demands companies drilling on public land, not private, to disclose the chemicals they use.

During his second presidential term Obama acknowledged the risks to both the overuse of resources and its effects on climate change.[130] Numerous reports dating decades back have been clear, the overuse of natural resources will lead to environmental security risks that include environmental degradation, and ecological threats that could lead to social disorder and conflict. [131] In the 90s, during the Clinton administration environmental security was made a military and national security concern, however, little has been written about environmental security in relation to domestic affairs and how it affects individuals.[132] Despite his interest in developing renewable energy technologies, Obama insists it is necessary to continue burning fossil fuels to secure resources and prioritize the markets. Obama's speeches invoke a clear message - the country needs to develop *several* energy sources that are clean, cheap and will create new jobs. Most of the discourse Obama used to appeal to environmentalist concerns was entrenched in the idea that it is possible to pursue climate change policies without impeding the efforts of oil companies as they increase their oil production. It supports the belief that it is ok to rely on fossil fuels as long as there is an eventual transition towards renewable energy, because, as he makes it clear, gaining energy security and independence is a priority. The development of new technologies discussed in the *State of the Union Address,* which he claims curb many of the environmental and health hazards in relation to fracking, express common cornucopian rhetoric. The same rhetoric oil companies use and the same rhetoric lobbyists used to push for the repeal on crude oil ban exports in 2015.

Over the last decade, since Obama's "All-of-the-Above Energy Strategy", wind and solar energy industries have grown steadily. However, as of 2018 it was reported that less than four

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[128] Barack Obama, *2012 State of the Union Address*, *C-SPAN* (C-SPAN, 2012), 00:35:52 https://www.c-span.org/video/?303881-1%2F2012-state-union-address.
[129] Qingmin Meng, "The Impacts of Fracking on the Environment: A Total Environmental Study Paradigm," *Science of The Total Environment* 580 (2017): pp. 953-957, https://doi.org/10.1016/j.scitotenv.2016.12.045.
[130]Barack Obama, "Remarks by the President on Climate Change," National Archives and Records Administration (Obama White House Archives, June 25, 2013), https://obamawhitehouse.archives.gov/the-press-office/2013/06/25/remarks-president-climate-change.
[131] J. Barnett, "Environmental Security," *International Encyclopedia of Human Geography*, 2009, pp. 553-557, https://doi.org/10.1016/b978-008044910-4.00774-4.
[132] Ibid.

percent of all energy consumption in the U.S was generated from the renewable energy industry.[133] Solar energy production has had the largest growth of all U.S energy production sources.[134] Yet, on its own it only accounts for one percent of the total U.S energy production.[135] Obama expressed an urgency to develop renewable energy sources, but eight years later 80% of the nation's energy consumption continues to come from fossil fuels.[136] While renewable energy since 2018 stands at less than four percent of the nation's total energy consumption, in 2019 the U.S was averaging 19.51 million barrels of oil every day.[137] It was a sharp increase from the annual average in 2011 at 5.67 million barrels per day.[138] Each address claims that an increase in domestic oil production in the United States has helped lower gasoline prices. However, there continue to be a number of other factors contributing to the price of oil. OPEC countries contain three quarters of the world's oil reserves and for decades this has given them precedence over the majority of oil prices. In April 2020, due to Covid-19 travel restrictions, the value of oil dropped below zero for the first time in history, with the average barrel pricing at minus $37.63. Despite the decrease in oil usage, oil production was not curbed, oil production remained at its annual average of approximately thirty million barrels per day.[139]

In June 2020, the solution to the oil crisis fell yet again into foreign hands. Members of OPEC+ pledged to cut 9.7 million barrels per day to help oil prices recover. U.S. Energy Secretary Dan Brouillette approved of the deal and Donald Trump welcomed the cuts from OPEC and its allies for saving America's energy industry.[140] Although Obama's discourse and energy strategies encouraged energy independence, the increases in oil and gas production have failed to incentivize industries to transition and increase energy reliance on renewable energy systems, which would also be a source of energy security. Instead, by encouraging the production of oil and natural gas the state has prolonged the production of fossil fuels. The increase in fossil fuel production has also protected the markets and encouraged economic growth that instead advocates for technological breakthroughs to alleviate the environmental security risks of climate change.

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[133] Drew DeSilver, "Renewable Energy Is Growing Fast in the U.S., but Fossil Fuels Still Dominate," May 30, 2020, https://www.pewresearch.org/fact-tank/2020/01/15/renewable-energy-is-growing-fast-in-the-u-s-but-fossil-fuels-still-dominate/.

[134] Ibid.

[135] Ibid.

[136] Ibid.

[137] This includes all forms of oil, not just crude oil. U.S. Energy Information Administration (EIA) "What Countries Are the Top Producers and Consumers of Oil?," EIA. (EIA, April 1, 2020), https://www.eia.gov/tools/faqs/faq.php?id=709.

[138] Nicolas Loris, "Obama Was Wrong on Oil. We Did 'Drill Our Way Out of the Problem.'," The Heritage Foundation (The Heritage Foundation, September 14, 2018), https://www.heritage.org/energy-economics/commentary/obama-was-wrong-oil-we-did-drill-our-way-out-the-problem.

[139] Michael Barbaro and Clifford Krauss, "A Glut of Oil," The New York Times (The New York Times, April 27, 2020), https://www.nytimes.com/2020/04/27/podcasts/the-daily/oil-prices-coronavirus.html.

[140] Grant Smith et al., "OPEC+ Extends Oil Cuts in Win for Saudi-Russian Alliance," Bloomberg.com (Bloomberg, June 6, 2020), www.bloomberg.com/news/articles/2020-06-06/opec-agrees-to-extend-output-cuts-as-quota-cheats-offer-penance.

The Environmental Energy Strategies of Exxon

Despite Obama's claim that the energy strategy would create policies that demand less oil and promote renewable energy sources to help to mitigate the effects of climate change, the fossil fuel industry continues to increase its production of oil.[141] Without decreasing their current oil production levels, oil companies such as ExxonMobil have ongoing development technology solutions that are not actually changing the foundation of their production but rather the perception of their oil business as a means to keep up with the environmental consciousness market demand. In 2019, an Exxon ad announced it is now funding a biofuel research program that aims to have the technical ability to produce 10,000 barrels of algae-based biofuel a day by 2025.[142] This program, however, does not compensate for or relieve the CO_2 levels that Exxon will continue to emit well past 2025. By 2024, the company is expected to produce 1 million barrels per day of oil and gas, this is five times more than its current daily production. However, if successful, the algae-based fuel would still only account for 0.2 percent of the corporation's current refinery capacity.[143] The addition of a biofuel research program while continuing to meet the demand for energy in the form of oil and gas still fails to cut carbon emissions as recommended by climate scientists. To stand a chance at avoiding catastrophic climate impacts, emissions should have begun to fall yearly by 7.6% beginning 2020, none of which Exxon will comply with without strict regulations.[144]

Despite its supposed commitment to reducing environmental impacts, like supporting effective management of methane emissions, Exxon continues to lobby as a means to secure its interests, primarily in the prevention of assessments that could result in policy changes that call for the reduction of fossil fuels.[145] The company is public about its lobby practices and claims it is a responsibility necessary to secure the livelihoods of customers, employees, communities, and shareholders.[146] Obama and ExxonMobil discuss similar solutions to environmental security risks, although they acknowledge the risks involved from the use of fossil fuels and the dangers

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[141] Zeke Hausfather, "Analysis: Fossil-Fuel Emissions in 2018 Increasing at Fastest Rate for Seven Years," Carbon Brief (Carbon Brief, December 10, 2018), https://www.carbonbrief.org/analysis-fossil-fuel-emissions-in-2018-increasing-at-fastest-rate-for-seven-years.

[142] The New York Times, "The Future of Energy? It May Come From Where You Least Expect," (The New York Times, September 24, 2018), https://www.nytimes.com/paidpost/exxonmobil/the-future-of-energy-it-may-come-from-where-you-least-expect.html.

[143] Alleen Brown, "Massachusetts Sues Exxon Mobil for Deceptive Climate Messaging," The Intercept (The Intercept, October 31, 2019), https://theintercept.com/2019/10/31/exxon-mobil-massachusetts-climate-change-lawsuit-greenwashing/.

[144] UNEP - UN Environment Programme, "Visual Feature: The Emissions Gap Report 2019," (United Nations, 2019), https://www.unenvironment.org/interactive/emissions-gap-report/2019/.; Connie Meza, "You Can't Polish a Fossil," December 16, 2019.

[145] ExxonMobil, "Effectively Managing Methane Emissions," (ExxonMobil, September 6, 2018), https://corporate.exxonmobil.com/Energy-and-environment/Environmental-protection/Effectively-managing-methane-emissions.

[146] ExxonMobil, "Political Contributions and Lobbying," (ExxonMobil, February 15, 2017), https://corporate.exxonmobil.com/Company/Policy/Political-contributions-and-lobbying.

that may result from the extraction process, they both choose to prioritize economic and market success and expect that over the years technological fixes will alleviate these climate and environmental security risks.

Suggestions from Climate Scientists

Senior Researcher at Greenpeace USA, Tim Donaghy has explained that with the repeal of the ban crude oil exports in 2015 the Obama administration was looking to focus on policies that reduce oil demand as part of his energy strategy.[147] Obama has argued that pushing for technologies that develop fuel efficiency, more miles per gallon, could bring down reliance on oil and reduce emissions. However, according to Donaghy, restoring the ban would be the equivalent of closing down between 19 to 42 coal plants or reducing emissions by up to 165 million metric tons of CO_2 each year, which is comparable to the light-duty vehicle efficiency standards President Barack Obama proposed .[148] In a policy briefing, Donaghy explained that reinstating the ban would also send a strong signal to oil companies that the fossil fuel era is coming to a close.[149]

The year before the ban crude oil exports was lifted, in 2014, oil exports to Canada from the U.S were approximately 4.75% of the country's total drilled oil.[150] Currently, one in every four barrels of oil extracted is exported and the total export of fuels has increased by 750%.[151] Climate scientists at University College London (UCL) have published studies suggesting that to increase the chances of keeping warming below 2 °C to at least fifty percent, a third of oil reserves, half of gas reserves and over eighty percent of current coal reserves must remain unused between 2010 and 2050. Their results explain that policy makers' instincts to rapidly exploit fossil fuels are, "in aggregate, inconsistent with their commitments to this temperature limit."[152] The implementation of these commitments as policies would also save costly measures of fossil fuel exploration, because new discoveries would not lead to oil production.[153]

Of the three selected sources, the 2012 State of the Union Address is the only speech directly addressing climate change concerns. Obama acknowledges that congress is far too divided to work on climate change policies and hopes that in the near future policies can address

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[147] Kate Aronoff, "Obama's Climate Legacy and the Lie of 'Energy Independence,'" The New Republic (The New Republic, February 19, 2020), www.newrepublic.com/article/156580/obamas-climate-legacy-lie-energy-independence.
[148] Tim Donaghy, "Policy Briefing: Carbon Impacts of Reinstating the U.S. Crude Export Ban," Greenpeace USA (Oil Change International, January 28, 2020), https://www.greenpeace.org/usa/research/crude-export-ban-carbon/.
[149] Ibid.
[150] Exceptions on crude oil exports were made for Canada and Mexico
[151] Tim Donaghy, John Noël, and Lorne Stockman, "CARBON IMPACTS OF REINSTATING THE U.S. CRUDE EXPORT BAN," Price of Oil (Greenpeace, January 28, 2020), p.6 http://priceofoil.org/content/uploads/2020/01/crude_export_ban_report.pdf.
[152] Christophe Mcglade and Paul Ekins, "The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2 °C," *Nature* 517, no. 7533 (2015): pp. 187-190, https://doi.org/10.1038/nature14016.
[153] Ibid.

the risks of climate change.[154] This may be why amongst congress members Obama suggests the need to develop a clean and renewable energy plan with economic incentives in mind "and nowhere is the promise of innovation greater than in American energy".[155] He explains that industries such as wind power and battery production need to be developed in the U.S instead of having the projects sold off to countries developing similar technologies such as China or Germany.[156] By developing renewable energy industries in the U.S, the country can secure more jobs just as the expanding gas and oil industries have since the increase in gas and oil drilling.

Despite the visible excitement amongst congress members upon hearing about the economic opportunities a clean and renewable energy sector can offer, Obama's plan is not well established. He mentions a commitment to clean energy on behalf of the Department of Defense, but fails to provide planning methods, job statistics, and concrete ongoing policy details working on sustainable energy projects. The segment ends with Obama asking for congress members to draft bills on the subject. In all three sources a major portion of every speech was directed at discussing the importance of economic growth and the investments necessary in the natural gas industry "We have a supply of natural gas that can last America nearly 100 years". Due to its large supply, investments in the production of natural gas are also expected to be a source of energy security.[157] Beginning in 2008 the Obama administration worked to open millions of new acres of land for oil and gas exploration.[158] These methods, according to Obama, were done appropriately and safely. He claims the addition of new safety measures will allow the prevention of oil spills such as the Deepwater Horizon oil spill in the gulf that led to an industrial disaster on April 20, 2010. To continue increasing oil and gas production, he announced that his administration was expecting to open up more than seventy five percent of the country's offshore oil and gas resources. He explains that in 2011, the U.S relied less on foreign oil than it had in the previous thirteen years; and from 2010 onward, less than fifty percent of America's oil was foreign.[159]

"So when it comes to oil production, under my administration, America is producing more oil today than at any time in the last eight years. That is a fact. That's a fact." [160]

However, Obama refers to natural gas as a clean source of energy. At several points in every speech, natural gas as an energy source is poorly framed because it is mentioned while discussing renewable energy sources such as solar power. Additionally, in both the *State of the Union Address* and the *Remarks on Oil Energy Policy*, Obama describes the methods of gas and

[154] State of the Union Address, 2012, 00:38:45
[155] Ibid.00:33:55
[156] Ibid., 00:38:10
[157] Presidential Remarks on Energy Policy, 2012, Prince George's Community College 00:28:21, Nashua Community College 00:14:44 ; State of the Union Address, 2012, 00:35:25
[158] Presidential Remarks on Energy Policy, Nashua Community College 00:10:24
[159] Ibid., Nashua Community College, 00:8:20
[160] Ibid., Nashua Community College, 00:10:10

oil extraction, such as fracking, as clean energy.[161] Although the extraction, production, and use of gas may be *cleaner* than oil, to refer to it as a clean source of energy alongside biofuels and wind power may be a spread of misinformation because the effects of fracking have been correlated to an increase in greenhouse gases that lead to climate change effects.

"The development of natural gas will create jobs and power trucks and factories that are cleaner and cheaper, proving that we don't have to choose between our environment and our economy" [162]

Environmental Security Concerns

Climate scientists have warned that all fossil fuels, including natural gas must remain underground to prevent climate change disasters. However, by encouraging more fossil fuel exploration, Obama caters to the use of finite resources that have been directly associated with environmental security risks. While he did encourage technological innovations to help advance renewable energy sources, Obama's energy strategy, as discussed in his *Remarks on Energy Policy* and the 2012 *State of the Union Address*, failed to acknowledge that as the fossil fuel industry continues to expand there is an increase in environmental security risks. Effects of climate change have led to an increase in environmental security risks over the past few years, some of which include droughts such as the California drought that went on between 2011-2019, coastal flooding, heatwaves, forest fires, and an increase in hurricanes.[163] [164]

The development of wind and solar power provides a path toward sustainable development and also mitigates energy dependence from OPEC countries who have had control over oil prices for decades. However, part Obama's presidency was defined by the country's need to recover financially after the Great Recession of 2008, and because the state has not readily acknowledged the urgency of climate change, Obama's "All-of-the-Above" energy strategy addresses the prospects of a clean sustainable energy plan through purely economic incentives. In the *State of the Union Address*, Obama expressed concerns for the need to develop a strategy for climate change, but as an individual, such a strategy was not reflected amongst the policies he pushed for in congress. Despite discussing clean energy, he does not acknowledge how the proposal to simultaneously keep drilling for gas and oil while developing clean technologies does not compensate for or relieve the CO_2 levels that gas and oil companies will continue to

[161] Presidential Remarks on Energy Policy, 2012, Prince George's Community College 00:16:30, Nashua Community College 00:14:44 ; State of the Union Address, 2012, 00:34:50
[162] State of the Union Address, 2012, 00:35:55
[163] Donald Wuebbles, Kathy A. Hibbard, and David W. Fahey, "How Will Climate Change Affect the United States in Decades to Come?," Eos (AGU, November 3, 2017), https://eos.org/features/how-will-climate-change-affect-the-united-states-in-decades-to-come.
[164] Drought.gov, "Drought in California," California | Drought.gov (The U.S. Drought Monitor (USDM) , June 19, 2020), https://www.drought.gov/drought/states/california.

emit until renewable energy technologies such as biofuel are fully developed and placed into the market. Instead, both the *State of the Union Address* and the *Remarks on Energy Policy* speeches emphasize short term thinking that justifies the need for *more* oil and natural gas drilling - his message does not convey a shift that would end a reliance on fossil fuels any time soon.

Conclusion

Obama encourages an increase in fossil fuel production to achieve energy security. While renewable energy sources such as wind and solar energy fit into the framework of sustainable development, Obama does not mention sustainable development as an energy security measure in any of the speeches. Instead Obama, a cornucopian, much like oil companies and the state when it comes to economic and energy concerns, says the U.S has limitless sources of energy, and a boundless supply of ingenuity that can be put to work to develop the energy of the future. [165] Obama's discourse does not express any of the key characteristics of sustainable development and while he does discuss the need to innovate the renewable energy sector, he directs most of his speaking time to the topic of natural gas and oil. Although the motives behind the energy strategy incentivize policies that push for safer, cleaner, and sustainable green energy, at no point does Obama discuss how the new safety measures involving the use of fracking and oil pipelines will prevent hazardous incidents known to happen in the oil and gas industry. Common fracking methods are notoriously known to contaminate, pollute, and create environmental threats. The energy strategy was developed to secure energy sources, but without ensuring new safety measures or entirely moving away from fracking to extract gas and oil, threats to human and environmental security will continue.

By drilling more, American companies will be expected to produce more oil than ever before. The addition of a biofuel research program from Exxon, while continuing to meet the demand for energy in the form of oil and gas still fails to cut carbon and methane emissions - which do compromise the health and safety concerns that Obama claims will not be jeopardized. Although the ongoing development of technology solutions for clean and renewable energy are an important topic to Obama, their development is not actually changing the foundation of the oil market, which Obama keeps expanding. Instead, oil companies will continue to thrive, pollute, and pose an environmental security threat to the American public despite developments in wind and solar power.

[165] Remarks on Energy Policy, 2012, Nashua Community College, 00:23:10

Chapter 4: Oil Companies in Accordance with the Paris Agreement

International Level of Analysis

Introduction

Non-state governance has become a salient part of international relations.
The emergence of non-state actors such as intergovernmental organizations, non-profits, and multinational corporations (MNCs), has created alternative measures where interstate cooperation can exist. However, the role of some non-state actors in the private sector, such as MNCs, has created a challenge of accountability because MNCs are often left to police themselves. MNCs, who also serve as private economic actors, remain one of the most controversial actors in international politics. Their lack of accountability and the state's inability to set strict standards has led many critics to argue that corporations are responsible for the current environmental crisis.[166] A 2017 carbon database report revealed that just one hundred companies are responsible for 71% of global emissions.[167] However, in recent decades, some of the largest multinational corporations have joined the race to become global sustainability champions - with business value remaining the key motivator.[168] Several factors have played a role in promoting corporate environmentalism: growing public awareness, rising consumer demand, advocacy campaigns, and NGO partnerships have all influenced many of the environmental pressures multinational corporations have yielded to. Many multinational corporations have gained legitimacy in the absence of well-developed and enforced international environmental standards and they continue to demonstrate progress and gain support in international relations for their global governance efforts. Their efforts have helped define corporate sustainability and its numerous benefits. As market demand pressures companies to reach further, companies have included measurable targets into their products such as the adoption of eco-certifications, supply chain tracking, and product life cycle assessments.[169]

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[166] Kate O'Neill, "Actors in International Environmental Politics," in *The Environment and International Relations* (Cambridge: Cambridge University Press, 2009), p. 61.
[167] Paul Griffin, *100 Fossil Fuel Producers and Nearly 1 Trillion Tonnes of Greenhouse Gas Emissions* (The Carbon Majors Database, 2017), https://b8f65cb373b1b7b15feb-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/002/327/original/Carbon-Majors-Report-2017.pdf?1499691240.
[168] Peter Dauvergne and Jane Lister, "Big Brand Sustainability: Governance Prospects and Environmental Limits," *Global Environmental Change* 22, no. 1 (2012): pp. 36-45, https://doi.org/10.1016/j.gloenvcha.2011.10.007.
[169] Ibid.

Although corporations have implemented incremental procedures to achieve measures of sustainability, these achievements do not mean brands and consumerism have become sustainable. Corporations remain engines of increased consumerism and for many industries applying sustainable practices is currently not technologically or financially viable. Prominent examples are the gas and oil industries, which are arguably incompatible with the reduction of CO_2 emissions.[170] Many oil companies now position themselves as part of the solution to the current environmental crisis, and have also begun to market themselves as champions of sustainability, but continue to drill at high capacity. Several multinational oil companies, including those who lobbied for the repeal of the 1975 ban on crude oil exports, have said they want to make their operations consistent with the Paris Agreement and claim they have set aggressive targets to reduce their emissions of greenhouse gases.

The call for transformative environmental action and the reduction of greenhouse gas emissions have become a central part of environmental and global governance.[171] The Paris Agreement, which went into effect on the 4th of November 2016, has challenged countries in their efforts to take preventative measures against the global temperature rise to two degrees. Experts have warned that if rapid emission reductions fail, a danger point will be reached. Passing the two degree mark presents catastrophic environmental security consequences for people in many countries. A failure to reduce greenhouse gas emissions has been predicted to result in risks to global environmental security.[172] It therefore appears controversial that the U.S government allowed a rise in production and exports of crude oil just a few months before signing the Paris Agreement in 2016.

To assess the relationship between continuous high levels of fossil fuel production from multinational oil companies and their attempts to meet the targets set by the Paris Agreement, this chapter answers the subsidiary question: *Why does the emergence of multinational oil companies as non-state actors present environmental security risks that the Paris Agreement attempts to mitigate?* To answer this question, the chapter begins by outlining the goals and objectives set in the Paris Agreement. It then examines the role oil companies have played in meeting such targets and their tie in the overproduction of oil and gas that leads to a growth of greenhouse gases and to global environmental security risks. The chapter then proceeds to discuss ongoing environmental security risks in the Global South and the cornucopian efforts many oil companies take to mitigate these risks. Finally, the chapter analyzes a simulation by the think tank, E3G, that examines four different transitions oil companies could take to prevent 1.5/2°C warming, the simulation provided many insights that lie ahead for oil companies as they attempt to transition toward sustainable practices.

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[170] Connie Meza, "You Can't Polish a Fossil," December 16, 2019.
[171] Mely Caballero-Anthony, "Governance of Environmental Security." In *Negotiating Governance on Non-Traditional Security in Southeast Asia and Beyond*, 85-112. New York; Chichester, West Sussex: Columbia University Press, 2018. p.86
[172] Ratha, Keshab Chandra. "Paris Climate Deal: A Bumpy Road Ahead." *Indian Journal of Asian Affairs* 32, no. 1/2 (2019): 67-90.

What is The Paris Agreement and Some Environmental Criticisms

The Paris Agreement is an international agreement between countries who have pledged to lower greenhouse gas emissions to mitigate climate change. Countries who have signed the accord pledge to reduce their emission output to limit global warming levels below two degrees celsius. An increase of two degree celsius has been considered a danger point that if reached has been predicted to lead to destructive environmental impacts that include a rise in sea levels, melting ice caps, increased storms, heatwaves, and reduced food crop yields. The voluntary agreement requires every country participating to present national plans to reduce emissions and to keep their greenhouse gas emissions public and up-to-date. Individual nation plans are also expected to be reviewed every five years to meet new emission targets, should they be necessary.[173] Micheal Oppeneiner, a Professor of Geosciences and International Affairs in the Woodrow Wilson School of Public and International Affairs at Princeton University, has argued that the Paris Agreement, although not perfect, is an important first step in setting standards to curb greenhouse gas emissions. In a 2017 interview with PBS Hour News, he explained that for the first time emissions had begun to decrease over the previous three years despite the global economy growing. This, he explained, was the result of countries such as Germany moving toward new energy sources.[174]

However, despite some positive prospects there have been advocates who claim the agreement negotiations fail to provide environmental security because the fossil fuel industry has not been held accountable for its high carbon emissions. Critics have argued that because the accords only contain voluntary pledges and not binding mandatory emission reductions, that the current emission pledge cuts do not meet the targets scientists say are necessary to avoid catastrophic climate changes. All together the pledges from each country are estimated to allow a temperature rise to 2.7 degrees or more.[175] In addition, the agreement allows countries to continue increasing their emission output. China for example has pledged to reach peak carbon emissions until around 2030 while simultaneously developing its renewable energy sector.[176] Currently, many countries and corporations are meeting their pledge agreements, not by reducing their carbon emissions, but with carbon credits or by offsetting their emission outputs.[177] REDD+ allows parties to offset greenhouse gases through a variety of forest management options. Article

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[173] United Nations Framework Convention on Climate Change."What Is the Paris Agreement?," UNFCCC. (United Nations, 2018), https://unfccc.int/process-and-meetings/the-paris-agreement/what-is-the-paris-agreement.
[174] PBS NewsHour, "What Leaving the Paris Accord Could Mean for U.S. and the World," PBS (Public Broadcasting Service, May 31, 2017), https://www.pbs.org/newshour/show/leaving-paris-accord-mean-u-s-world.
[175] Ratha, Keshab Chandra. "Paris Climate Deal: A Bumpy Road Ahead." *Indian Journal of Asian Affairs* 32, no. 1/2 (2019): p.73.
[176] Ye QI, "China's Peaking Emissions and the Future of Global Climate Policy," Brookings (Brookings, September 13, 2018), https://www.brookings.edu/blog/planetpolicy/2018/09/12/chinas-peaking-emissions-and-the-future-of-global-climate-policy/.
[177] Jaron Browne, and Tom Goldtooth. "Paris Agreement Is "Dangerous Distraction"." *Race, Poverty & the Environment* 21, no. 1 (2016): 92-95.

5 of the agreement encourages the use of "Reducing Emissions from Deforestation and Forest Degradation" (REDD+); the agreement says "Parties should take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4, paragraph 1 (d), of the Convention, including forests".[178] In addition, Article 5 encourages its parties to "take action to implement and support, including through results-based payments, the existing framework as set out in related guidance and decisions already agreed under the Convention for: policy approaches and positive incentives for activities relating to reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries".[179]Greenhouse gas sinks have been acquired by many oil companies such as ConocoPhillips and Shell, who lobbied to repeal the 1975 ban on crude oil exports. These companies have pledged to make their sustainability efforts in line with the Paris Agreement. In 2019 ConocoPhillips announced that it was meeting its suitability goals by planting over five million trees and shrubs, on more than 5,550 acres, over the past ten years.[180]

While REDD+ has proved reliable, REDD+ alone cannot provide a one-size-fits-all model for every country or company to follow. Scientists argue that this method allows oil companies to continue polluting because Article 5 of the Paris Agreement allows pledges to be offset or neutralized through the conservation of forests and carbon sinks without cutting their carbon emissions.[181] Studies have shown that REDD+ can be an effective method to manage greenhouse gases. However, many oil and gas companies such as ConocoPhillips have not made any significant reductions in their oil production.[182] In addition, REDD+ projects reduce nature to a commodity that is purchased and sold by oil companies, and often the local communities are either displaced from their land in the name of 'forest management' or employed by the companies, while traditional land management practices disappear.[183] While the UNFCCC has time and time again demonstrated the importance of decreasing fossil fuel consumption, little has been done to discourage its production.[184] There is no mention of fossil fuel production as a major risk for climate change in the Paris Agreement. Many who support the Agreement have focused on the development of alternative energy technologies and policies that will cut fossil

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[178] United Nations Framework Convention on Climate Change. "Paris Agreement," UNFCCC. (United Nations, 2015), p.6 https://unfccc.int/sites/default/files/english_paris_agreement.pdf

[179] Ibid.

[180] ConocoPhillips. "10 Years and 5 Million Trees," ConocoPhillips, September 25, 2019, http://www.conocophillips.com/sustainability/sustainability-news/story/10-years-and-5-million-trees/.

[181] Mucahid Bayrak and Lawal Marafa, "Ten Years of REDD+: A Critical Review of the Impact of REDD+ on Forest-Dependent Communities," *Sustainability* 8, no. 7 (February 2016): pp. 1-22, https://doi.org/10.3390/su8070620.

[182] Laharee Chatterjee, "Oil Producers Hess, Conoco Raise 2019 Production Outlooks," Reuters (Thomson Reuters, December 10, 2018), https://www.reuters.com/article/us-hess-outlook/oil-producers-hess-conoco-raise-2019-production-outlooks-idUSKBN1O91QR.

[183] Browne, Jaron, and Tom Goldtooth. "Paris Agreement Is "Dangerous Distraction"." *Race, Poverty & the Environment* 21, no. 1 (2016): p.94. www.jstor.org/stable/44783052.

[184]Ratha, Keshab Chandra. "Paris Climate Deal: A Bumpy Road Ahead." *Indian Journal of Asian Affairs* 32, no. ½ p.73.

fuel demand. However, many of these supporters of the agreement including ConocoPhillips and Barack Obama have also participated in maximizing fossil fuel production. This fundamental cornucopian outlook serves primarily to secure economic growth and energy security, but neglects many environmental security threats. Despite emission pledges, global emissions are projected to rise until 2030 and it is estimated that as early as 2032 temperatures may be at 2°C above pre-industrial levels.[185]

One of the poorest countries in the world, Sierra Leone, is at risk of experiencing some of the most adverse effects of climate change. A 2012 analysis done for the development of Sierra Leone's Second National Communication to the United Nations Framework Convention on Climate Change, predicated that climate change would lead to serious consequences in Sierra Leone, some of which include a decrease in agricultural productivity, the degradation of the country's coastline and damage to coastal structures, a shift from tropical rain forest to dry forest, water scarcity, food and nutrition insecurity, and severe economic impacts that will undermine decades of development gains.[186] *In the Coming Anarchy*, Robert Kaplan predicted that West African populations would be one of the first to suffer from environmental conflicts and degradation. He frequently looked to the country of Sierra Leone as a point of reference that is telling what the political climate could be like in the twenty-first century. Sierra Leone, according to Kaplan, is the pinnacle location where environmental stressors have been concentrated, which he claims are likely to lead to anarchy. He describes Sierra Leone, West Africa, and large parts of the Global South, as being overpopulated, having collapsing central governments, a high spread of disease, a rise of tribal and regional domains, and a growing pervasiveness for war.[187]

The article predicted that the increasing lawlessness found in West African cities such as Sierra Leone are a reflection of what cities will look like in the U.S in the coming decades as environmental degradation worsens. Although, since the publication of the article many scholars have criticized Kaplans methodology and have discussed the inaccuracies he claims to be the *source* of environmental conflict, it has been widely recognized that developing nations are most at risk to experience environmental catastrophes. The Global South is primarily at risk due to cornucopian efforts that make resource scarcity more likely to occur in those regions due to unstable weather conditions. As corporations continue to increase fossil fuel production and exploration, the effects of climate change are already being felt by small island states and parts of West Africa. Today, climate change effects have been documented to have adversely affected the livelihood of Sierra Leone's population. UN reports have discussed the ongoing problems in

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[185] Ibid. p. 63

[186] United Nations Development Programme, "Climate Change Might Undermine Decades of Development Gains," UNDP in Sierra Leone (United Nations, July 23, 2015), https://www.sl.undp.org/content/sierraleone/en/home/presscenter/articles/2015/07/23/climate-change-might-undermine-decades-of-development-gains-sierra-leone-addresses-impact-of-climate-change.html.

[187] Robert D. Kaplan, "The Coming Anarchy," The Atlantic (Atlantic Media Company, February 1, 1994), https://www.theatlantic.com/magazine/archive/1994/02/the-coming-anarchy/304670/.

agriculture, food insecurity, and a number of weather-related accidents. Droughts and floods occurring throughout the year have been linked to climate change and have caused health problems of water-borne diseases (typhoid dysentery cholera and diarrhea) due to clean drinking water shortages.[188]

Article 8 of the Paris Agreement, Loss and Damage, attempted to provide liability measures over the effects of climate change that some countries may be experiencing. This section was aimed particularly at developing countries who remain the most vulnerable to the adverse effects of climate change. However, ongoing disputes left little liability and compensations for disadvantaged countries.[189] The ongoing disagreements regarding potential liabilities and compensation for countries most at risk of environmental degradation in Article 8 say "Agrees that Article 8 of the Agreement does not involve or provide a basis for any liability or compensation"[190].The adoption of a cornucopian perspective allows international relations actors to behave as though the environmental problems facing society are not certain and if they are they can be solved by the free market and its technological breakthroughs. Many corporate non-state actors do not readily acknowledge the depletion of natural resources because with the mastery of nature comes an infinite number of substitutions for each depleting resource. This short term thinking is justified by many oil companies and it allows them to continue expanding their oil and gas reserves at the expense of serious climate effects in the Global South. Their refusal to stop maximizing fossil fuel production instead of urging for a more rapid transition toward alternative energy sources is what makes the dangers discussed by Kaplan and Homer-Dixon more likely, and these companies are not faced with any repercussions or accountability over the exploitation of natural resources.

Cornucopian Technologies

While in the twentieth century the U.S government alleged a scarcity of resources such as natural gas, through the development of technological innovations the scarcity of many resources has become obsolete. The expansion of oil and gas reserves in the twenty-first century has allowed corporations to assume infinite access to fossil fuels.[191] In the 2012 State of the Union Address, Obama said "We have a supply of natural gas that can last America nearly 100 years".[192] Political theorist Timothy Mitchell has described how energy resource abundance in the twenty-first century has eradicated previous concerns on the exhaustion of natural resources. The

[188] United Nations Development Programme, "Sierra Leone," UNDP Climate Change Adaptation (United Nations, 2013), https://www.adaptation-undp.org/explore/western-africa/sierra-leone.
[189]Climate Focus. "Loss and Damage In the Paris Agreement," (Climate Focus, December 2015), https://climatefocus.com/sites/default/files/20160214%20Loss%20and%20Damage%20Paris_FIN.pdf.
[190] "Adoption of the Paris Agreement," United Nations Climate Change (United Nations, 2015), p.6 https://unfccc.int/sites/default/files/resource/docs/2015/cop21/eng/l09r01.pdf.
[191] Rebecca Willis. "The Energy Elephant." In *Too Hot to Handle?: The Democratic Challenge of Climate Change*, 41-52. Bristol, UK; Chicago, IL, USA: Bristol University Press, p.44
[192] Barack Obama. *2012 State of the Union Address*, *C-SPAN* (C-SPAN, January 24, 2012), https://www.c-span.org/video/?303881-1%2F2012-state-union-address.

economic growth from the expansion of fossil fuel reserves meant that the economy could continue to expand indefinitely and without limitations.[193] The increase in oil reserves provided economic prosperity and a form of politics that did not consider the environment as a limiting factor[194]. While it may be true that the increase in wealth due to technological advancements and the creation of market societies has improved many previous environmental challenges such as pollution, sanitation, and access to clean water, beliefs that humans can escape the constraints of nature and reconstruct it are often a dubious oversimplification.[195] Mitchell describes politics as becoming "denatured", he explains that the conditions of the economy were set up to prioritize unlimited economic growth and the steady flow of oil provided the ideal opportunity.[196] In turn, economic ties to the fossil fuel industry have also shaped many aspects of society and politics that make it difficult to prioritize a shift toward renewable energy.

Oil companies exhibit cornucopian thinking and despite their occasional interest in sustainability there has yet to be a shift that prioritizes sustainable development practices at the expense of their production of oil and gas.[197] In addition to funding bio fuels, ExxonMobil now has an ongoing project called "Carbon Capture and Storage", the project aims to capture carbon emissions through the development of new technologies. Exxon is working to reduce the costs of carbon capturing while still being able to provide the affordable tools necessary for large scale operations.[198] The company prides itself on taking this initiative and calls itself a 'generational leader' taking the necessary steps to lower greenhouse gas emissions. Using this technology the company has captured about seven million tonnes of carbon dioxide annually, but expects to increase its emissions levels as it estimates that the demand for fossil fuels will continue to increase until 2040.[199] Other ongoing geoengineering projects looking to mitigate the effects of climate change include: pumping sulfate aerosols into the atmosphere to mimic the cooling effects of volcanic eruptions, fertilizing the ocean with irons to create an algae bloom that can potentially sequester carbon dioxide, and brightening clouds to reflect sun rays into space rather than into the earth. Although there are major environmental security risks associated with the ongoing geoengineering projects, many cornucopian assumptions propose that a greater understanding of nature's dynamics leads to greater influence over nature.[200] In her book, *On*

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[193] Timothy Mitchell, "Consent of the Governed," in *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2013): p.235

[194] Rebecca Willis. "The Energy Elephant." In *Too Hot to Handle?: The Democratic Challenge of Climate Change*, 41-52. Bristol, UK; Chicago, IL, USA: Bristol University Press, p.44

[195] Raymond Murphy, "Environmental Realism: From Apologetics to Substance." *Nature and Culture* 1, no. 2 (2006): 181-204. www.jstor.org/stable/43304087 p.182

[196] Timothy Mitchell, "Conclusion: No More Counting on Oil," in *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2013). p.435

[197] Raymond Murphy, "Environmental Realism: From Apologetics to Substance." *Nature and Culture* 1, no. 2 (2006): 181-204. www.jstor.org/stable/43304087 p.183

[198] ExxonMobil. "Innovating Energy Solutions," (ExxonMobil, July 15, 2019), https://corporate.exxonmobil.com/Research-and-innovation/Research-and-development-highlights.

[199] "ExxonMobil. Outlook for Energy: A Perspective to 2040," (ExxonMobil, August 28, 2019), Outlook for Energy: A perspective to 2040.

[200] Raymond Murphy, "Environmental Realism: From Apologetics to Substance." *Nature and Culture* 1, no. 2 (2006): 181-204. www.jstor.org/stable/43304087 p.186

Fire: The Burning Case for a Green New Deal, Naomi Klein describes how the fertilization of the ocean could lead to toxic tides and dead zones; and how imitating the effects of volcanic eruptions could intervene with water and food security in African and Asian countries.[201]

The expansion of scientific knowledge is typically accompanied with new questions and puzzles that reveal humanity's limited understanding of nature.[202] While technological breakthroughs have resolved many problems, at times technological advancements have also been met with an increase in environmental security risks. Since 2008 the state of Oklahoma has experienced a surge of induced seismic activity. These earthquakes have been a product of the oil and gas industry. Fracking has been a common part of oil and gas extraction in Oklahoma since 2008 and it has been tied to the state's 900-fold increase in earthquakes.[203] Previously, fracking was believed to be a safe alternative to traditional practices of drilling for gas and oil, however, this technological advancement has presented environmental security risks not previously accounted for due to human limitations of knowledge in the mastery of nature.

Many geoengineering projects lack a complete understanding of nature that if left ignored could further jeopardize the environment. Jared Diamond has argued that it is doubtful that wealth and economic growth brought by the market systems will eventually lead to more sustainable development practices.[204] Countries with fast growing economies such as China and India have invested in renewable energies, but have pledged only to begin reducing emissions by 2030. Their reluctance to lower emissions today are part of the cornucopian belief that prioritizes economic growth and the beliefs that technological innovations will lead to sustainable development practices. Diamond explains that industrialized countries currently have access to move toward sustainable practices such as renewable energy systems, yet their consumption is 32 times more per capita, including the use of resources such as fossil fuels.[205] Cornucopians allege that technology and the markets will foster solutions for developing countries and create solutions for ongoing environmental security risks that are the result of climate change. However, if the levels of wealth and consumption of industrialized nations were to become globalized all raw materials and natural resources would be depleted.[206] Even under circumstances where technological breakthroughs would extend humanities use of natural resources, transitions that adopt new technologies are not always quick. Solar power cell technology was developed in 1839, it was first proposed as an alternative to fossil fuels after the second world war, and over forty years later despite its lower costs and the urgency that calls for transitions toward renewable energy systems, solar energy still only makes up approximately one

[201] Naomi Klein, "The Dimming Sun - Have We Really Tried Plan A?," in *This Changes Everything: Capitalism vs. the Climate* (London: Penguin Books, 2015), p. 281.
[202] Raymond Murphy, "Environmental Realism: From Apologetics to Substance." *Nature and Culture* 1, no. 2 (2006): 181-204. www.jstor.org/stable/43304087 p.186
[203]Anna Kuchment, "Even If Injection of Fracking Wastewater Stops, Quakes Won't," Scientific American (Scientific American , September 9, 2019), https://www-scientificamerican-com.proxy.library.uu.nl/article/even-if-injection-of-fracking-wastewater-stops-quakes-wont/.
[204] Jared M. Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: Viking, 2005).
[205] Ibid.
[206] Ibid.

percent of the total energy production in the U.S.[207] [208] The technological advancements of corporations, such as Exxons carbon capture remain incomplete and transition times to adopt these technologies remain uncertain. Until the technologies that claim to mitigate climate change are proven effective and affordable fossil fuel companies will continue to pollute and aggravate the effects of climate change that present environmental security risks.

Additionally, the alleged technological fixes do not *directly* address the sources of climate change. Instead they deemphasize the sources of pollution and resource depletion and continue to promote the use of fossil fuels; and while oil companies claim to support the Paris Agreement, their actions say otherwise. Their efforts to support and fund mitigation of climate change have often been categorized as greenwashing or as part of the "feel good fallacy".[209] Many oil companies have ongoing renewable energy projects that only make up a small part of their total activity output. These companies also invest in planting trees to neutralize their emission output as stated in Article 5 of the Paris Agreement, but little has been done to curb their carbon intensive activity. The Paris Agreement has been frequently criticized because the pledges made by signatories are not expected to keep global warming temperatures below the danger threshold.[210] Although the agreement was made between countries, the choices made by many international oil companies prevent many solutions to mitigate climate change. The presence of oil companies as lobbyists has helped the fossil fuel industry create leverage over the state. In the United States, oil companies have been remarkably successful at diverting attention away from their lobbying efforts to increase their gas and oil production by pushing for state or federal policy changes. The PACE allied lobbying coalition in 2013 enlisted the help of at least 11 lobby and consulting firms in Washington to help repeal the 1975 ban on crude oil exports.[211] For decades many state members and national oil companies have worked together to increase the country's oil production.

Oil Corporation Cooperation, A Simulation

Many of the companies that lobbied to repeal the U.S crude oil ban did so to increase their oil production and exports, and several of these same oil companies currently claim they

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[207] Drew DeSilver, "Renewable Energy Is Growing Fast in the U.S., but Fossil Fuels Still Dominate," May 30, 2020, https://www.pewresearch.org/fact-tank/2020/01/15/renewable-energy-is-growing-fast-in-the-u-s-but-fossil-fuels-still-dominate/.

[208] Matthew Sabas, "History of Solar Power," Institute for Energy Research (IER) (IER), February 18, 2016), https://www.instituteforenergyresearch.org/renewable/solar/history-of-solar-power/.

[209] Rebecca Willis, "Twenty Years of Climate Action – but Still Emissions Rise," *Too Hot to Handle?*, March 25, 2020, pp. 69-80, https://doi.org/10.2307/j.ctvz938kb.8.

[210] Ratha, Keshab Chandra. "Paris Climate Deal: A Bumpy Road Ahead." *Indian Journal of Asian Affairs* 32, no. ½ (Manju Jain 2019): p.74.

[211] Catherine Ho, "Inside the Lobbying Campaign to End the Ban on Crude Oil Exports," The Washington Post (WP Company, December 17, 2015), https://www.washingtonpost.com/news/powerpost/wp/2015/12/17/inside-the-lobbying-campaign-to-end-the-ban-on-crude-oil-exports/ ; Producers for American Crude Oil Exports (PACE), "Our Mission Is to Lift the Ban on Crude Oil Exports," OilExports.com, 2014, https://oilexports.com/mission/.

want to support the Paris Agreement efforts.[212] [213] [214]In 2017, Trump signed an executive order to reverse Obama's clean energy plan, a main feature of U.S. commitment to the Paris Agreement. That year Shell's CEO, Ben van Beurden, said in an NPR interview "We believe climate change is real, we believe that the world needs to go through an energy transition to prevent a very significant rise in global temperatures. And we need to be part of that solution in making it happen."[215] However, what does it mean for oil companies to be part of the climate change solution? A briefing paper by E3G, an independent climate change think tank that operates to accelerate a global transition to a low carbon economy, simulated four scenarios oil companies could follow to prevent the 1.5/2°c warming temperatures.[216] The data for their simulation was taken by multiple sources including the International Energy Agency, Greenpeace, and Statoil to help formulate realistic scenarios. Of the four simulations, the published paper focused on the first and third simulations; and the main observations concluded that both the markets and the environment would benefit from an early and rapid transition toward permanent renewable energies. A rapid and early transition was simulated in the first scenario, resulting in declining fossil fuels up to 15 years ahead of reaching a 1.5-2°C temperature rise. The third scenario presented a late-stage transition and was considered the most disorderly, as it led to "crash policies" that made it difficult to prevent the rise to 1.5/2°c temperatures and it presented both market and environmental risks.

The E3G simulations represent many ongoing dilemmas: for example, present day circumstances are similar to the third scenario, with many states and corporations refusing to commit to reduced fossil fuel production within the coming years. Technological developments by the fossil fuel industry do not necessarily offer solutions to mitigate climate change, the industry is not actually changing the foundation of its production but rather the perception of their business as a means to keep up with the environmental consciousness market demand. On the topic Senator Sheldon Whitehouse has remarked, "You get to look like you care, at the same time you get to make sure nothing happens to your existing business model".[217] It has become increasingly clear through policy actions and international agreements that mitigating the effects

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[212] Hess Corporation, "Climate Change and Energy," Climate Change and Environmental Efforts | Hess Corporation (HESS), accessed August 9, 2020, https://www.hess.com/sustainability/climate-change-energy.
[213] Shell Global."Could Society Achieve the Goals of the Paris Agreement?," (Shell), accessed August 9, 2020, https://www.shell.com/energy-and-innovation/the-energy-future/scenarios/shell-scenario-sky/could-society-reach-the-goals-of-the-paris-agreement.html.
[214] ConocoPhillips, "Public Policy Engagement," ConocoPhillips (ConocoPhillips, 2019), http://www.conocophillips.com/sustainability/managing-climate-related-risks/public-policy/.
[215] Samantha Raphelson, "Energy Companies Urge Trump To Remain In Paris Climate Agreement," NPR (NPR, May 18, 2017), https://www.npr.org/2017/05/18/528998592/energy-companies-urge-trump-to-remain-in-paris-climate-agreement?t=1596995558530.
[216] Ingrid Holmes and Dileimy Orozco. Report. E3G, 2017. Accessed August 9, 2020. www.jstor.org/stable/resrep17886.
[217] Mythili Sampathkumar , "World's Biggest Oil Companies Urge Donald Trump to Stay in Paris Climate Change Agreement," The Independent (Independent Digital News and Media, May 19, 2017), https://www.independent.co.uk/news/world/americas/us-politics/trump-paris-agreement-climate-change-oil-companies-shell-bp-exxon-urge-president-stay-in-a7745666.html.

of climate change is secondary to achieving economic growth. The same multinational oil companies that claim to have a sustainable agenda rushed at the opportunity to lobby for the repeal of the 1975 ban on crude oil exports during the Obama administration.

Conclusion

The Paris Agreement aims to strengthen the global response to climate change threats through voluntary pledges of emissions reductions. However, the lack of binding commitments in the agreement makes it difficult for states to commit to legislative changes that could reduce their greenhouse gas emissions. These challenges make it difficult to tackle climate change on a global level. On an international level, a lack of incentives often arises because when one country makes a pledge to reduce greenhouse gas emissions, another could continue to pollute, and perhaps at higher levels. Without enforced policies it makes it difficult to commit to reduced fossil fuel production due to potential adverse economic effects. In addition, the agreement does not discuss the use of fossil fuels as a contributor to the effects of climate change and does not openly discourage their production. The agreement therefore allows for contradictory practices that allowed the Obama administration and oil companies to propose the expansion of offshore oil drilling in the U.S, while still pledging to reduce emissions.[218] While it may be appealing to see corporations adopt sustainable practices and projects as part of their business foundation, corporations alone cannot solve or alter the consequences of climate change by updating the production and sourcing practices of their consumer goods. However, no official policy has enforced the reduction of fossil fuels to improve climate change conditions, despite the wealth of scientific evidence demonstrating the need to end fossil fuel production as an energy source. Instead, without well-developed and enforced international environmental standards, to comply under pressure, fossil fuel companies have set out to develop technological innovations while continuing to increase their oil and gas production that continue to aggravate environmental security risks in exchange for economic growth.

[218] Jaron Browne, and Tom Goldtooth. "Paris Agreement Is "Dangerous Distraction"." *Race, Poverty & the Environment* 21, no. 1 (2016): 92-95.

Conclusion

The presence of neo-Malthusian discourse in Robert Kaplan and Thomas Homer-Dixon's work helped establish an environmental security agenda as part of U.S National security that was necessary after the end of the Cold War. Floyd argues that the rhetoric national security used to secure the environment expressed similar security concerns that were conveyed during the Cold War. With the end of the Cold War, it was not the state that suffered from a crisis of representation in the absence of a clear danger, but national security agencies because securitization is their primary role. The discourse of danger present in environmental security helped make the case that the environment must be protected to secure the existing order of the international system that directly affects American citizens.

The first chapter, a theoretical framework, analyzed the emergence of environmental security in the U.S. during the Clinton administration. The traditional neo-Malthusian discourse assumes resource scarcity is likely when: population growth exceeds food production, if there is a depletion of a natural resource, such as oil or agricultural land, and if resources concentrate in the hands of a few, leading to a shortage of that resource.[219] The development of the neo-Malthusian perspective made the environment a national security concern that requires the use of the military to protect depleting resources and prevent violent outbreaks which may result from resource scarcity.

Although the emergence of environmental security was viewed primarily through a realist neo-Malthusian perspective, anthropologists have also presented three other prominent environmental security discourses: cornucopian, sustainable development, and radical and postmodern (not discussed in this paper). The cornucopian perspective holds that discoveries and technological breakthroughs can solve every ecological concern whether induced by nature or humans. This perspective has been heavily embraced by corporations such as the fossil fuel industry; and while many environmental security risks are rooted in the production of fossil fuels it has been difficult to hold many of these companies accountable due to deregulation policies and due to the precedence of economic growth over environmental concerns.

The third dominant environmental security discourse, sustainable development, first emerged in 1987. The concept looked past the traditional definitions of development and advocated for new interpretations that still consisted of economic, social, and environmental progress but did not deprive future generations of the resources required to lead a decent livelihood. Today sustainable development has become a popular concept but has been criticized because its key characteristics, reproduction, balance, “dynamic process”, and “links from local to global concerns” have been difficult to translate from theory to practice because they require

[219] Floyd, Rita. “The Rise of US Environmental Security.” Chapter. In *Security and the Environment: Securitisation Theory and US Environmental Security Policy*, p.63. Cambridge: Cambridge University Press, 2010. p. 77 doi:10.1017/CBO9780511730146.004.

the transition of many beliefs that have been embedded in the international system, such as realists beliefs that the international system is inherent for violence and that states must seek their own protection even at the expense of their neighbors.

The second chapter, a state level of analysis, answered the question: *Why did the state support the repeal of the 1975 ban on crude oil exports despite the rise in environmental security concerns?* It began by analyzing the historical events that led to the Energy Policy and Conservation Act of 1975 (which contained the ban on crude oil exports) after the Arab oil embargo of 1973. EPCA was a state effort to achieve energy security, protect domestic energy resources from becoming scarce due to the rise in global demand, and protect energy resources in case of a second embargo. However, despite state efforts to achieve energy security through domestic oil production and resource protection, energy independence in the 1970s and today cannot be fully achieved as long as oil remains a major source of energy. Since the twentieth century, oil prices have been dictated by OPEC members who hold three-fourths of the world's oil reserves and continue to limit their production of oil to curb oil prices to their liking. However, the technological developments of fracking and horizontal drilling helped facilitate the production of oil and gas. In 2013 after oil production skyrocketed in the U.S, energy companies began to push for the repeal of the crude oil export ban that was part of the Energy Policy and Conservation Act of 1975. After extensive lobby measures on behalf of the fossil fuel industry, in 2015, the crude oil export ban was lifted and oil production in the U.S began to exceed the oil production in countries such as Russia and Saudi Arabia.

The chapter analyzed the discourse of Charles Ebinger and former U.S House Representative Joe Barton. Their testimonies did not discuss environmental security risks that may arise from extensive oil production. The rhetoric of members in the House subcommittee meeting focused primarily on economic benefits the repeal would present, the arguments seeking a repeal of the crude oil export ban were fundamental cornucopian. The state supported the repeal of the 1975 ban on crude oil exports, despite the rise in environmental security concerns, because short-term economic progress takes precedence over the environment. Historically, realist state measures have not acknowledged international cooperation efforts. However, state deregulation of the markets has positioned multinational oil companies in a position of global governance that lacks accountability not acknowledged by the state. In addition, these deregulation practices have helped provide energy and economic abundance at the expense of environmental security risks. It was assumed, however, that with the emergence of climate change, leaders would eventually notice the need to regulate the fossil fuel industry in order to take action against these threats and that it would be reflected in policy changes. Yet, despite the copious amounts of data proving that environmental degradation will worsen, many state actors continue to ignore the need to regulate the fossil fuel industry and continue to moved by incentives that drive capital and economic growth; and the fossil fuel industry offers both, despite their business model proving it will have detrimental effects on the environment.

The third chapter, an individual of level of analysis, analyzed the three speeches given by Barack Obama in 2012 that were given to address an ongoing energy strategy that took place during his two presidential terms. The chapter analyzed the subquestions: *Why does Obama promote an increase in fossil fuel production? For what benefit?* The chapter examined rhetoric used by Obama in 2012 that helped the oil industry in the U.S thrive. In all three speeches Obama called for more drilling and exploration of oil and gas while simultaneously promoting the development of renewable energies such as solar and wind power. The discourse analysis recognized Obama's rhetoric on economic and environmental concerns as cornucopian viewpoints, much like the state when it comes to economic affairs. The Obama presidency inherited the effects of the 2008 Great Recession, and the efforts on behalf of Obama to promote the "All-of-the-Above" energy strategy are reflective of the states effort to recover from financial ruin and promote economic growth. To promote economic growth Obama alleged that the U.S has limitless sources of energy and a boundless supply of ingenuity that can be put to work to develop the energy of the future. Obama's discourse does not express any of the key characteristics of sustainable development and while he does discuss the need to innovate the renewable energy sector, he directs most of his speaking time to the topic of natural gas and oil for the purpose of achieving energy security and economic growth. This once again displays a cornucopian framework, that is a reflection of state efforts on behalf of oil companies that assume solutions to environmental security risks will appear as needed.

The final chapter, an international level of analysis, answered the subquestion: *Why does the emergence of multinational oil companies as non-state actors present environmental security risks that the Paris Agreement attempts to mitigate?* This chapter began by outlining the goals and objectives set in the Paris Agreement. It then examined the role oil companies have played in meeting targets specified in Article 5 of the Paris Agreement. Many multinational oil companies have complied with Article 5 by managing forest conservation and planting shrubs and trees to reduce high levels of carbon from the atmosphere. However, many of these companies have also refused to curb their high levels of oil and gas production. Multinational Oil Companies such as ExxonMobil have estimated that their production levels will actually increase in the coming years. The expansion of the oil industry has led to an increase in greenhouse gases that are responsible for many environmental security risks that include droughts, floods, and unstable weather patterns across the world. The Paris Agreement has been acknowledged as a great success in uniting states to take direct action against climate change. It does not, however, mention the use of fossil fuels as a contributor to the effects of climate change and does not openly discourage their production, despite just 100 energy companies bearing the responsibility for more than 70% of the world's total greenhouse gas emissions since 1988.[220] If the agreement

[220] Paul Griffin, *100 Fossil Fuel Producers and Nearly 1 Trillion Tonnes of Greenhouse Gas Emissions* (The Carbon Majors Database, 2017),

had directly discouraged the use of fossil fuels, mostly likely fewer countries would have joined, due to the relationship between economic growth and the dependence on fossil fuels. Regardless of the wealth of scientific evidence demonstrating the need to end major fossil fuel production, no official policy in the U.S or as part of global governance has enforced the reduction of fossil fuels to improve climate change conditions and reduce environmental security risks.

Discussion

During the Obama administration, there was an oil surge because oil companies succeeded in demonstrating the positive effects an increase in oil production could have on the U.S economy. The rhetoric describing these positive effects has been approved on the state, individual, and international level. The oil boom in North Dakota during the great recession of 2008 kept the state's unemployment rates low and the oil surge transformed the livelihoods of many North Dakota residents. The positive economic effects of increasing oil and gas production were discussed by Obama in 2012 during the *State of the Union Address* and during his *Remarks on Energy Policy*. On the international level, the environmental security risks of climate change have been acknowledged but pressure on the fossil fuel industry has not translated into enforced policies. The oil boom during the Obama administration and the repeal of the ban on crude oil exports allowed the U.S to become the world's largest oil producer, and yet the country still does not have energy security because OPEC states hold three-quarters of the world's oil reserves and by limiting their production they continue to set oil prices to their liking. Sustainable development practices are encouraged however because oil has been responsible for a large part of the world's economic wealth, it is difficult to end a reliance on oil. Many states are developing a slow transition away from oil dependence, but the use of fossil fuels continues to increase the environmental security risks many countries are now experiencing. The emphasis on economic growth and the belief that perhaps a technological innovation could repair the immense environmental damage has been understood as a cornucopian framework. However, it is difficult to imagine a sharp pull away from the current market economy that would not lead to a crash in the global economy, and a technological innovation that provides a speeding transition toward permanent sustainable development practices and helps mitigate may be a viable solution.

Requiring independence from the state through policies of deregulation have made it difficult to hold the fossil fuel industry accountable for the effects of climate change because economic growth has precedence over environmental concerns. In addition, the traditional realist state perspective does not acknowledge international cooperation efforts that have been both the cause of many environmental security risks, due to the efforts of multinational oil companies to increase their fossil fuel production, and the opportunity to develop viable solutions to mitigate the effects of global warming through international global governance.

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From a constructivist perspective the neo-Malthusian and cornucopian discourses persist because they have been taken for granted by the state and many economists who accept and promote these worldviews that condition the public to believe capital accumulation and economic growth are essential to humanity's well-being. The third prevailing discourse in environmental security, sustainable development, still promises some economic development benefits and seeks improved energy efficiency strategies, and contributes to democratic processes of governance.[221] However, sustainable development frameworks have only been partly adopted in the international system through measures that still allow cornucopian and neo-Malthusian values to thrive.

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