

REINVESTIGATING THE STATE DEBATE DURING THE ENERGY
TRANSITION IN THE USA

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ABSTRACT

REINVESTIGATING THE STATE DEBATE DURING THE ENERGY TRANSITION IN THE USA

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This thesis examines the role of the American state during the energy transition process. Immanuel Wallerstein claimed that, since 1968, the American power weakens. Wallerstein showed that despite the American State's strategies for preventing the decline in American power in capitalism historically, its hegemony continues to be eroded. The energy transition process could be an opportunity for the United States of America (USA) for reinforcing its hegemony. The USA's economy is largely based on fossil fuel supplies, but, in the last decades, the share of renewable energy sources in electricity production increased significantly. Although there has been a continuous energy transition in the USA, there were different approaches in the USA's government policy regarding rising conflicts among different producers and consumers during the energy transition in the last decade. These different approaches stem from the role of state in responding to the conflicts between the fractions of the capitalist class. In this research, I analyzed the actors of the American state and their different approaches to demonstrate the role of state in the on-going power struggle in capitalism during energy transition within the case of the USA historically. The USA's energy transition is mostly occurred in the electricity generation sector, and the change in relations of production observed in the electricity generation sector. Thus, I focused particularly on the electricity sector to investigate the policies of the state, which promote its hegemony, support some fractions of the capitalist class and punish some fractions of the capitalist class. I used Historical Materialist Policy Analysis to examine the discourses of the Obama

Administration, the Trump Administration, the Biden Administration, and the Democrats and the Republicans in the Congress about the energy transition between 2008 and 2021 by acknowledging the continuities and changes in the historical position of the state within the context of the State Debate in Marxist studies.

Key Words: Immanuel Wallerstein, The USA, The Energy Transition, The Decline of the American Power, Capitalist Class, Capitalist System, Capitalist State, Historical Materialist Policy Analysis



ÖZ

DEVLET TARTIŞMASI'NIN ABD'DEKİ ENERJİ DÖNÜŞÜMÜ SIRASINDA TEKRAR İNCELENMESİ

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Tez Danışmanı: Doç. Dr. Pınar İPEK

Bu tez, enerji dönüşüm sürecinde Amerikan devletinin rolünü incelemektedir. Immanuel Wallerstein, 1968'den beri Amerikan hegemonyasının zayıfladığını iddia ediyor. Yazılarında Wallerstein, Amerikan devletinin bu zayıflayışı önlemek için geliştirdiği stratejilere rağmen Amerikan hegemonyasının düşüşünün devam ettiğini belirtti. Enerji dönüşüm süreci, ABD'nin hegemonyasını pekiştirmesi için bir fırsat olabilir. ABD'nin ekonomisi büyük ölçüde fosil yakıt kaynaklarına dayalı olmasına rağmen son yıllarda yenilenebilir enerji kaynaklarının elektrik üretimindeki payı önemli ölçüde arttı. ABD'de sürekli bir enerji dönüşümü yaşansa da, son on yılda ABD hükümetinin enerji dönüşümü politikalarında farklı yaklaşımlar söz konusuydu. Bu farklı yaklaşımlar, kapitalist sınıfın fraksiyonları arasındaki çatışmalardan kaynaklanıyor. Bu araştırmada, enerji dönüşüm sürecinde kapitalizmde süregelen güç mücadelesinde devletin rolünü tarihsel olarak inceledim. Bunun için enerji dönüşümü sürecindeki Amerikan devletinin aktörlerini ve farklı yaklaşımlarını inceledim. ABD'deki enerji dönüşümü özellikle elektrik üretim sektöründe gerçekleşirken özellikle elektrik üretim sektöründe üretim ilişkilerinde değişim yaşanıyor. Bu sebeple, devletin hegemonyasını güçlendiren ve bu süreçte kapitalist sınıfın bazı kesimlerini desteklerken bazı kesimlerini cezalandıran politikalarını incelemek için de özellikle elektrik sektörüne odaklandım.

Araştırmada, Marksist çalışmalarda Devlet Tartışması bağlamında devletin tarihsel konumundaki süreklilikleri ve değişiklikleri kabul ederek, 2008 ve 2021 arası Obama Yönetimi'nin, Trump Yönetimi'nin, Biden Yönetimi'nin, ABD Kongresi'nde

Demokratların ve Cumhuriyetçilerin enerji dönüşümüne ilişkin söylemlerini “Tarihsel Materyalist Politika Analizi” yöntemini kullanarak inceledim.

Anahtar Kelimeler: Immanuel Wallerstein, ABD, Enerji Dönüşümü, Amerikan Gücünün Düşüşü, Kapitalist Sınıf, Kapitalist Devlet, Kapitalist Sistem, Tarihsel Materyalist Politika Analizi



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ABBREVIATION LIST

EIA: United States Energy Information Administration

USEER: United States Energy & Employment Report

USA: United States

HMPA: Historical Materialist Policy Analysis

QCEW: Quarterly Census of Employment and Wages

BLS: The USA Bureau of Labor Statistics

DOE: Department of Energy

USA: United States of America

CPI: Consumer Price Index

WEF: World Economic Forum

CHAPTER I

INTRODUCTION

Among Marxist scholars there has been discussion about the United States of America's (USA) hegemony and its role embedded in the historical material relations of capitalism. The well-known sociologist Immanuel Wallerstein argued that the power of the United States of America's (USA) hegemony had started to decline in 1970 (Wallerstein, 2013). According to Wallerstein's argument the USA has been trying to reinforce its hegemony since then. In this thesis, I follow a critical approach towards the role of state in the on-going power struggle in capitalism during energy transition within the case of the USA historically. In the last two decades, the energy transition became increasingly an important issue in world politics. . I focus on the American state's position regarding energy transition since the USA could use this opportunity for reinforcing its hegemony. Accordingly, a critical analysis of how the American state's policies during energy transition process have been evolving is important. The continuities and changes in the historical position of the state during energy transition would reflect conflicting relations of production between the state and the capitalist class. Moreover, in the energy transition process, some fractions of the capitalist class would rise, and some fractions would fall.

In the history, a few energy transitions occurred. In the beginning of the Industrial Revolution, wood, mostly, was consumed as primary energy source (O'Connor & Cleveland, 2014, 7975). After 1880s, consumption of coal as primary energy source surpassed consumption of wood. Share of consumption of coal reached more than 70 percent in the USA energy consumption in 1900s. With

developments in transportation sector, oil became major energy source in about 1950. In recent decades, coal consumption decreased, and consumption of natural gas increased. While shares of natural gas and oil consumption are almost same in the last decade, share of renewable energy consumption share of increased considerably (O'Connor & Cleveland, 2014, 7976).

Within this context, I consider the role of American state in reinforcing its hegemony during energy transition and I focus on questioning how the American state supports some of the fractions of the capitalist class in this process. In examining my research question, I use historical materialist policy analysis. This method is explained in “Varieties of capitalism or varieties of relationships of forces? Outlines of a historical materialist policy analysis” (Kannankulam & Georgi, 2014) and “Contours of historical-materialist policy analysis” (Brand, Krams, Lenikus & Schneider, 2021).

1.1. Research Design and Methodology

The historical materialist policy analysis (HMPA) is a method for analysing conflict of interests of social forces. During the energy transition process, the state promotes its hegemony, while the capitalist class expand their capital. Because of that, in some circumstances, these social forces can conflict, and, for analysing that conflict, the HMPA is a compatible method. According to the HMPA, I examine political discourses and shifts in social relations of production to critically question the American state's role during the energy transition process in which the state re-establishes its hegemony.

My case selection is the USA' energy transition process. For case selection, I looked at the shares of greenhouse gas emissions in the world, the energy transition index score, and political crises or major conflicts among capitalist classes, if any, about the energy transition in the advanced capitalist states.

In Table 1.1. it is shown that the 14 percent of the share of the carbon dioxide emission, which is big part of the greenhouse gas emission, belongs to the USA in 2020. The energy transition index score of the United States is 67, and the USA is ranked as the 24th in the 2021 report¹. In G7 countries, Japan and Italy are the only countries that ranked behind the US, while the UK, France and Germany ranked above the USA (World Economic Forum 2021).

ETI Rank	G7 Countries	ETI Score	System performance	Transition readiness
	United Kingdom	72	75,8	69,2
9	France	71	77,6	64,4
18	Germany	68	67,4	69,2
22	Canada	67	70	63,5
24	USA	67	70,7	62,3
27	Italy	66	71,2	61,1
37	Japan	64	65,6	63,4

Table 1.1. Energy Transition Index Scores of G-7 countries, (WEF, 2021)

¹ The Energy Transition Index report is prepared by World Economic Forum. ETI score is measured with System Performance score, and Transition Readiness score. System Performance score is about energy security and accessibility, environmental sustainability, and economic development and growth. Transition Readiness score is about readiness of politics, law, human capital, infrastructure, private investment, and energy system structure (WEF, 2021).

Accordingly, my selected case is the USA for two major reasons. First, the USA has the highest share of CO₂ emissions in the world in 2020 and its energy transition index rank is lower than other advanced capitalist states or G7 countries (except Japan and Italy) as described above. Second, the American Administrations' changing policies are important for my thesis in light of the role of state within the context of emerging and/or existing historical conflict among capitalist classes in energy transition process. Indeed, 2015 is especially important for the USA's energy transition because the government made official commitment for the energy transition internally and externally. The President Barack Obama Administration announced the Clean Power Plan and signed the Paris Agreement. However, in 2017 under the President Donald J. Trump's administration, the USA withdrew from the Paris Agreement. During the Presidency of Trump, the Administration relatively reduced the federal state support to the energy transition. On the other hand, after the Trump Administration, the Biden Administration rejoined the Paris Agreement in 2021, and revitalized policies related to the energy transition process.

I focus only on power sector in the energy transition process of the USA because the percentage of CO₂ emissions from the power sector is the highest with %31 compared to those in other sectors in the USA (EPA 2022). In 2021, the percentage of renewable energy consumption (use) in power sector in the USA is %20,1 while the percentage of renewable energy total installed capacity in power sector in the USA is %27 (Energy Information Administration, 2022).

Based on my HMPA methodology to assess my theoretically grounded research question, I have to engage in context, actor and process analysis. In context analysis of the energy transition process, I should demonstrate social and political forces in conflict. One group of the social forces is in favour of the energy transition. This

group includes the owners of the new energy sources and technologies, and the state's political elite who thinks that the energy transition is necessary for the state's practices. There is another group who is reluctant to the shift from fossil fuel sources to renewable energy sources. And, this group includes the owners of the old energy sources and technologies, and the political elite in the state who thinks that the energy transition has some drawbacks against the state's practices.

Accordingly, I collected data to present the context including identification of specific problems causing historical conflict in energy transition process (Kannankulam & Georgi, 2014, 63). I assume energy transition process in historical trajectory, which can be traced since the Kyoto Protocol in 1995 (see Chapter 2, section 2.8). I demonstrate whether there is a major shift in material relations of production between fossil fuel-based energy producers and renewable energy producers not only in power sector but also through use of power (consumption) in energy intensive sectors and in automobile industry. Thus, I consider a major conflict regarding changing social relations and mode of production in power sector that has implications also for energy intensive sectors and automobile industry given these sectors fossil fuel dependence traditionally.

In short, I highlight the context for an on-going class conflict and try to reveal the conditions which cause those problems based on HMPA methodology (Kannankulam & Georgi, 2014, 63) by collecting the following data.

- I examine the USA's primary energy consumption by energy sources between 2000 and 2020. These energy sources are natural gas, petroleum, coal, nuclear, and renewable energy sources (solar, wind, geothermal, hydro and biomass).

- Then, I present consumption of each energy source separately by the sectors, which are residential, industrial, commercial, transportation, and power generation. For these data, I used the USA Energy Information Administration, which is agency of the United State Department of Energy (DOE).

- Then, I show vehicle sales of the US, and share of sales of the hybrid, plug-in, all electric vehicle in the total sales of all light vehicles between 2000 and 2020. I used Oak Ridge National Laboratory, which is the part of DOE.

- Lastly, I present share of each energy source for electricity net generation in the US.

After demonstrating a conflict among capitalists specifically in power sector and overall during energy transition process given energy intensive sectors and automobile sector, I present a snapshot of employment, energy prices, and energy security. These descriptive statistics complement another dimension of conflict in the energy transition process that have implications for working class and households. I used data of the USA Bureau of Labor Statistics and the USA Energy and Employment Reports to present energy prices and employment. For energy security, I used data of the USA Energy Information Administration.

Lastly, in order to assess the American state's position during the energy transition and understand continuities and/or changes in the role of state in historical material capitalist relations, I made a discourse analysis for investigating the policies of the state which promote its hegemony, support some fractions of the capitalist class and punish some fractions of the capitalist class.

I focus on five actors in the American Administration to trace their discourse and strategy about the on-going conflict in energy transition process in the USA

(Kannankulam & Georgi, 2014, 64). Three of these actors are previous Presidents Barack Obama and Donald J. Trump, and the current president, Joe Biden. Other actors are the Republican Party and the Democrat Party. These actors and their strategies can be classified into two groups or “hegemony projects” according to their interests (Kannankulam & Georgi, 2014, 64). Therefore, I consider the transition hegemony project, whose members are Barack Obama, Joe Biden and Democrat Party, and the fossil fuel hegemony project, whose members are Donald J Trump and Republican Party.

I trace two kinds of discourses by the members of transition and fossil fuel hegemony projects to complete actor and process analysis based on the HMPA methodology. In these discourses I seek to interpret the actors’ power resources such as organizational resources, systemic resources, and discourse for ideological and symbolic resources (i.e. issue of employment, energy price and energy security) (Kannankulam & Georgi, 2014, 65).

First, I look at the president and the president’s administration’s speeches, orders and memorandum, which is about the energy generation industry and the energy transition. I collected these documents from the websites of Obama’s White House Achieve, Trump’s White House Achieve, and the White House. Second, I look at the bills, which were introduced to the congress. These bills were related to regulations and barriers on greenhouse or fossil fuels, incentives on renewable energy sources and clean energy technologies, or subsidies on fossil fuels. In order to identify such bills, I examined the Congress’ website, choose energy and environmental subjects in the legislation’s section, and analysed every bill between 2008 and 2021.

With using these sources, I found power resources which the actors used. I only examined organizational resources, systemic resources, and discourse, ideological and symbolic resources for the scope the research. I used these power resources for questioning the role of the USA's state during the energy transition process.

During the energy transition process in the USA, one can observe major turning points during President Obama era (2008-2017), President Trump era (2017-2020), and President Biden's first year (2020-2021). However, for the State Debate, I will mostly focus on between 2015-2021. Major changes in policies and/or shift in political stance of political leaders can be listed as announcement of the Climate Action Plan, announcement of Clean Power Plan, the adoption of the Paris Agreement in the President Obama era; announcement of the America First Energy Plan, withdrawal from the Paris Agreement in the President Trump era, and re-joining the Paris Agreement after the election of Joe Biden.

The thesis is divided into four chapters including this chapter, introduction. The second chapter consists of the theoretical background of my research. As the theoretical background, I looked the decline of the USA's hegemony according to Wallerstein, the background of the energy transition process in the literature, and usage of the HMPA in the previous studies. Lastly, I explain the relation between the decline of the USA's hegemony in world politics, the energy transition process, and the importance of the HMPA to question the role of the USA in this process in historical context.

The third chapter has three sections. In the first section, I present the context that identifies a specific historical conflict regarding changing social relations and mode of production between fossil fuel-based energy producers and renewable energy

producers not only in power sector but also through use of power (consumption) in energy intensive sectors and in automobile industry. Further, I demonstrate descriptive statistics about employment, energy prices, and energy security that complements another dimension of conflict in social relations of production during the energy transition process that has implications for working class and households. In the second section, I showed the discourses of the presidents, and bills in the Congress. I classified them, according to power resources which are organizational resources, systemic resources, and discourse, ideological and symbolic resources. In the third section, with using these power resources, I critically examined that the state's policies contribute its hegemony, support some fractions of the capitalist class, and punish some fractions of the capitalist class.

In the last chapter, I conclude by underlining the importance of my findings regarding the continuities in the role of the American state during energy transition process in the broader context of historical material relations of capitalism.



CHAPTER II

LITERATURE REVIEW

In political science and international relations, the definition of the state is significant. Premises of the research are dependent on that definition. In liberalism and realism, the state is the most significant actor. And all literature is built on that. Most of the mainstream schools put the interests and survivability of the states to the foundation of their thought. The state wants to improve its own security and/or own interests. However, for Marxists and critical theorists, this is a debatable approach. For Marxists, the most important actor is the class. And, in the capitalist world, there is hierarchy between capitalist class and working class. The scholars try to explain and solve this class struggle between these two groups. The scholars (Marxists and critical theorists) do not have consensus on the role of the state in the class struggle. Further, the role of state in capitalist power struggle in world politics has triggered discussions on the particular role of the USA, which is defined as the hegemon of the capitalist system in historical context. Therefore, examining the role of the American state during energy transition process embedded in the historical material relations of capitalism is important.

The USA's hegemonic power has been questioned in terms of its resilience or decline since a series of events in 1968 in world politics (Wallerstein, 2013). Meanwhile, the increase in renewable energy production in order to decrease the greenhouse gases constitutes an important issue in the fight against global climate change. The American state can use the energy transition for reinforcing its hegemony. In this research, I examine the discourse of the actors of the American

state through the HMPA to understand the role of the American state in energy transition process. In this chapter, first, I described the discussions on the decline of the USA's hegemonic power in world politics through the arguments of Immanuel Wallerstein. Then, I presented the drivers of the energy transitions, and the previous energy transitions. In the third section, I described historical materialist policy analysis. In the last section, I clarified the relation between the decline of the USA's hegemony in world politics, the ongoing energy transition process, and the importance of the HMPA to question the role of the USA in this process in historical context.

2.1. The Decline of the USA's Hegemony

Immanuel Wallerstein argued that, after the Second World War, the USA became hegemonic and the strongest power in the world (Wallerstein, 1982, 11), while its decline has started in 1968. In this section I review Wallerstein's studies, which are "The USA in Today's World" in 1982, "America and the world" in 1992, and "U.S. Weakness the Struggle for Hegemony" in 2003, to elucidate the importance of the USA's role in historical materialist relations of capitalism.

After the World War 1 and the World War 2, European countries were destructed., According to Wallerstein, the US's hegemony was challenged by Russia and Germany during the inter-war era and especially after the Great Depression in 1929 (Wallerstein, 1982, 11). Because of that challenge, Wallerstein compared Nazi program and the USA's strategy, which is called "the New Deal", for social comprise in the Great Depression. Wallerstein stated, between two wars, as hegemonic power, American government had a political debate for following either isolationist or

interventionist foreign policy in world politics. While the USA allied with Western democracies and “left of center” like the USSR, Germany moved to right. The Roosevelt Administration wanted to construct the welfare state, but it was hard to achieve in the USA. The Roosevelt Administration, also, did not suppress unions, rather it encouraged unions. Lastly, the Roosevelt Administration moved to centrist position on racism (Wallerstein, 1982, 12). Wallerstein claimed that this New Deal Program continued from the Roosevelt Administration to Carter Administration (Wallerstein, 1982, 13).

Wallerstein highlighted, two fundamental changes at the end of the World War 2. The world economy entered in the expansion era, and the USA became hegemonic and uncontested power (Wallerstein, 1982, 12). Wallerstein explained the USA’s hegemonic power in this context. First, after the war, the American economic capabilities became unmatched among countries. Second, military strength of the USA had made it the greatest power in the world. Third, like NATO and the US-Japan Defense Pact, the USA created significant alliances. Lastly, the USA culturally dominated the world (Wallerstein, 2003, 1). During the Yalta Conference, the USA and the Soviet Union divided the world into the USA’s influence zone and the Soviet’s influence zone (Wallerstein, 2003, 2).

In addition to capability of the USA, the USA had the political will to be hegemon after the World War 2. According to Wallerstein, the US leaders and its citizens pursue prosperity. Moreover, he argued that the USA serves and leads the worlds for eliminating threats against prosperity and increasing prosperity (Wallerstein, 1992, 3). However, Wallerstein, also, claimed the USA did not know how to assume its responsibilities as hegemonic power. He added the USA in 1980s still did not know how to adjust its role as a post-hegemonic power (Wallerstein, 1982, 11). Leaders

and public opinion do not know how to act as hegemonic power. Despite that, the USA achieved four accomplishments. These are reconstruction of Europe, maintenance of peace in the world system, decolonization of colonial world, and integration of the American working class through ending racial segregation and the discrimination (Wallerstein, 1992, 2-3).

Wallerstein emphasized that the hegemonic power of the USA has been declining since 1968. In 1970s, the world economy went from expansionary stage to stagnation. And the US's hegemony faced strong opposition from the Third World countries. These events negatively affected the USA domestic politics and the New Deal program (Wallerstein, 1982, 13). Although the USA allied with the Western Europe and Japan, economically, they became powerful enough to challenge the USA. Also, the Eastern European countries questioned the Yalta Agreement's legitimacy. However, mostly the Third World opposition pressured the USA's hegemony (Wallerstein, 1992, 8-9). The USA intervened some of these Third World's countries. Among these interventions, the Vietnam War had serious costs to lives, financial stability in the world economy, and legitimacy of the American government (Wallerstein, 1992, 10). In addition to the Vietnam War and the rise of Japan and Western European countries in the world economy, he also emphasized the Columbia University's protests in 1968 and the Watergate scandal between 1972 and 1974. These two events weakened the legitimation of the American government (Wallerstein, 1982, 14).

When the New Deal strategy started to decline, firstly, the American government tried to solve that decline with "low posture" solution. Ford (1974-1977) and Carter Administrations (1977-1981) wanted to maintain "trilateralism" (alliance with Western Europe and Japan) under the USA's leadership. Also, these administrations

used “the OPEC oil rise”. They pumped surplus capital to provide loans to the Third World and socialist countries. With doing that, they aimed at providing short-run stability in these countries, maintaining world industrial production and weakening Western Europe and Japan. Lastly, these administrations withdrew from Indochina, and opened the USA economy to China. However, this “low posture” solution failed. Wallerstein argued Ayatollah Khomeini brought down this solution (Wallerstein, 1992, 11-13). After these series of crisis for American Administrations, the USA’s government turned to “Reagenism” and “Washington Consensus” strategy to maintain American hegemonic power. In the 1980s, the American government increased the military expenditures, but it abandoned the welfare state. The USA implemented “Pacific Rim” strategy, and it allied with Japan and China (Wallerstein, 1982, 14-15). With the Washington Consensus, the American government wanted to break down barriers on the movement of the goods, and the capital, but not labor. The government aimed to reduce taxation, real wages of labors, and costs of the firms (Wallerstein, 2003, 4).

According to Wallerstein, this strategy, also, did not work in the long term. In this era, he emphasized three events challenging the USA’s hegemony. Wallerstein argued that the collapse of USSR was disaster for the USA. In the aftermath of the dissolution of the Soviet Union, the USA lost its most important political weapon (Wallerstein, 2003, 4). Then, the First Gulf War started. Wallerstein claimed this war was a draw. The USA did not win (Wallerstein, 2003, 5). Third, in 1990s, dollar had been weakening. Lastly, in 2001, there was 9/11 terrorist attacks in the New York city which in turn exposed the USA’s vulnerability (Wallerstein, 2003, 5). In 2013, Wallerstein re-emphasized its argument about the continuing decline of the USA’s hegemonic power (Wallerstein, 2013).

Within this historical context of the role of the USA in world politics, I think the USA still tries to protect its hegemony with new strategies. Energy transition process is an opportunity that the USA could use for reinforcing its hegemony. In the next section, I define energy transition process and its driving forces.

2.2. Energy Transition Process

In this research, I examined the American government's role in the energy transition process. In this section, I defined the energy transition, the history of the energy transition, and drivers of the energy transition.

Firstly, "the energy resources" include fossil fuels which could be coals, natural gas, and oil, renewable energy which could be solar and wind energy, and nuclear energy. The resources can be transformed to "energy carriers" which could be electricity or gasoline. These carriers supply to "the energy converters". Lastly, these converters are used for the energy services (O'Connor, 2010, 8). The meaning of the energy transition is the significant changes in one or multiple steps of usage of energy (O'Connor, 2010, 8). Resources, carriers, converters, and services can be change. The change in one step can cause the changes in the other steps.

Before the Industrial Revolution, the woods were used for heating homes and cooking foods. For grinding grains, people used muscle power, wind, and water. Horses were used for land transport (Bhutada, 2022). Wind and muscle power were used for sea transport. With industrialization, the cheaper resources were needed. Therefore, in the UK, the coal consumption started to increase. With changes in technology, usage of gas and oil increased in 20th century. Rather than coal, gas has been used for heating homes, and oil has been used for transportation (Bhutada,

2022). And, in last few decades, renewable energy started to use as the energy resources. The share of renewable energy consumption in total consumption of energy resources increased year by year in the last two decades (Bhutada, 2022).

There are some drivers for the energy transition. Firstly, supply constraints can be the energy transition's driver. While demand on resources which currently are used, increases, the supply of these resources are limited. Thus, the extraction of these resources can't satisfy demand. As the result of that, the energy transition can be emerged (O'Connor, 2010, 16). Secondly, cost advantages could be the energy transition driver. Even if the energy resources are abundant, the extraction of the energy resources can be expensive. Also, the other steps of the usage of the energy can be expensive. And, usage of the new resources can be cheaper than current ones. Thus, the energy transition can be emerged as the result of that (O'Connor, 2010, 17). Third, the energy transition can be driven by performance advantages. New resources can have advantages on speed, safety and cleanliness. These advantages can promote the energy transition (O'Connor, 2010, 18). Lastly, policy decisions can be the drivers. The government can take actions against the usage of the current energy resources. These actions could be implementing tariffs and regulations on the current energy resources. Also, the government can give subsidies to new resources, and develop infrastructures for new resources. These are, also, effective for encouraging the energy transition (O'Connor, 2010, 19).

2.3. Historical Materialist Policy Analysis

Historical materialist policy analysis (HMPA) is the method for analyzing conflict of interest of the social forces. According to Brand et al., HMPA investigates

formulation of specific policies which are related to conflict of interests of different social forces (Brand and et al., 2021, 1). HMPA is developed for "... critique of existing policy making, its institutional settings, and its embeddedness into societal contexts and power relations". Thus, HMPA focuses on power relations and conflicting structure (Brand and et al., 2021, 3). HMPA rejects that the state protects only one group's interest with policies. There are tensions between political institutions. In other words, the state formulates contradictory policies because the state controls different apparatuses, while there are conflicting interests of fractions in the capitalist system. These conflicts cannot be solved, but they can be stabilized (Brand and et al., 2021, 6-7). HMPA investigates policy-making process while conflict of interest emerges between the hegemonic projects.

HMPA is a three-step process. These steps are context analysis, actor analysis, and process analysis. Now, I will explain these steps.

2.3.a. Context Analysis of the HMPA

The HMPA is about social and political struggles. Thus, an empirical case regarding such conflicts can be examined by the HMPA. The purpose of the context analysis of the HMPA is to reconstruct the historical conflict which social and political forces have different interests (Kannankulam & Georgi, 2014, 63).

This part has three sub-steps. First, the specific problems should be identified. These problems caused the historical conflict. In other words, the social and political forces take different actions against that problem (Kannankulam & Georgi, 2014, 63). Second, these problems should be expanded to broader historical context

(Kannankulam & Georgi, 2014, 63). Third, the conditions which cause those problems should be revealed (Kannankulam & Georgi, 2014, 63).

2.3.b. Actor Analysis of the HMPA

In the second step of the HMPA, the actors of that conflict is analyzed. These actors have conflict of interests and they have capacity to struggle with each other. This part, also, has three sub-steps. Firstly, the researcher should find out who are these actors and should examine discourse and strategy of these actors about that conflict (Kannankulam & Georgi, 2014, 64). In the second sub-step, the actors and strategies are grouped, according to their interests. These groups are called “hegemony projects” (Kannankulam & Georgi, 2014, 64).

In the third sub-step, the relative status of these actors in the societal relationships of forced is analyzed (Kannankulam & Georgi, 2014, 65). The relative status can be examined within four categories of power resources. These are organizational resources, systemic resources, discursive, ideological and symbolic resources, and institutional or strategic-structural selectivity (Kannankulam & Georgi, 2014, 65). Organizational resources are the actor’ capacity which can be commanded or mobilised by the actor. Systemic resources are the actor’s capacity to make decision which have systemic resources. These resources are mostly economic. Discursive, ideological and symbolic resources are capacity to convince society or key actors (Kannankulam & Georgi, 2014, 66).

2.3.c. Process Analysis of the HMPA

In the process analysis step, the dynamic process of the conflict between hegemony projects is “... unfolded through different phases and turning points, and against the background of its broader historical context.” (Kannankulam & Georgi, 2014, 67). There are two sub-steps of the process analysis. In the first step, the turning points and decisions of that process analysis are identified. In the second step, process of the conflict between hegemony projects is analysed and the mediation between actors, change in policies and shift in political stance of the actors is investigated (Kannankulam & Georgi, 2014, 67).

2.4. Relation Between the USA’s Decline, the Energy Transition and the HMPA

Global energy sector has started to shift to renewable energy sources from fossil-based energy sources for a considerable time. Use of fossil-based energy causes greenhouse gas emission, and excessive greenhouse gases accelerates climate change. Climate change could affect social cohesion and the accumulation of capital. Also, it can create political crises.

Fossil-based energy sources are mostly used by advanced capitalist states (USA, European Union, Japan, South Korea and Canada) as well as Russia, India, Iran, Saudi Arabia and China (Our World in Data, 2020) (See Table 2.1.). Thus, most of the greenhouse gas emission belongs to them.

Countries	GDP (In Trillions)	Annual CO ₂ emissions From Fossil Fuels in 2015 (Thousand Tons)	Annual CO ₂ emissions From Fossil Fuels in 2020 (Thousand Tons)	Share of CO ₂ emissions in the World (2020)
USA	20,95	5371,77	4712,77	14%
United Kingdom	2,76	422,34	329,58	1%
Germany	3,85	795,61	644,31	2%
Japan	5,06	1223,40	1030,78	3%
France	2,63	329,91	276,63	1%
Canada	1,65	573,06	535,82	2%
Italy	1,89	361,30	303,82	1%
China	14,72	9848,42	10667,89	31%
Russia	1,48	1623,10	1577,14	5%
India	2,66	2268,57	2441,79	7%
World	84,75	35496,41	34807,26	

Table 2. 1. G-7 Countries, Russia, India and China's CO₂ emissions and GDP (World Bank, 2020; Our World in Data, 2020)

Further, the advanced capitalist states increasing support for green energy, which has been observed clearly since the Paris Agreement in 2015 is important to understand and discuss the role of state in energy transition. In fact, the scientific evidence about the climate change has been on the agenda of global affairs since 1979, when the First World Climate Change Conference was held and since 1995 when the First UN Climate Change Conference was held (World Meteorological Organization 1979). Moreover, when the Kyoto Protocol was opened for signature in 1998, ratification of the Protocol by advanced countries was mixed or absent ("Kyoto Protocol To The United Nations Framework Convention On Climate Change" 1997). For example, the EU and its Member States ratified the Protocol in May 2002, while Canada, which was a ratified country, renounced the protocol and the USA has never ratified the Protocol.² Therefore, the support for energy transition by advanced

² "European Union ratifies the Kyoto Protocol" (Press release). European Union. 31 May 2002.

capitalist states to the Paris Agreement since the 1995 Kyoto Protocol is identified as the historical process to trace how the role of state has been practiced.

While the support for green energy is increasing, the USA can lead that energy transition process. The American state can support the fossil fuel resources or the renewable energy resources for reinforcing its hegemonic power. For understanding the role of the state during that process, the HMPA would be a helpful. The energy transition can cause conflict between the fragments of capitalist class, and, between capitalist class and the state. The HMPA is appropriate method for analyzing that conflict between the capitalist classes. Thus, I used the HMPA for analyzing the discourse of the actors of the American state to understand I investigated the role of the American state during the energy transition process.

“Kyoto Protocol - Targets for the first commitment period”. United Nations Framework Convention on Climate Change.

CHAPTER III

HISTORICAL MATERIAL POLICY ANALYSIS OF THE ENERGY TRANSITION IN THE UNITED STATES

In the Chapter II, I presented historical material understanding of the decline of the American power based on Wallerstein's (2013) argument and the importance of the HMPA to understand historical material relations of capitalism through the continuities in American state's position during energy transition process. While the circumstances in the world change, the USA tries to maintain its hegemony. The energy transition process is an opportunity for the USA to determine its role and to reinforce its hegemony within the capitalist power struggle of the world politics because the energy transition creates conflicts among the fragments of the capitalist class. In this chapter, I examined the energy transition process of the USA by applying the HMPA.

Firstly, I made the context analysis for this case. I demonstrated the share of the consumption of the energy resources by the sectors. I argued that there has been changing relations of production by sectors during the energy transition process. I showed that, with the energy transition process, there are changes in the employments, the energy prices, and the energy dependency. Thus, I claimed that the state is needed for maintaining the unity of the relations of the production. In other words, my findings demonstrated that the state is needed for establishing social cohesion or the continuities in American state's position during energy transition process.

Secondly, I made the actor and the process analyses for this case. I discussed discourses of the state's actors which are the Obama Administration, the Trump Administration, the Biden Administration, Democrats and Republican in the Congress. I categorized these discourses according to power resources of the HMPA. Lastly, I looked to changes and discontinuities in these power resources.

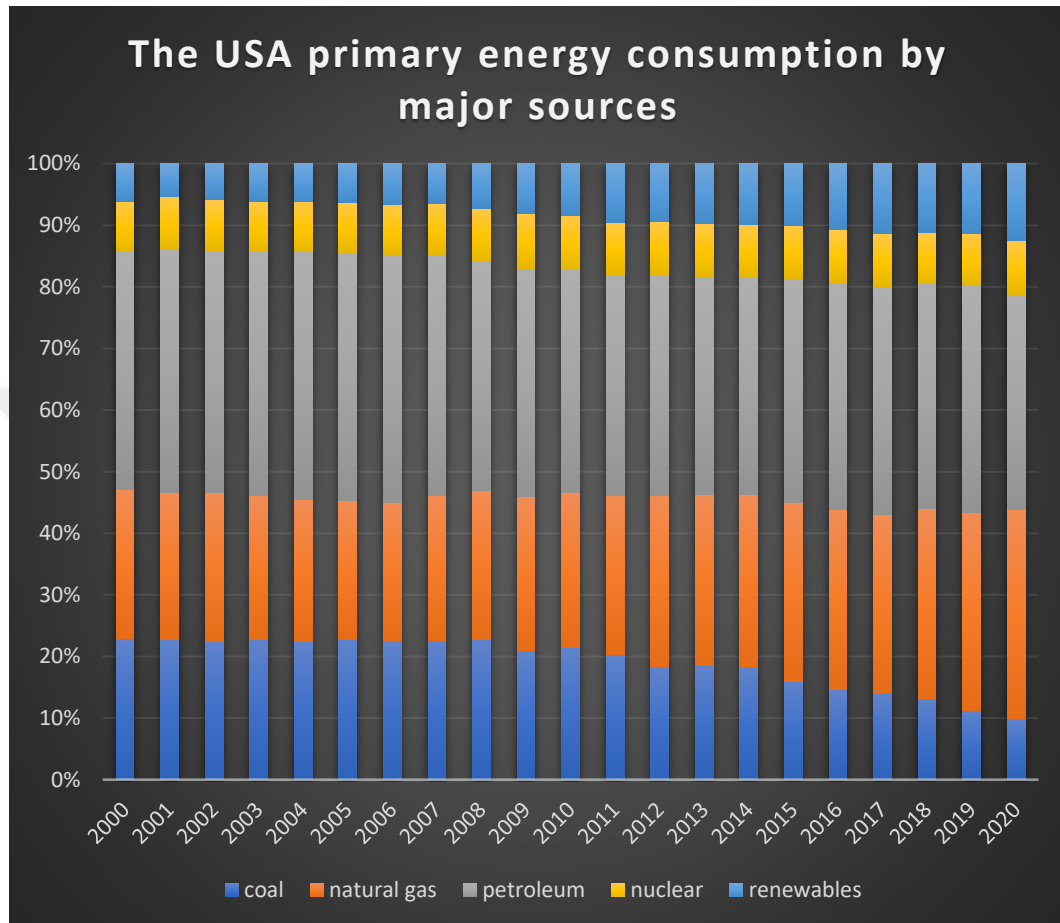
3.1. The Context for the HMPA

3.1.a. Changing Relations of Production by Sectors during the Energy Transition Process and Questioning the Need for State to Establish Cohesion

In the context for the HMPA of the USA's energy transition process, I showed the emerging and continuing conflicts. During the energy transition process, the consumption of the energy resources changes. With this change, the fossil fuel related sectors started to decline, and the renewable energy related sectors started to increase. Obviously, this change causes winners and losers, and change in the levels of a social formation. When a change happens in the levels of a social formation, the state should restabilize between these levels. In other words, one can expect that the relation of production is likely to change during the energy transition process, thus, eventually, the levels of a social formation would change. In the following figures I demonstrate the level of fossil fuels dominance in the USA's economy by sectors and particularly question the change in rising use of renewables in electricity production, and renewable energy-based technology in automobile sector. These descriptive statistics help me to argue that continuities and change in relations of production during the energy transition process constitute a background implicitly to underline

the need for the state's role in establishing cohesion between the levels of a social formation.

Figure 3.1. Energy Consumption by major energy sources in the USA (EIA 2022a)



The Figure 3.1. shows that the percentage of the renewables in primary energy consumption in the USA's economy increases steadily by years. It is interesting to note that although the Trump Administration announced withdrawal from the Paris Agreement in 2017, the share of renewables in primary energy consumption has continued to increase. In fact, this share is 6,2%, %10, %12,49 in 2000, 2015 (the year which the Paris Agreement was signed) and 2020, respectively, while total share of fossil fuels (coal, natural gas, petroleum) is %85,82 %81,42 and %78,62 in the same years (See Table 3.1.).

Sources	2000	2015	2020
Coal	22,92%	16,00%	9,89%
Natural Gas	24,18%	29,01%	33,99%
Petroleum	38,72%	36,40%	34,73%
Nuclear	7,98%	8,58%	8,89%
Renewable Energy	6,20%	10,00%	12,49%

Table 3.1. Primary Energy Consumption by Sources (EIA 2022a)

Moreover, it is important to underline a major change that is the decline in the consumption of the coal and petroleum in primary energy consumption. For example, the percentage of coal decreased from 22,92% in 2000 to 16% in 2015 and 9,89% in 2020. While petroleum still has the largest share in the US' primary energy consumption, it dropped from 38,72% in 2000 to 36,4% in 2015 and 34,73% in 2020 (See Table 3.1.). In other words, the decline in coal consumption was more significant than change in petroleum. Therefore, these changes in the US's primary energy consumption are considerable not only to show the on-going shift from fossil fuels to the renewable sources but also to understand the role of state during the energy transition.

In addition to change in energy consumption by supply sources, it is useful to observe changes and continuities in primary energy consumption by sectors so that I can question changing relations of production and the need for state's role to establish cohesion between the levels of a social formation.

Figure 3.2. Total Primary Energy Consumption by Sectors (EIA 2022b)

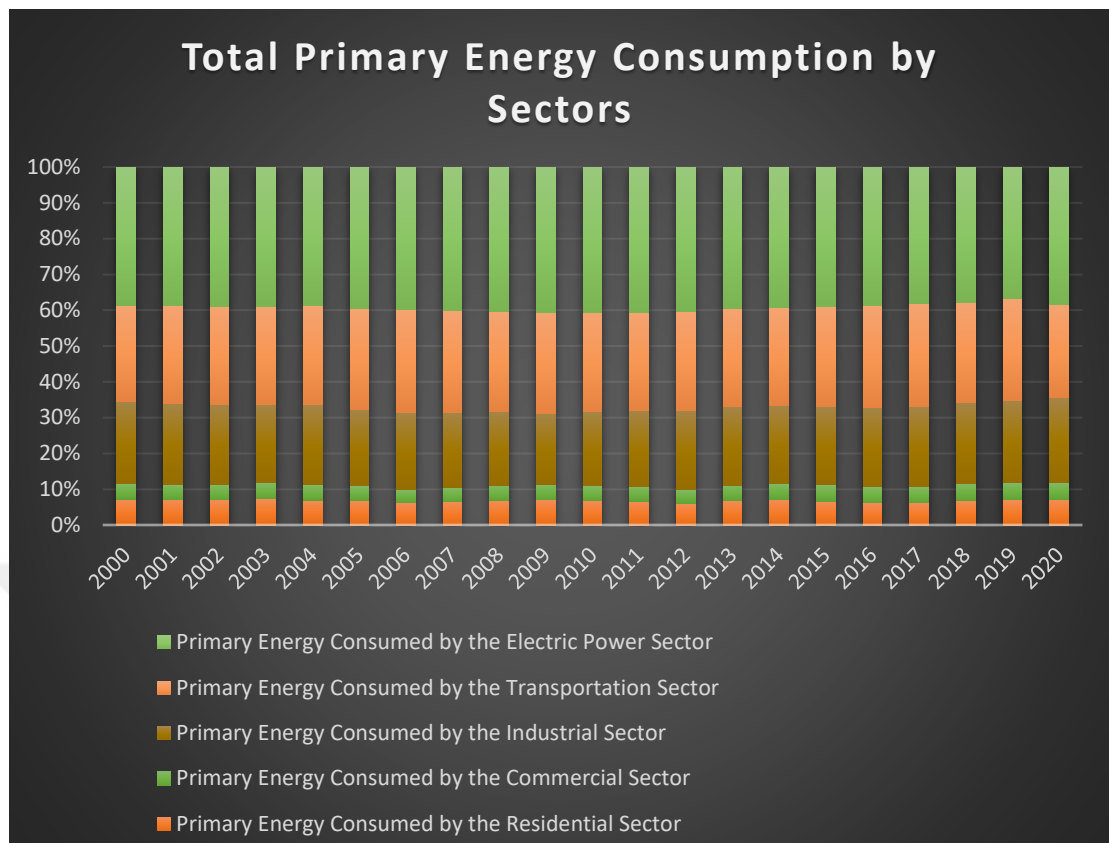


Figure 3.2. is helpful to identify which sectors in the US’s economy consume more energy because one has to take high energy consuming sectors into consideration given potential implications of the energy transition process on the relations of production in these sectors as well. As of 2020 the sectors ranked by their share as a percentage of total primary energy consumption in the USA’s economy are electric power sector 38,3%, transportation 26,12% and industrial sector 23,71%. Moreover, the following figures demonstrate whether dominance of fossil fuels in these sectors have been changing or not and which sectors consume more fossil fuels and/or renewable energy sources so that I can clarify the importance of energy transition process and the relations of production in these sectors.

Figure 3.3. Energy consumption from fossil fuels by sectors, (EIA, 2022c)

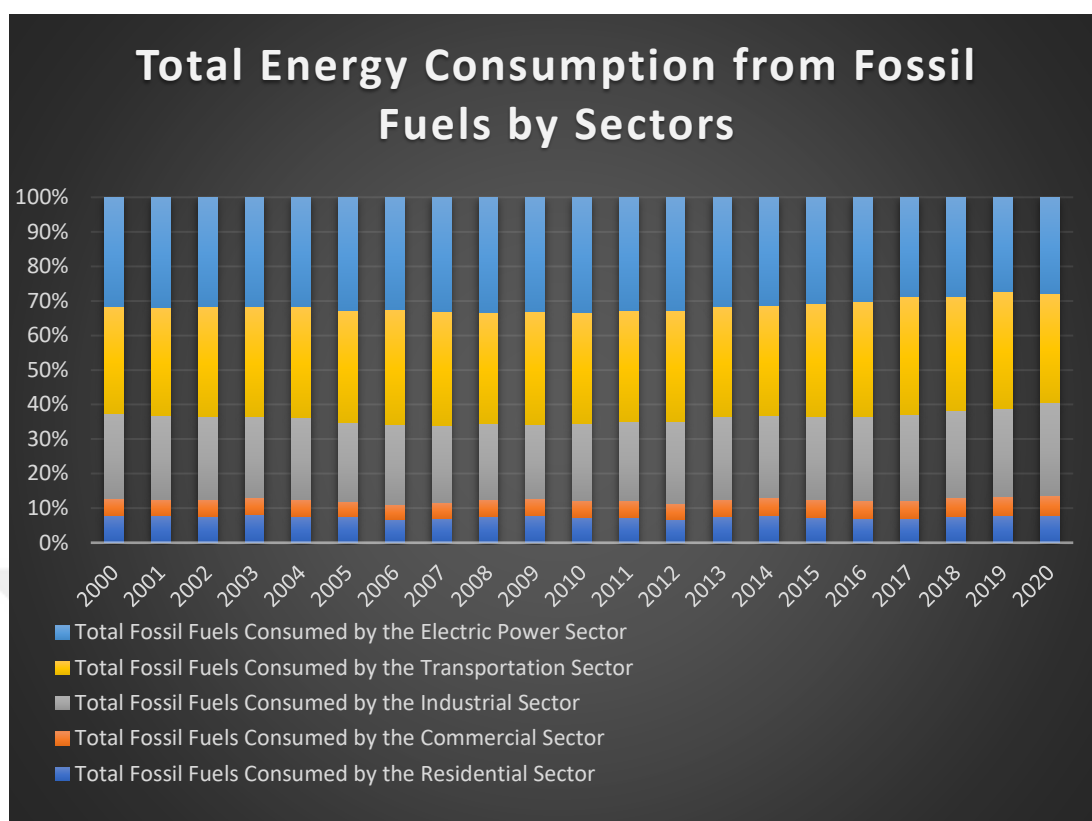


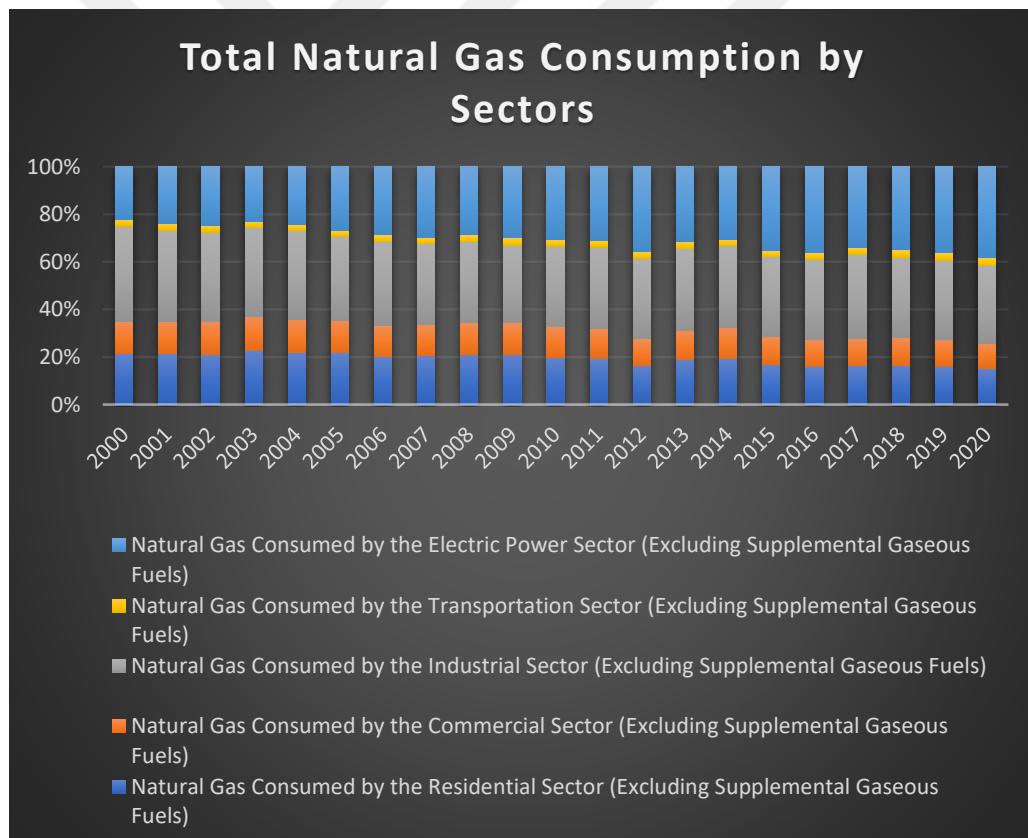
Figure 3.3. shows that the change in the shares of the fossil fuel consumption by the sectors is small between 2000 and 2020.

Sectors	2000	2015	2020
Fossil Fuels Consumed by the Residential Sector	7,88%	6,84%	7,98%
Fossil Fuels Consumed by the Commercial Sector	4,90%	5,32%	5,65%
Fossil Fuels Consumed by the Industrial Sector	24,60%	23,93%	27,05%
Fossil Fuels Consumed by the Transportation Sector	31,11%	32,66%	31,39%
Fossil Fuels Consumed by the Electric Power Sector	31,50%	30,78%	27,93%

Table 3.2. Fossil Fuel Consumption by Sectors, (EIA, 2022c)

When the shares of fossil fuel consumption by the sector in 2000, 2015 and 2020 is examined, the change is so small. Thus, one can conclude that the USA's economy is still fossil fuel dominant. However, electric power, transportation and industrial sectors, given their higher share of energy consumption (Figure 3.2.), are important to identify which specific fossil energy supply source varies among these sectors. In the following figures I show distribution of each fossil fuel (natural gas, petroleum, coal) by sectors so that I can question potential implications of a shift from fossil energy sources to renewable energy sources on these sector's relations of production and the role of state in this aspect.

Figure 3.4. Total Natural Gas Consumed by Sector, (EIA 2022d)

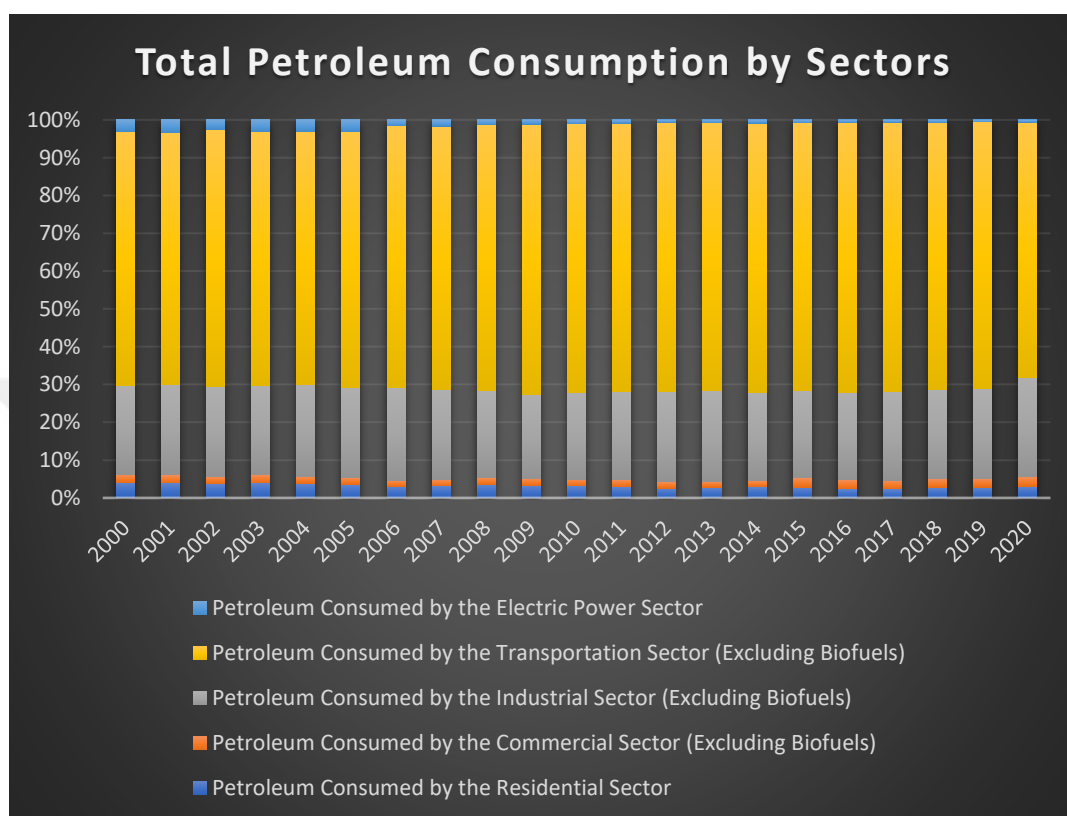


Sectors	2000	2015	2020
Residential Sector	21,43%	16,95%	15,36%
Commercial Sector	13,65%	11,76%	10,42%
Industrial Sector	39,88%	33,44%	32,73%
Transportation Sector	2,82%	2,64%	3,48%
Electric Power Sector	22,22%	35,21%	38,01%

Table 3.3. Natural Gas Consumption by Sectors, (EIA 2022d)

Natural gas is the only fossil fuel which share in the USA's primary energy consumption increased steadily between 2000-2020 (See Table 3.1.). However, when we look at consumption of natural gas by sectors, we see that electric and industrial sectors have higher consumption compared to those in other sectors (See Table 3.3.). Further, except electric sector all other sectors' consumption share for natural gas in total natural gas consumption decreased. Therefore, energy transition process replacing natural gas consumption in particularly electricity sector is important for establishing cohesion between the levels of a social formation. In other words, overall increase in natural gas consumption in the USA's total energy primary energy has not been distributed equally among sectors, which in turn supports the expectation, the starting point to question the role of state in this thesis, that the relation of production is likely to change and implicitly present a class conflict during the energy transition process.

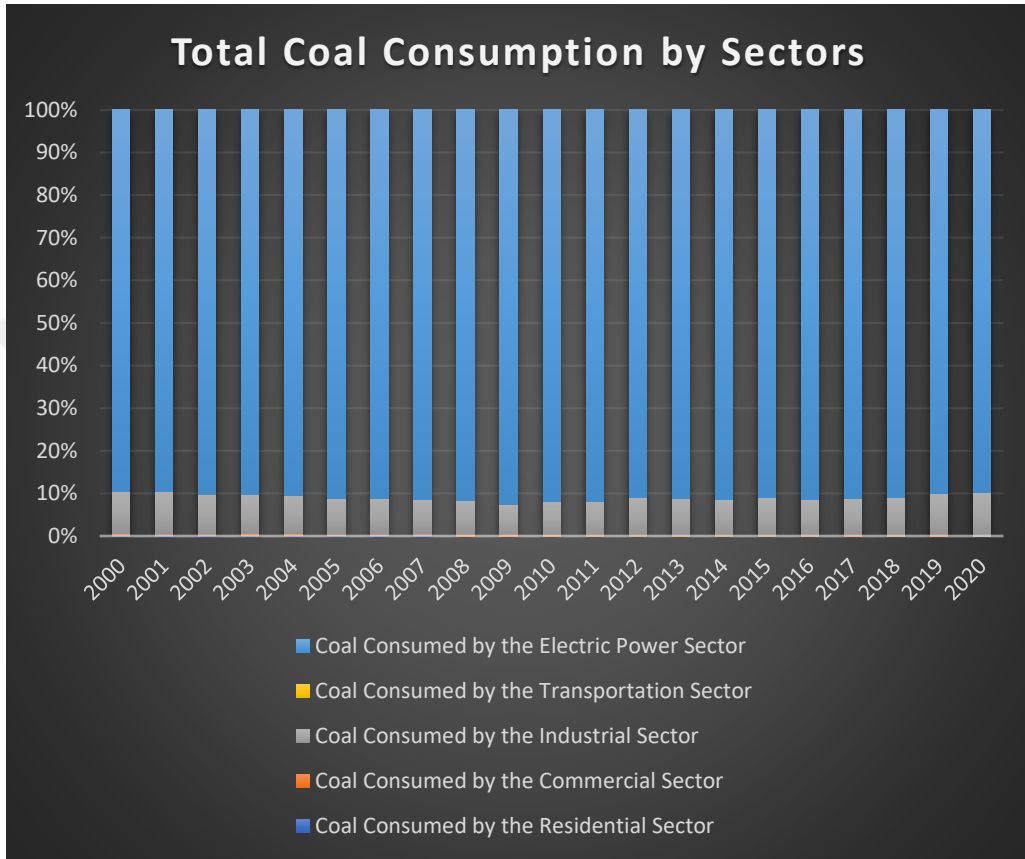
Figure 3.5. Total Petroleum Consumption by Sectors, (EIA 2022e)



Sectors	2000	2015	2020
Residential Sector	4,07%	2,85%	3,04%
Commercial Sector	2,11%	2,44%	2,55%
Industrial Sector	23,59%	23,01%	26,31%
Transportation			
Sector	67,23%	70,92%	70,92%
Electric Power			
Sector	3,00%	0,78%	0,57%

Table 3.4. Petroleum Consumption by Sectors, (EIA 2022e)

Figure 3.6. Total Coal Consumption by Sectors, (EIA 2022f)

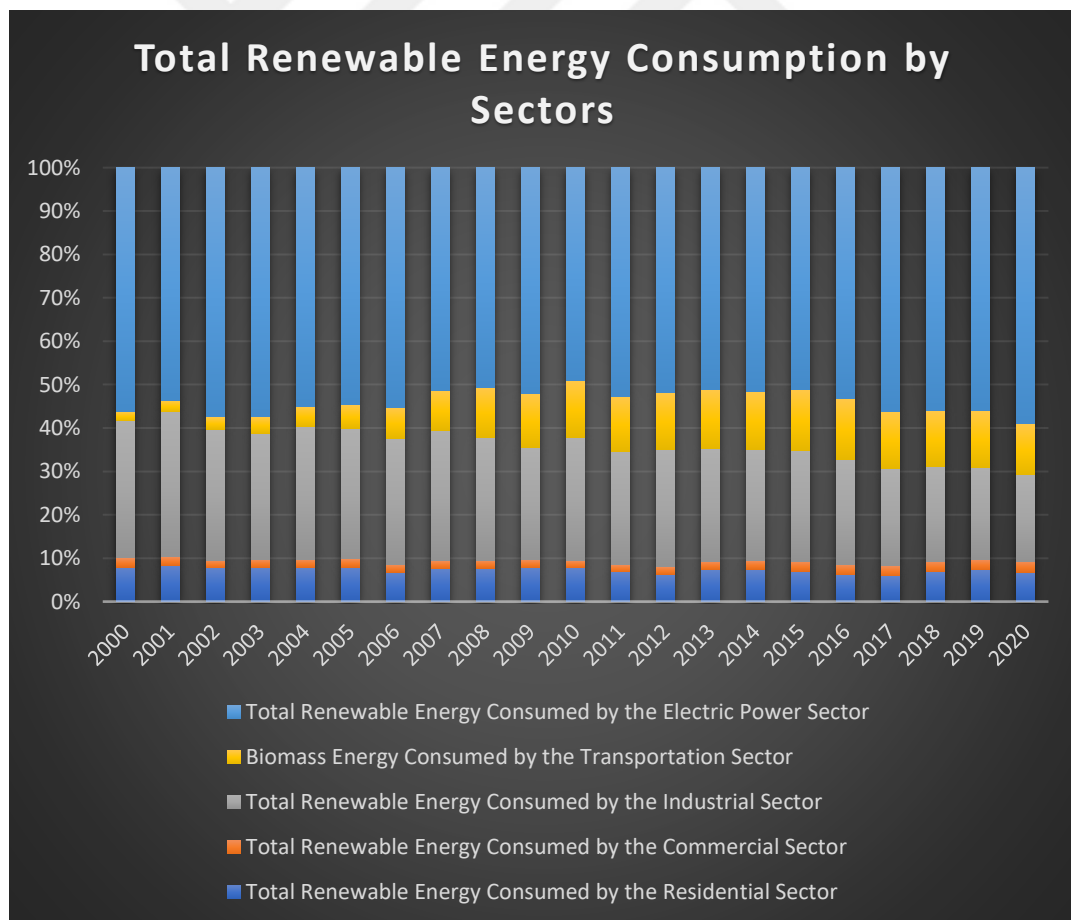


Sectors	2000	2015	2020
Residential Sector	0,05%	0,00%	0,00%
Commercial Sector	0,41%	0,20%	0,16%
Industrial Sector	9,99%	8,87%	10,22%
Transportation Sector	0,000%	0,000%	0,000%
Electric Power Sector	89,54%	90,93%	89,63%

Table 3.5. Coal Consumption by Sectors, (EIA, 2022f)

On the other hand, as stated earlier the shares of petroleum and coal in the US' total primary consumption have declined considerably for coal and to a smaller extent for petroleum (See Table 3.1.). Nevertheless, when we have a closer look at coal and petroleum consumption by sectors, we observe higher dominance on petroleum in the transportation sector as expected (See Table 3.4.) (Carbon lock-in characteristics of the transportation sector at its current form except smaller share of the hybrid, plug-in, all electric vehicles in the total sales of all light vehicles³). Similarly, there is a higher dominance on coal in electric power sector and both petroleum and coal consumption in other sectors' share as of these fossil fuels' total consumption are significantly lower (See Table 3.5.).

Figure 3.7. Total Renewable Energy Consumption by Sectors, (EIA 2022g)



³ Light vehicles consist of cars and trucks up to 10,000 lb gross vehicle weight.

Sectors	2000	2015	2020
Residential Sector	7,97%	6,99%	6,80%
Commercial Sector	2,10%	2,36%	2,54%
Industrial Sector	31,59%	25,59%	19,85%
Transportation Sector	2,21%	13,87%	11,78%
Electric Power Sector	56,13%	51,19%	59,02%

Table 3.6. Renewable Energy Consumption by Sectors, (EIA 2022g)

The share of renewable energy consumption in the USA's total energy consumption is the only other energy source in addition to that of natural gas with a higher share between 2000 and 2020 (See Table 3.1.). When we consider total renewable energy consumption by sectors between 2000 and 2020 (Figure 3.7.), we observe that the electric power sector's share in total renewable energy consumption increased between 2000 and 2020 (See Table 3.6.) and as of 2020 it has the highest share compared to other sectors. Although, in 2000, the share of electric power sector in usage of total renewable energy was 56,13%, and it decreased to 51,19% in 2015, and then the share increased to 59,02% in 2020 (See Table 3.6.). Figure 3.7. and Table 3.6. only shows biomass energy consumption in the transportation sector because the usage of the other renewable energy sources (wind, solar, geothermal, hydro) is very limited in the transportation sector.⁴

⁴ In the transportation sector, mostly petroleum products are used. In other words, there is a slow shift from the gasoline powered vehicles to electrical cars during the energy transition process. Although there is an increase in sales of the electric vehicles, in 2020, the percentage of the electrical vehicles in total sales of light vehicles is lower than 6 percent. Therefore, it is hard to say there is a rapid energy transition in the transportation sector.

Sectors	2000	2015	2020
Residential Sector	23,27%	6,95%	7,42%
Commercial Sector	2,88%	3,22%	3,27%
Industrial Sector	1,59%	0,76%	0,94%
Electric Power Sector	72,26%	89,08%	88,37%

Table 3.7 Wind, Solar and Geothermal Energy Consumption by Sectors, (EIA 2022g)

Lastly, it is better to present break-down of renewable energy sources, namely wind, solar and geothermal by sectors because consumption of the biomass causes carbon emission and production of the hydro power is very limited in total energy primary energy consumption. In other words, when biomass and hydro sources are excluded, it is observed that other renewable energy sources (wind, solar and geothermal) are mostly used in electric power sector (Table 3.7). While electric power sector continued to have the highest share among other sectors in total wind, solar and geothermal energy consumption, its share increased between 2000 and 2020. For example, in 2000, 72,26 percent of the total wind, solar and geothermal energy is consumed in the electric power sector. This share increased to 89,08 percent in 2015 and the slightly decreased to 88,37 percent in 2020.

Figure 3.8. Vehicle Sales 1999-2020 (in Thousands), (Davis and Boundy 2022)

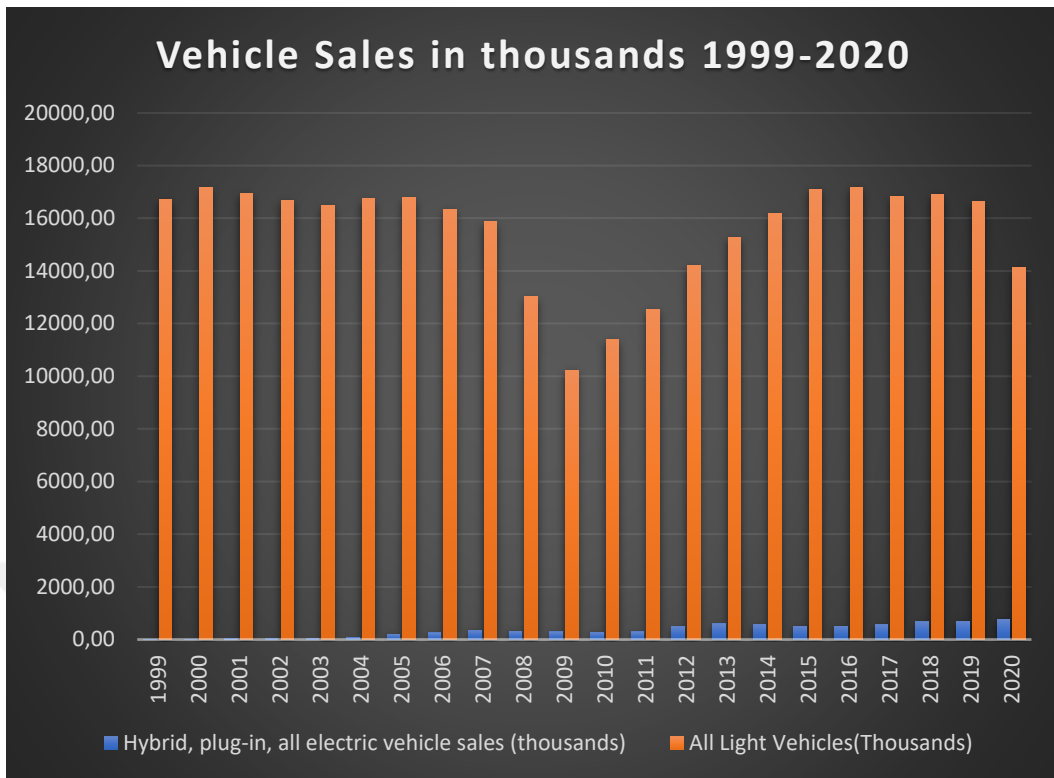
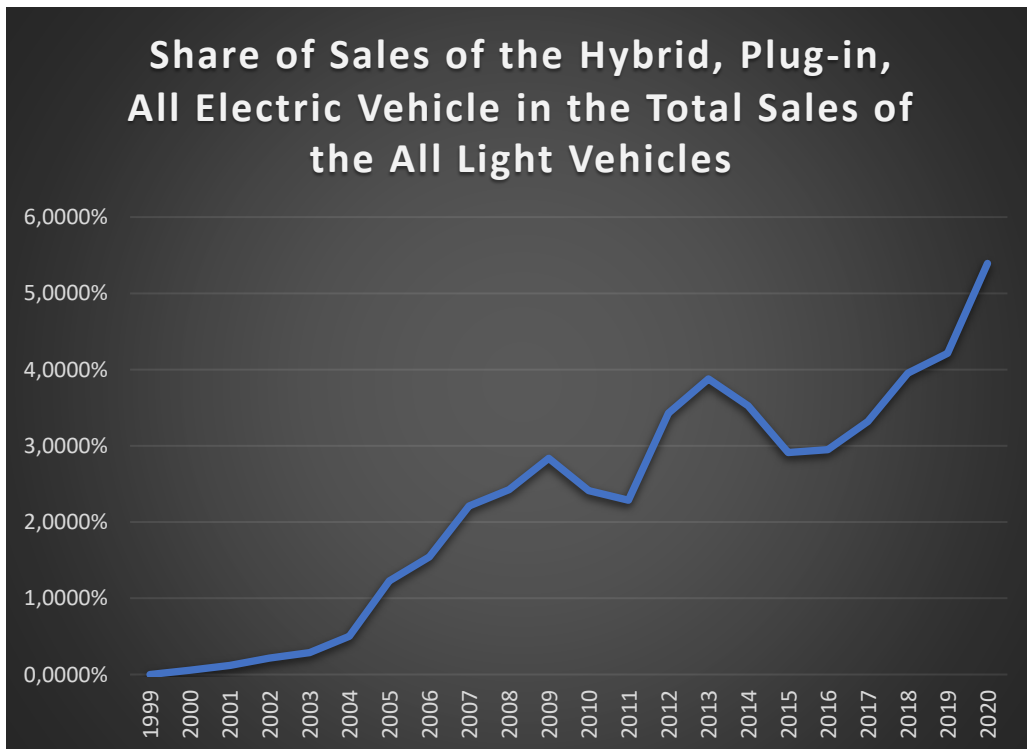


Figure 3.9. Share of Sales of the Hybrid, Plug-in, All Electric Vehicle in the Total Sales of the All Light Vehicles, (Davis and Boundy 2022)



In light of the above analysis, three findings are remarkable that demonstrated change in energy consumption by supply sources and continuity on fossil fuels dominance in some particular sectors in the USA's economy.

- The observed change in energy consumption by supply sources is important in renewables and natural gas given their increasing share in the US' total energy consumption (Table 3.1.).
- Three sectors, namely electric power, industrial and transportation are highlighted in terms of their higher share in fossil fuels (natural gas particularly for electricity and industrial sectors, petroleum particularly for transportation and industrial sectors, and coal particularly for electric power sector, Table 3.3., Table 3.4. and Table 3.5.).
- Electric power sector is more important for the energy transition process not only because of its higher share in total renewable energy consumption but also increasing share of renewables and natural gas in the US' total energy consumption that both supply sources are largely consumed in electric power sector (Tables 3.3. and 3.6.).

Figure 3.10. Change in Global Oil and Electricity Consumption, 2000-2018, (IEA, World Energy Outlook 2019)

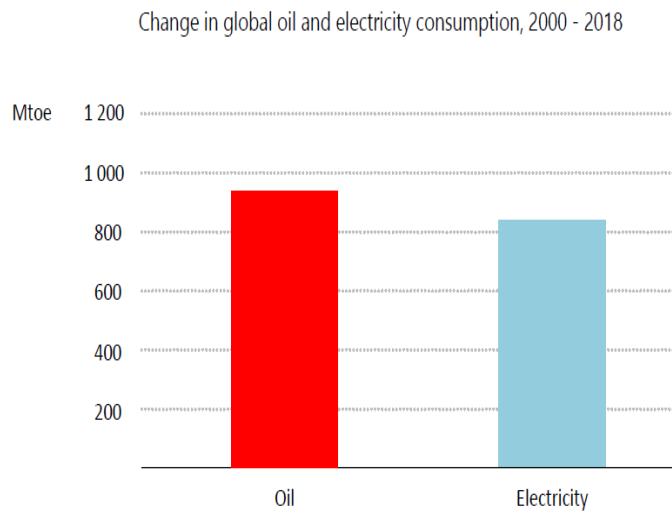
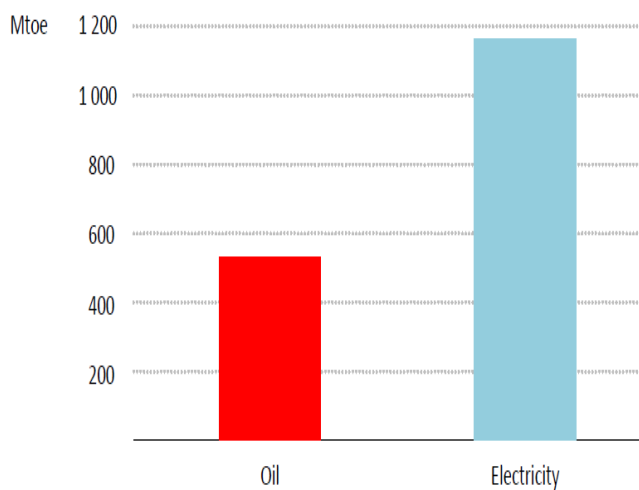


Figure 3.11. Change in Global Oil and Electricity Consumption in the State Policies Scenario, 2018-2040, (IEA, World Energy Outlook 2019)

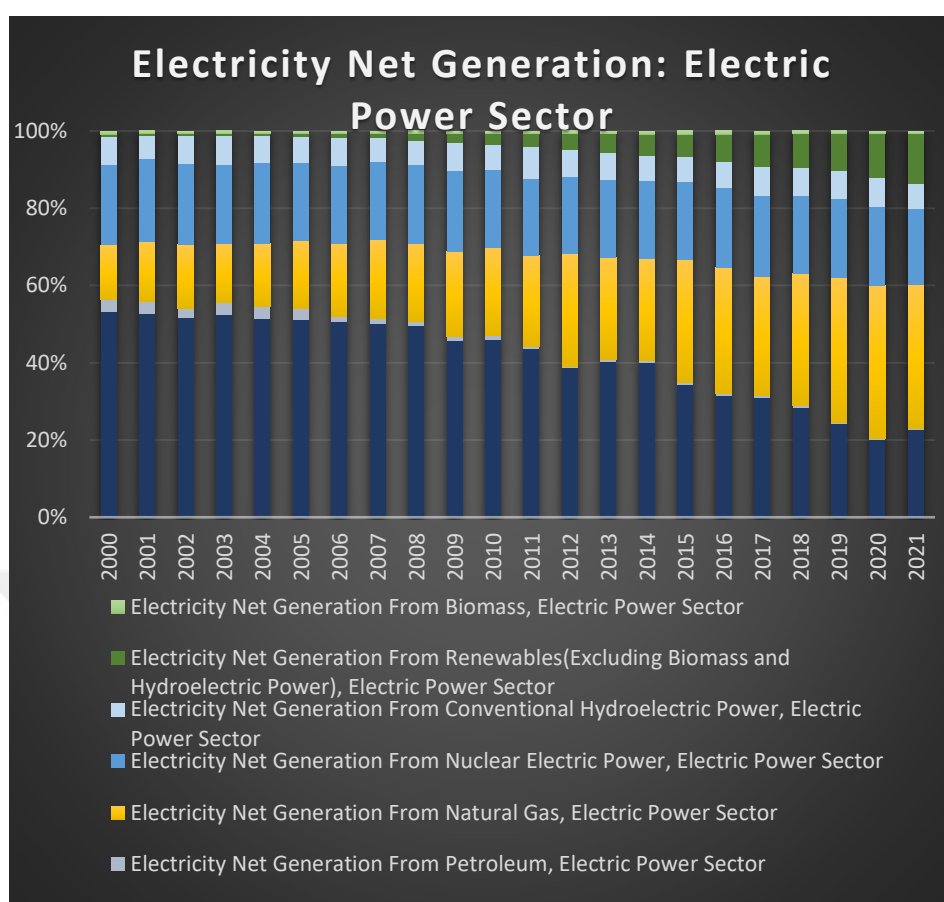
Change in global oil and electricity consumption in the Stated Policies Scenario, 2018 - 2040



Accordingly, I argue that these findings require a particular focus on electric power sector during the energy transition process because it is the sector that has changing relations of production, which to an extent might have considerable implications for the fossil fuel dominant sectors given the increasing electrification trend in the USA and world economy (Figure 3.10., Figure 3.11.) Moreover, the

observed changing relations of production in electric power sector and its potential implications for the other sectors are embedded in conflictual class relations that is important for the context of HMPA questioning the role of state in the USA' energy transition process. Thus, one can conclude that there is a need for state's function or first state practice, namely establishing cohesion between the levels of a social formation given the continuities and changes in the USA's economy during the energy transition process. All these figures show that the energy transition is mostly occurred in the electric power sector. Thus, a focus on the electric power sector is preferable than other sectors to understand how energy transition process is an opportunity for the USA to determine its role and to reinforce its hegemony within the capitalist power struggle of the world politics. In short, the electric power sector is my selected sector for my research which facilitates a critical approach towards the role of state in the on-going power struggle in capitalism during energy transition within the case of the USA historically.

Figure 3.12. Electricity Net Generation: Electric Power Sector by Sources, (EIA 2022h)



Electricity Net Generation From	2000	2015	2021
Coal	53,42%	34,22%	22,53%
Petroleum	2,89%	0,68%	0,45%
Natural Gas	14,24%	31,58%	37,19%
Other Gases	0,06%	0,09%	0,08%
Nuclear Electric Power	20,73%	20,34%	19,64%
Hydroelectric Pumped Storage	-0,15%	-0,13%	-0,13%
Conventional Hydroelectric Power	7,46%	6,32%	6,54%

Wood	0,25%	0,37%	0,31%
Waste	0,56%	0,45%	0,39%
Geothermal	0,39%	0,41%	0,40%
Solar	0,01%	0,62%	2,87%
Wind	0,15%	4,86%	9,55%

Table 3.8. Electricity Net Generation: Electric Power Sector by Sources, (EIA 2022h)

In Figure 3.12., one can clearly observe change in energy supply sources used to generate electricity between 2000 and 2021. In 2000, more than half of electricity generation was supplied by coal, while wind, solar and geothermal as supply sources were quite limited due to their almost one percent share in total electricity generation. In 2015, the share of coal in electricity generation decreased to 34,22 percent from 53,43 percent in 2000. Although coal continued to be the largest supply source for electricity generation in 2000, the share of the natural gas (31,58%) and renewable sources (including conventional hydroelectric power 12,21%) in 2015 increased from 14,24 percent and 8,01 percent in 2000, respectively. In 2021, the largest supply source for electricity generation was natural gas (37%). In the same year coal was the second supply source with 22,53 percent, however, there was a significant decline in terms of its share since 2000. Indeed, the share of renewable energy sources (excluding hydroelectric power and biomass) increased to 12,83 percent in total energy supply sources used for electricity generation. In between 2000 and 2015, the share of the renewable energy in electricity generation increased 5,89 percent. After 2015, in 6 years, the share of the renewable energy in electricity generation increased to 12,83 percent. Thus, one can conclude that after the Paris

Agreement in 2015 the energy transition process has accelerated particularly in the electric power sector.

3.1.b. The Challenge for State in Maintaining the Unity of the Relations of Production during the Energy Transition

During the energy transition process, the state needs to maintain to unity of the relations of production. The energy transition could affect employment rates and energy prices. Workers in extraction of fossil-fuel sources and/or electric power plants relying on coal or natural gas can be unemployed. Decrease in supply and demand of fossil-fuel based energy can cause closing down of coal mines, oil platforms, oil rigs and natural gas plants. Therefore, this can lead unemployment and can weaken unity of the relations of production and productive forces. Also, long term and excessive amount of unemployment can create political crisis. For preventing these crises, the state can intervene the economy with its policies. In this section, I show unemployment rates and energy prices to demonstrate implicitly the need for the state's role for the unity of relations of production in the energy transition process.

Year	Unemployment Average	Electricity generation total employment (QCEW)	Electricity generation total employment (USEER Employment)
2001	4,7	321019	
2002	5,8	314195	
2003	6,0	298580	
2004	5,5	292914	
2005	5,1	282844	
2006	4,6	281676	
2007	4,6	279167	
2008	5,8	283121	

2009	9,3	284474	
2010	9,6	205630	
2011	8,9	202461	
2012	8,1	198786	
2013	7,4	196544	
2014	6,2	194352	
2015	5,3	192005	713496
2016	4,9	190734	848029
2017	4,4	189267	871436
2018	3,9	183225	1117927
2019	3,7	176011	799742
2020	8,1	172929	833574
2021	5,4	170895	
2022	3,8		

Table 3.9. Unemployment Rate in the USA (BLS 2022a), Electricity Generation Employment According to QCEW (BLS 2022b) and USEER Reports ((National Association of State Energy Officials 2017,2018,2019,2020,2021)

Unemployment rate in the USA is volatile (See Table 3.9.).In 2000, it was 4 percent annually, in 2010, it was 9,6 percent and it was 3,7 percent in 2019. Because of the Covid-19 pandemic, after 2019, unemployment rate increased significantly to 8,1. Then, it decreased again.

Employment statistics in the USA energy industry is reported differently by two agencies. According to the Bureau of Labor Statistics (BLS) (Quarterly Census of Employment and Wages), number of employees in electricity generation, constantly decreases, although there was small increase, in 2008 and 2009 (See Table 3.12.). In 2000, number of employed in that sector was 321019. In 2021, this number decreased to 170895. It can be deduced that there is increase in unemployment because of the energy transition. However, according to the Department of Energy (DOE) (USEER Reports), the number of employees in electricity generation sector increases from 2015 to 2020, except 2019 (See Table 3.10.). According to the DOE , the energy transition increases jobs in the energy sector.

Year	Employment in electric power generation from coal (USEER)	Employment in electric power generation from natural gas (USEER)	Employment in electric power generation from oil (USEER)	Employment in electric power generation from fossil fuels (USEER)	Employment in electric power generation from fossil fuels(QCEW)
2001					166827
2005					149786
2010					119178
2015				135998	113634
2016	86035	52125	12840	151000	111439
2017	92843	66385	12407	171635	110065
2018	86202	43526	12578	142306	104564
2019	79711	46151	12722	138584	99148
2020	71403	41432	11685	124520	96363

Table 3.10. Employment in Fossil-based Electric Generation Sector according to USEER (National Association of State Energy Officials 2017,2018,2019,2020,2021) and QCEW (BLS 2022b)

Both agencies argued that there is employment decrease in fossil-based electricity generation (See Table 3.10.). According to the DOE, decrease started, after 2017, in coal electricity sector, between 2017 and 2020, number of employees is decreased more than 23 percent, in natural gas electricity sector, it is decreased more than 37 percent, and, in the total fossil-based electricity sector, employment decreased more than 27 percent. According to the BLS, decrease started in 2001, from 2001 to 2020, employment decreased more than 40 percent, and, from 2017 to 2020, it decreased more than 12 percent. Thus, with the energy transition, employment in fossil-based electricity industry, decreased.

Year	Employment in solar electric power generation (USEER)	Employment in wind electric power generation (USEER)	Employment in hydroelectric power generation (USEER)	Employment in geo power generation (USEER)	Total employment in renewable energy electricity power generation (USEER)
2015	300192	77088	61453	7645	446378
2016	373807	101738	65554	5768	546867
2017	349725	107444	66872	7927	531968
2018	242343	111166	66448	8526	428483
2019	248034	114774	67772	8794	439374
2020	316675	116817	63131	8002	504625

Table 3.11. Employment in renewable energy electricity power generation (USEER), (National Association of State Energy Officials 2017,2018,2019,2020,2021)

Although there is employment decrease in fossil-based electricity, there is employment increase in renewable energy-based electricity sector. According to the DOE, except geothermal energy, in all renewable energy-based electricity sectors, there was significant employment increase from 2015 to 2016 (See Table 3.11.). Totally, employment increased 22 percent. After 2017, solar power electricity sector lost more 33 percent of the employees. In 2020, total employment of renewable energy-electricity power employment increased to 504625 and more than half of employees works in either solar or wind electricity sector.

Year	Employment in solar electric power generation (QCEW)	Employment in wind electric power generation (QCEW)	Employment in hydroelectric power generation (QCEW)	Employment in geo power generation (QCEW)	Total employment in renewable energy electricity power generation (QCEW)
2011	533	2972	19834	1049	24388
2015	2067	4245	16822	1093	24227
2016	2766	4881	17759	1128	26534
2017	2843	6014	17492	1122	27471
2018	3313	6307	17307	1118	28045
2019	3644	6715	17231	1086	28676
2020	4290	6886	17110	1103	29389
2021	5727	7308	17412	1129	31576

Table 3.12. Employment in renewable energy electricity power generation (QCEW), (BLS 2022b)

According to the BLS, there is also employment increase in renewable energy-electricity sector. However, number of employees is remarkably lower than the DOE's data. In ten years, employment in solar electric power generation rise almost sixfold, and employment in wind sector doubled (See Table 3.12.). In total, and, in five years, there is almost 30 percent increase in renewable electricity sector.

When I analyzed two sources' data by the DOE and BLS, I reached two different results. According to the BLS data, the energy transition causes more job loses than creation of renewable energy's jobs. And, according to the DOE's data, increase in jobs in renewable based electric power sector jobs is higher than losses in jobs in fossil fuel electric power sector. However, I should, also, consider other fossil-fuel extraction or transportation related sectors which can be affected by the energy transition.

Year	Employment in Oil and Gas Extraction	Employment in Coal Mining	Employment in Coal and Petroleum Products Manufacturing	Employment in Pipeline Transportation of Crude Oil	Employment in Pipeline Transportation of Natural Gas	Total
2001	123599	75050	120967	7818	33620	361054
2010	158423	81126	110972	8893	27594	387008
2015	192537	64135	109715	10643	30481	407511
2021	112676	37075	104210	11239	30795	295996

Table 3.13. Employment in Fossil-fuel related sectors, (BLS 2022b)

According to Table 3.13., between 2001 and 2015, there was increase in employment in oil and gas extraction, coal mining, coal and petroleum products manufacturing, pipeline transportation of crude oil and natural. But, from 2015 to 2021, employment in extraction and mining sector decreased significantly. In total, more than 100,000 job was lost between 2015 and 2021.

These data showed, in the energy transition process, the state's role should be questioned given the job losses. If unemployed workers of these sectors cannot shift to other sectors because of lack of training or other causes, the state would struggle to maintain unity of the relations of production and productive forces. Moreover, chronic unemployment can create political crises which the state must deal with it.

Between Years	The USA 5 year CPI Change (%)	The USA 5 year energy food CPI Change (%)	The USA 5 year Energy Index Change (%)	USA Price (CPI) year average price change (%)	Electricity per KWH in The city average (5 year average change)
2000-2005	9,70%	10,81%	42,1%	14,61%	
2005-2010	9,85%	10,17%	19,4%	27,67%	
2010-2015	8,57%	9,45%	-4,0%	8,16%	
2015-2020	7,86%	10,50%	-2,93%	-1,99%	

Table 3.14. Change (%) of CPI, CPI less energy and food, Energy Price Index and Electricity per KWH in The USA City Average in 5-year intervals, (BLS 2022c)

The energy transition does not only affect unemployment rates, but it also affects energy prices. In 5-year intervals, Consumer Price Change (CPI) and CPI less energy and food increased close to 9 percent and 10 percent, respectively (See Table 3.14.). Energy index in CPI increased 42,1 percent between 2000-2005, and 19,4 percent between 2005-2010, and electricity average prices increased 14,61 percent between 2000-2005, and 27,67 percent between 2005-2010. These observations are remarkable because electricity prices increased more than inflation in the same year.

On the other hand, after 2010, energy index in CPI decreased 4 percent between 2010 and 2015, and 2,93 percent between 2015 and 2020, and electricity average price change increased 8,16 percent (less than inflation and inflation less food energy) between 2010-2015, and it decreased 1,99 percent between 2015 and 2020.

Accordingly, in the energy transition process, energy and electricity prices changed relatively lower than inflation. Decrease in electricity and energy prices can positively affect the state practices. Lower prices can help the state for legitimizing the energy transition and the state authority.

Years	The USA energy consumption	The USA energy production	The USA energy imports	The USA energy exports	The USA Energy independency rate
2001	96.064	71.675	30.052	3.731	69%
2005	100.102	69.377	34.659	4.462	65%
2010	97.513	74.907	29.866	8.176	69%
2015	97.375	88.267	23.794	12.902	76%
2020	92.943	95.745	20.006	23.469	78%

Table 3.15. Primary Energy Overview in Quadrillion British thermal units (EIA 2022i)

Year	Crude oil	Petroleum products	Natural gas	Coal and coal coke
2001	20.305	2.990	3.691	-0.741
2005	22.023	4.831	3.714	-0.468
2010	20.052	0.528	2.687	-1.624
2015	15.335	-4.042	0.986	-1.614
2020	6.439	-5.554	-2.713	-1.635

Table 3.16. Fossil Fuel Imports in Quadrillion British Thermal Units (EIA 2022i)

Lastly, the energy transition is important for a country's energy dependency and security. Thus, the state's role in ensuring energy security should be also questioned. The energy independency⁵ of the USA increased year by year (See Table 3.15. and 3.16.). Imports of all fossil fuel decreased significantly between 2001 and 2020 due to technological changes in oil and gas extraction industry (i.e. horizontal drilling technology), known as shale oil/gas revolution, that enabled considerable increase in domestic production of oil and gas in the US. The energy independency does not directly affect the state practices. However, for ideological and political legitimation, discourse of the energy independency and security can be used by pro-energy transition hegemony project, and anti-energy transition hegemony project. In the next chapter, discourse of Democrat and Republican political leadership would be presented. In the discourse analysis unemployment, energy prices and energy dependency/independency issues are considered to observe the state's practices or functions not only for maintaining unity of production but also for legitimizing the state's policies, which can be against or for the energy transition.

⁵ Energy independency rate = (1-energy import)/energy consumption)

3.2. The Actors and Process Analysis in HMPA of the USA's Energy Transition

Process

In this section, I examine discourse of the actors. Rather than an extended historical trajectory of energy transition, I focus on tracing discourses before and after the Paris Agreement in 2015. There are four time periods: 2008-2014, 2015-2016, 2017-2020 and 2021. However, I mostly focus on 2015-2021 within the limits of my data collection that enforced me to prefer the later period in historical trajectory during the US' energy transition process. Nevertheless, the 2015 the Paris Agreement is a benchmark for my research for two reasons. First, the Paris Agreement is important demonstrating relatively increasing support by the advanced capitalists' states or G7 countries, which have higher shares in total CO₂ emissions in the world (Table. 2.1.). Second, after 2015 the US changed its position regarding its signatory status in the Paris Agreement and then re-joined the Paris Agreement. Therefore, the year 2015 is an important turning point for actor and process analysis in the HMPA.

For discourse analysis, I collected documents from the Presidents' speeches and plans, the Republican representatives and the Democrat representatives' speeches and bills in the Congress. According to the HMPA, in the actor analysis, there are three categories of "power resources" which are organizational, systemic and the discursive, ideological and symbolic resources, and institutional selectivity. Within the scope of this research, I will use only three of them, namely organizational, systemic and the discursive, ideological and symbolic resource. I will examine usage and change of these power resources through discourse analysis.

3.2.a. Power Resources in Energy Transition Discourse: The Obama Administration between 2008-2014

This period started with the election of Barack Obama and ended with the completion of the second Obama administration in 2014. In these years, Democrats and the President were willing to support the energy transition, but Republicans were very reluctant about the energy transition. After the election, Barack Obama made a speech about clean energy.

“My presidency will mark a new chapter in America’s leadership on climate change that will strengthen our security and create millions of new jobs in the process,”

“When I am president, any governor who’s willing to promote clean energy will have a partner in the White House. Any company that’s willing to invest in clean energy will have an ally in Washington. And any nation that’s willing to join the cause of combating climate change will have an ally in the United States of America.” (Broder 2018).

This speech is important because, while he pointed out climate change, he, also, underlined security and jobs. In addition to that, he wanted to cooperate with governors, companies, and other countries. After this milestone, Obama made many speeches and decisions that reflected how power resources (organizational, systemic and the discursive, ideological, and symbolic resources) played out during the energy transition process.

Regarding the organizational resources, he underlined that they would be ally with the governors who want to invest in clean energy. In his first-year office, he signed executive order which called federal governments to take actions against to climate

change (The White House Council on Environmental Quality 2010). In the executive orders, there are the policy goals that ultimately target cooperation and coordination of federal governments among each other, with the federal state, and with the other countries. In addition to cooperation, the Obama administration's strategy in energy transition focused on environmental standards and innovations, according to "Blueprint for a Secure Energy Future" which was published under his presidency (The White House 2011a). On 21 December 2011, President Obama announced that the Environmental Protection Agency (EPA) formed national standards on mercury and other toxic air emission for power plants (Zichal 2011). With the Climate Action Plan, Obama Administration detailed the plan for cutting carbon pollution from power plants (The White House Executive Office of the President 2013). Accordingly, the EPA introduce carbon pollution standards for new power plants on 20 September 2013 (The White House n.d.). The Obama Administration, also, supported renewable energy. On 22 March, 2013, Council of Advisors on Science and Technology wrote a letter to Barrack Obama. In that letter, they suggested removal of regulatory obstacles on renewable energy (President's Council of Advisors on Science and Technology 2013). Further, on 5 December 2013, Obama signed a memorandum, which aims that 20 percent of the Federal Government's electricity would be meet from renewable energy (Obama 2013). Lastly, the Obama Administration announced private commitments and executive actions which targeted to reduce emissions of hydrofluorocarbons on 16 September 2014 (The White House 2014a).). In short, in terms of organizational sources, we observe that the Obama Administration accelerated executive actions during the energy process, in which the state seemed to mediate between actors by targeting cooperation between federal governments and power plant companies.

When we examine the systemic sources, the Obama administration planned to give incentives to private sector for clean energy. In 2010, the President signed a Presidential Policy Directive on Global Development, which included the Global Climate Change Initiative (GCCCI). This initiative aimed to boost green development which is economic growth with climate solutions and supporting and encouraging private sector for investing in clean energy (The White House 2009). In his 2012 State Union speech, he emphasized on clean energy tax credits and supporting private sector for clean energy innovation. In addition to that, he announced the public lands would be opened to private investment for 10 gigawatts of renewable energy generation (Obama 2012). Moreover, the Administration explained their updated plan for cleaner energy. This plan included introducing permanent and refundable tax credits for renewable energy production, giving more public lands to private investment for renewable energy, investing clean coal and natural gas, and cutting inefficient subsidies on fossil fuels (The White House 2013b). The letter of Council of Advisors on Science and Technology, which I mentioned before, recommended to adjust tax policies, and provide time-limited subsidies for clean energy (President's Council of Advisors on Science and Technology 2013). In the Climate Action Plan, the Administration declared their support to R&D investment on clean energy technology (The White House Executive Office of the President 2013).

In terms of the discursive, ideological and symbolic resources, in his speech at the beginning of his term, Barack Obama used “American Leadership”, “security” and “millions of new jobs” concepts to legitimize the energy transition policies.” (Broder 2018). Obama continued to use “American Leadership” and “security” concepts in his State of the Union (The White House 2011b), (The White House 2011a). At the

end of 2011, he added “great health benefits” to his discourse (Zichal 2011). In his 2012 State of Union speech, he reminded that clean energy sector would create jobs (Obama 2012). In 2013, the Administration changed its approach to “all-of-the-above” approach on the energy transition. It is stated that the President’s approach aimed energy security, economic growth and job creation, and low carbon technologies and clean energy. President Obama, also, reminded the USA leadership in the energy transition (The White House 2013b). In May 2014, the Administration warned public about health impacts of climate change. It is stated that “we have a moral obligation to leave our children a planet that’s not irrevocably polluted or damaged” (The White House 2014b), (The USA Global Change Research Program 2014). Highlighting public health issues in official discourse, the Administration explicitly used “moral obligation” in terms of state practices in discursive and symbolic resources to legitimize the energy transition.

3.2.b. Power Resources in Energy Transition Discourse: The Obama Administration during and after the Paris Climate Agreement

2015 was a significant year for the USA’s energy transition. In 2015, the president Obama signed the Paris Agreement and approved Clean Power Plan which was announced on 3 August 2015. The plan in line with the Paris Agreement targeted new ambitious goals in the USA’s energy transition process. The policies and discourse changed in the aftermath of these official commitments. Therefore, analyzing the Presidency of Obama in two periods and subsequent presidents would be helpful to trace the turning points and decisions during the energy transition process. Moreover, tracing changes and continuities in power sources through

discourse analysis may demonstrate the conflict between pro-energy transition and anti-energy transition hegemony projects and the role of state in mediation between actors, if any.

When we examine the organizational resources, on 19 March 2015, the Obama Administration declared that, in next decade, the Federal Governments would cut greenhouse gas emission 40 percent from 2008 levels and share of renewable electricity would be 30 percent (Deese 2015). According to the Clean Power Plan, the Administration aimed to reduce carbon dioxide emission by 32 percent from 2005 until 2030. The plan brought the first-ever national standards on carbon polluting with limiting carbon emission of the power plants (The White House 2015a). In following days, the Environmental Protection Agency improved ozone standards (The White House n.d.). In December 2015, the USA joined the Paris Agreement which was introduced as “the most ambitious climate change agreement in history”. This agreement brought significant energy transition goals (Obama 2016a). On June 16, 2016, the Obama Administration announced new executive actions. According to that, 33 states and private sector made commitments to accelerate the energy transition. Obama believed that this energy transition should be cleaner, more reliable and affordable (The White House 2016a). The Administration wanted to increase usage of wind energy and solar energy. According to that, they cooperated with universities, non-governmental organizations, private sector, and federal states (The White House 2016b). And, they aimed 35% of electricity of the USA would be produced by the wind energy (Department of Energy 2016). On November 16, 2016, the White House published the US’s Mid-Century Strategy for Deep Decarbonization. This strategy targeted to decrease economy-wide emission 80 percent below 2005 levels. In this strategy, they planned to reduce greenhouse gas

emission, develop clean energy technologies and carbon capture technologies, shift to clean energy from fossil fuels and set new regulations and pricing on greenhouse gas emission (The White House 2016c). In other words, the Administration used emission standards, new goals and cooperation of private sector and the government as organizational resources.

In terms of the systemic sources, in February 2015, President Obama started Clean Energy Investment Initiative. With that program, the government promoted private investment to clean energy innovation. The administration targeted accumulating 2 billion dollars in private sector investment for clean technologies incentives (Deese 2015). The program exceeded the expectations. After that, they set new goal to aggregate 4 billion dollars for clean energy innovations (Somanader 2015). On July 7, 2015, Obama announced new initiatives which gives subsidies and support to low- and moderate-income communities for implementing solar energy (The White House 2015b). In his last State of the Union speech, President Obama emphasized households' involvement in renewable energy production for their consumption. He stated that the USA should stop subsidizing-the past (fossil fuels), instead it should invest in future (clean energy) (Obama 2016b). On following days, Secretary Sally Jelly announced reforms for the federal coal program. She emphasized impacts of the federal coal program on the health and environment (Department of the Interior 2016). And, the Administration announced the Clean Energy Savings for All Americans Initiative. The initiative supports households in their energy consumption shifting from fossil fuels to renewable energy (The White House 2016b).

Moreover, some principles of the US's Mid-Century Strategy for Deep Decarbonization (as I mentioned before) are implementing market-based policies that

reward outcomes, act as quickly as possible, and support Americans vulnerable to a low-GHG transition. The strategy aimed to give incentive to private sector for negative emission technologies or strategies (The White House 2016c). Lastly, On November 30, 2016, the White House announced, “Top Ten Actions to Support Entrepreneurship”. With that program, the start-ups and entrepreneurs would be supported, and the National Laboratories and small business would make more partnership agreements for clean energy entrepreneurship (Zaidi 2016).

Regarding the discursive, ideological and symbolic resources, after starting of the Clean Energy Investment Initiative, Brian Deese, the Deputy Director of the Office of Management and Budget, stated that “Obama said that he wanted Americans to win the race for the discoveries that unleash new jobs in industries of the future”. Obama also aimed to cut pollution and create more secure and affordable energy with that program (Deese 2015). In National Public Health Week, Obama emphasized impacts of climate change on public health (The USA’s President 2015). Following year, the White House published the report about the impacts of climate change on human health. The administration explained, in detail, the threats, which is caused by climate change, to health, to food safety and nutrition, to mental health and to vulnerable people (The White House 2016d) In Clean Power Plan, the Administration said that reducing effects of the climate change is a moral obligation, and underlined impacts of the climate change on the health and extreme weather events. According to them, the plan would provide significant public health benefit, create tens of thousands of jobs, decreasing cost of renewable energy, decreasing energy bill of American family, and continue to American leadership on climate change (The White House 2015b). About reforms of the federal coal program, Secretary Sally Jelly said “...we have an obligation to current and future generations

to ensure the federal coal program delivers a fair return to American taxpayers and takes into account its impacts on climate change.” (Department of the Interior 2016). The Administration stated with supporting wind and solar energy, they aimed to cut energy bills, give opportunity to American families to produce solar energy, create new jobs, increasing economic development and employment, and greatly increasing energy diversity and security (The White House 2016b), (Utech 2016). Presidency of Obama remarked, with supporting low- and moderate- income communities for solar energy, they aimed adding new jobs to solar energy industry and unlocking access to solar energy for more households and business (The White House 2015b).

Moreover, the Obama administration argued that climate change is one of the greatest threats to security, planet and future (Somanader 2015). This argument was repeated a few times (The White House n.d.). After joining the Paris Agreement, President Obama claimed that “the America does its part to protect this planet for future generations”. He, also, underlined importance of the leadership of the USA about this agreement (Obama 2016a). In his last State of the Union Address, Obama mentioned that commitment to develop clear energy sources and medical research should be at the same level. He reminded that the USA army, many business leaders, the majority of Americans, the almost entire scientific community and 200 nations agree that climate change is problem and should be solved. Thus, President Obama, in his last State of the Union address, concluded that with the renewable energy transition, the energy became cleaner and cheaper, the employment in energy sector increased, and the USA became less dependent on the foreign oil. In addition to these arguments, he also underlined that with the energy transition, Americans would save the planet, and future of their kids and grandkids (Obama 2016b).

Lastly, on September 21, 2016, the Council of Economic Advisers released the report about the Obama Administration's process on the energy transition. In the report, Advisers warned about the effects of climate change. They argued that greenhouse gas emission would be threat to global and national welfare and economic output. They were in favor of political intervention to the energy sector (The White House 2016d).

3.2.c. Power Resources in Energy Transition Discourse: The Trump Administration between 2017 and 2020

After two terms of Barack Obama's presidency, in the 2016 election, Donald J. Trump from the Republican Party was elected as the president of the USA. He became the president of the USA on 20 January 2017. During his Presidency Donald Trump mostly criticized the previous Obama Administration in his energy transition related speeches. President Trump removed barriers on usage of fossil fuels that was brought by the Obama Administration. Further, under Trump's presidency the USA withdrew from the Paris Agreement, which was called as Paris Accord by President Trump. As power resources, he facilitated organizational resources and the discursive, ideological and symbolic resources, while his administration did not use systematic resources significantly. Overall, President Trump's discourse, mostly, seemed to legitimize his policies against the preceding administration's policies.

When we examine organizational resources, after Trump became the president, he signed the executive order about energy and infrastructure projects. With this order, he expedites environmental reviews and approval for high priority infrastructure projects in which some of them were energy projects (The White House 2017a).

After this executive order, President Trump signed the House Joint Resolution. With this resolution, the Trump Administration stopped “Stream Protection Rule”, which is about bringing regulations on surface coal mining. This resolution eliminated these regulations on coal industry. President Trump stated that the resolution would remove wasteful costs and regulations on the coal industry (Trump 2017a). Similarly, Trump signed an executive order, which removes restrictions on the fossil fuels. This Executive Order 13783, “Promoting Energy Independence and Economic Growth”, removed the Obama Administration’s executive orders and memorandums that were related to reducing greenhouse emission. For example, “Power Sector Carbon Pollution Standards” and “The President’s Climate Action Plan” were revoked. The Trump Administration reevaluated the Clean Power Plan of previous presidency of Obama. They lifted the ban on federal leasing for coal production. They disbanded “Interagency Working Group (IWG) on the Social Cost of Greenhouse Gases”. Moreover, according to Executive Order 13783, United States’ executive departments and agencies should review and distinguish regulations, orders and policies which were burden on energy sources (The USA’s President 2017). Further, President Trump announced the USA’s withdrawal from the Paris Climate Accord on June 1, 2017.

In April 2018, the Trump Administration declared a memorandum for the Environmental Protection Agency (EPA) about implementation of National Ambient Air Quality Standards (NAAQS), which was part of the Clean Air Act, for certain common air pollutants. According to this memorandum, Trump directed EPA shall expedite the implementation of NAAQS, and remove unnecessary regulations. Also, he claimed the NAAQS program should be more efficient and cost-efficient (The White House 2018a). In August 2018, the Trump Administration announced

Affordable Clean Energy (ACE) Rule, which was in controversy with the Clean Air Act of the Obama's Administration. With the ACE Rule, federal states had freedom to create their energy portfolios. Federal states can also limit emission of greenhouse gases at their power plants (The White House 2018b). On July 29, 2020, President Trump gave permission to pipeline projects on the borders. Two of them are about hydrocarbon and petroleum trade between Mexico and the USA. One is about hydrocarbon and petroleum trade between Canada and the USA. Trump stated that his administration opened public land, offshore land and Alaska to oil and gas exploration, and "...ended the moratorium on coal leasing on federal lands" (Trump 2020b). President Trump signed three more permissions for trading all hydrocarbons and petroleum products between the USA and Mexico, and the USA and Canada with pipelines in the borders on October 5, 2020 (Office of the Federal Register 2020).

The Trump Administration made policies not only for fossil fuels but also for clean energy. In 2018, the Administration announced a lease sale off for wind energy to private sector (Zinke 2018). Trump's Presidency allowed extension of the construction licenses of five hydropower plants (The White House 2018c). In 2020, the Council on Environmental Quality of Trump Administration published a note about hydropower. The note highlighted that his administration expedited environmental reviews on infrastructure projects. Accordingly, the administration would put emphasis on hydropower, which is clean, renewable, reliable, and affordable. Thus, the Trump Administration would support hydropower dams, technology, research, and development (Neumayr 2020). On April 22, 2020, Trump wrote a message in recognition of Earth Day and Arbor Day. He emphasized significant energy-related carbon emission reduction in his term (Trump 2020a). On

October 1, 2020, once again, he reminded that the USA still was leader in the reduction of energy-related CO2 emissions (The USA's President 2020).

In terms of discursive, ideological and symbolic resources, after President Trump signed an executive order about energy and infrastructure projects, he argued that “Infrastructure investment strengthens our economic platform, makes America more competitive, creates millions of jobs, increases wages for American workers, and reduces the costs of goods and services for American families and consumers.” And delaying these projects prevented “...Americans to compete and win at the world economic stage.” Moreover, President Trump underlined importance of these projects for national security and energy independence (The White House 2017a). After signing the House Joint Resolution, he emphasized importance of coal industry for lower energy bills, saving thousands of jobs and the USA's economic power (Trump 2017a).

President Trump claimed that the Obama Administration's regulations and energy plans threaten miners, energy workers and companies. According to him, these companies can expand energy production, and can create millions of jobs (Trump 2017b). Also, he argued because of Obama's energy plan, electricity prices increased at least ten percent and coal production reduced 242 million tons (The White House 2017b). Also, Trump Administration claimed that the Clean Air Act caused higher electricity prices, job losses, and harmed the US economy. Further, it is argued that this act brought unnecessary burden on energy industry (The White House 2018b).

After withdrawing from the Paris Climate Accord, Trump claimed this agreement is not fair to the USA, its business, its workers, its people, and its taxpayers. According to him, if the USA stays in that agreement, there would be 2.7 million

jobs lost by 2025. By 2040, the agreement would cause reduction in coal production at 86 percent and natural gas at 31 percent. At that time, 3 trillion dollars and 6.5 million jobs would be lost. Households would lose 7,000-dollar income.

Moreover, President Trump argued that renewable energy cannot largely meet the US's energy demand; and the USA has been already the cleanest country in the world. He emphasized that while China, European countries, and India has been allowed to build coal plants, the USA cannot build coal plants according to the Paris Agreement. In Trump's view, the USA has great potential for energy sources but, because of this agreement, the USA cannot use its potential (The White House 2017c). President Trump criticized his predecessor Obama's commitment to the Green Climate Fund (3 billion dollar) by arguing that it would be unjust; and the Obama Administration did not take authorization from the Congress (The White House 2017d).

Similarly, when the Trump's Administration held "the Unleash American Energy Event" in June 2017, he underlined that Americans have access to reliable, low-cost, and job creating energy. While the US was reducing emissions, the economy was grown, and income of American families increased (The USA's President 2018). During President Trump's speech in Texas in 2019, he called the Clear Power Plan as the job-killer plan and the Paris Accord as the one-sided agreement. In his speech, he claimed the USA had the cleanest water and air in the world. He also criticized New York State because they did not allow construction of the Constitution Pipeline. He argued that the lack of permission enforced, the US to buy a lot of oil from other countries like Russia. Thus, President Trump concluded that New York State's such decision increased heat prices, undermined the US's independence and national

security, and hurt energy workers. He said he would sign an executive order to speed up the process for approving vital infrastructure (Trump 2019a).

As part of discursive, ideological and symbolic resources, President Trump emphasized also the USA's energy independence and its leadership role in the world. For example, in June 2017, the Administration held "the Unleash American Energy Event". Trump announced his administration's new energy plan which aims not only energy independence, but also energy dominance of the US. He argued this plan would unlock millions of the jobs, and trillions of dollars in the wealth. He added the USA would export the energy to the world, and this would be golden era of American energy. He reminded the USA has abundance of energy sources, and their administration would reduce barriers on these energy sources, which are oil, coal and natural gas (Trump 2017c). In his proclamation on National Energy Awareness Month, President Trump underlined the US's energy progress. He argued, with contribution of the entrepreneurial spirit of the American people, the USA became global leader in energy sector (The USA's President 2018). Moreover, Trump said the USA would not be dependent on foreign energy, and they would defend Texas and jobs of people of Texas.". He argued, in his administration, while the USA became net energy exporter and the energy jobs boomed, air pollution significantly decreased, and they would continue to be leader of protecting environment. Furthermore, he added China, Russia and India did not care about their air (Trump 2020b). In September 2020, he expressed his administration protected environment, and made the USA net energy exporter and energy independent. He also stated that Democrats wanted opposite of that, they did not want to protect environment. They wanted to take away energy independence (Trump 2020c).

On April 16, 2018, the Secretary of the Interior of the Trump Administration published an article. In the article, he wrote Trump has “all of the above approach”, and thanks to Trump, the USA became “... a leading global energy exporter and free from being held hostage by foreign powers.” He expressed, in addition to fossil fuels, wind energy would play great role in the US’s energy dominance (Zinke 2018). In June, he published another article, and he emphasized the importance of natural gas for advancing the US’s energy and economic security, and national security. He believed that natural gas exports contributed to foreign policy of the USA and the USA’s allies’ interests (Perry 2018).

On March 8, 2019, the Vice President of Trump Administration made speech at the 2019 Oil and Gas Association Annual Meeting. He said Trump assumes his administration’s energy policies as “energy revolution”. He celebrated American production on American soil. He underlined the USA became the largest producer of oil and natural gas in the world. He said, production oil and natural gas supported thousands of jobs which were good paying. Vice President Mike Pence reminded Trump’s words which is “full potential can only be realized when government promotes energy development.” He stressed that American energy dominance, and trade balance of the USA in the energy industry. He said while export partners enjoyed benefitting from the US’s energy, American jobs were booming in energy industry. Moreover, Mike Pence highlighted the example of Poland as the US’s ally, which signed three agreements with American energy companies to reduce oil and natural gas imports from Russia (Pence 2019).

Similarly, during President Trump’s proclamation on National Energy Awareness Month, he stressed the USA’s energy security and its natural gas exportation. He stated that his administration would ensure more secure and prosperous future for all

Americans with supporting the American next generation of energy technologies (The USA's President 2019). Further, President Trump underlined the USA's role as the leading exporter of the natural gas, and the US's energy independence during his speech in Louisiana on May 14, 2019. He stated that natural gas was cleaner and environmentally better than the alternatives. He also expressed that the previous administration's policies were anti-American energy, anti-American workers and anti-American wealth. Trump claimed, in contrast, his administration's policies were America First Energy Policy. He added that while, the European Union and Germany bought their natural gas from Russia at the moment, in the next years, the USA would sell natural gas to the European Union (Trump 2019c).

Lastly, the Council of Economic Advisers under Trump's Presidency published an exclusive report on energy transition. According to this report, the USA became net exporter of crude oil and petroleum first time in September 2019 since 1949. Also, with Trump administration, the energy bills were decreased substantially. Moreover, the USA's greenhouse gas emission was reduced relatively more than those of the European Union. Regarding these achievements, the Council's report emphasized President Trump's support to private-sector energy innovations (Council of Economic Advisers 2019).

3.2.d. Power Resources in Energy Transition Discourse: The Biden Administration in 2021

After one term presidency of Republican Donald Trump, Democrat Party's Presidential candidate Joe Biden was elected in the 2020 elections and, on 20

January 2021, he became the president of the USA. President Biden had similar discourse like President Obama since they were both from the Democrat Party. Biden facilitated three kinds of power resources in his first year.

When we examine the organization resources as part of power resources to understand the role of state in energy transition process, President Biden used national ozone standards like Obama. In his first day at the office on 20 January 2021, he signed many executive orders. One of them was about climate change and protecting environment. The executive order brought back many regulations on greenhouse gas emission that were removed by President Trump. Biden's initial executive order called that there would be new regulations on greenhouse gas emission. Moreover, it directed agencies to consider impacts of climate change in the decision-making process. In addition to these, the executive order brought back the working group which has the task to analyze the social cost of climate change. The executive order underlined that the administration would be guided by the science (The USA President 2021).

The USA also rejoined the Paris Agreement on the first day of President Biden at office, 20 January 2021. One week later, he signed the executive order which stop permissions for extractions of oil and gas that would contribute to the USA's commitments under the Paris Agreement (Biden 2021a). On the Earth Day, the Biden's Administration targeted to cut greenhouse gas emissions by half by 2030 (The USA's President 2022). On May 25, 2021, the Biden Administration expressed their support to wind energy. Departments of the Interior, Defense, and Energy supported wind energy projects (The White House 2021a). The Administration aimed to create new jobs and to meet energy demands of almost 10 million American homes by increasing wind energy capacity (Biden 2021b). At the end of 2021,

President Biden signed a new executive order, which directed federal governments to take actions for achieving net zero emissions goals. The order aimed to transform federal agencies, buildings, vehicles, etc. to carbon pollution free. Also, it suggested to train, educate and engage the federal workforce for the energy transition (The White House 2021b).

Regarding the systemic resources, Biden Administration supported renewable energy with direct investment and incentives. In the beginning of his term, President Biden announced the American Rescue Plan and Build Back Better Plan. With these plans, he said there would be historic investment on infrastructure, research and development, and innovations that would support the energy transition (Biden 2021c). Following this plan, Biden signed the executive order which is about “Tackling the Climate Crisis at Home and Abroad”. Accordingly, the Biden Administration aimed to reconstruct infrastructure, give incentives to renewable energy and clean energy technologies, and reduce subsidies on fossil fuels (Biden 2021a). In March 2021, the Biden Administration presented the American Jobs Plan. According to this plan, there would be new incentives and tax credits on clean energy technologies. The Biden Administration would stop giving tax credits and subsidies on fossil fuels, and promote research and development programs about clean energy technologies (The White House 2021c). Moreover, on April 8, 2021, the Administration announced new funds. One of them promotes reducing of methane emission in coal, oil and gas industry (Granholm, Jennifer, and Jen Psaki. 2021.). In August 2021, Biden’s Presidency announced new incentives on solar power. The incentives support innovations on solar energy and bring tax cuts to clean energy. According to the Biden Administration, these new incentives would reduce costs of solar power, create many solar energy jobs, and help to achieve carbon zero goal of

the USA (The White House 2021d). In October 2021, Biden expressed Better Build Back agenda. He pointed out their historic investment in clean energy that would help business to produce more energy and to develop clean energy projects; and help people to install solar panels on their homes. The federal state initiated credits would decrease the cost of solar panels and electricity generation (Biden 2021d). The Biden Administration argued that they would made \$60 billion investment which would be largest investment in clean energy transmission in American history to power infrastructure (The White House 2021e).

In terms of discursive, ideological and symbolic resources, the Biden Administration underlined the USA's leadership and creation of jobs in clean energy. After rejoining the Paris Agreement, press secretary of the Biden Administration, Jen Psaki, stated that the United States could continue to exercise global leadership for achieving goals of the agreement (Psaki 2021). President Biden highlighted also that American Rescue Plan and Build Back Better Plan would create millions of the good-paying jobs with investment to the energy transition (Biden 2021e). With the Executive Order 14008, Biden emphasized the USA would make leadership on the Paris Agreement, and the government would create millions of the jobs in energy sector and construction sector (Biden 2021c). Also, this presidency argued that wind energy projects would create jobs and support domestic supply chain (The White House 2021f). In the American Jobs Plan presented by the Biden Administration, continuity of the USA leadership in clean energy technologies and climate science was emphasized. The plan reminded the USA targeted net-zero emissions in 2050, and these actions would create many clean energy jobs (The White House 2021c). Moreover, the Biden Administration expressed the energy transition trend in the world would create many opportunities to the USA (Granholm and Psaki 2021). In

addition to new jobs, Biden argued their clean energy plan would “... ensure our economic competitiveness and improve the health and security of communities across America.” (The USA’s President 2022).

In July 2021, the Biden Administration remarked Build Back Better Plan and assumed the climate change is one of the greatest threats to the USA, and the younger generations would suffer from impacts on the climate change (The White House 2021g). In September 2021, President Biden recognized the climate change as a problem for national security (The USA’s President 2021). On October 28, 2021, he talked about framework of Build Back Better plan. He underlined the climate change damaged families, homes, schools, and business, and it “...cost America more than \$100 billion last year alone.” He stated that there is global race on innovation and manufacturing for clean energy technologies. According to him, the plan would help “... middle class families save money as they shift to clean energy” and create many green jobs (The White House 2021h). Similarly, he highlighted the importance of investing in clean energy technologies that targets to increase jobs, save energy bills, economic recovery, and make the world safer, cleaner, and healthier for future generations (Biden 2021f).

3.2.e. Changes and Continuities in Power Resources in Energy Transition Discourses of Obama, Trump and Biden Administrations

Between 2008-2014, as the organizational resources, the Obama Administration wanted to cooperate with federal governments, bring ozone standards to power plants, removal obstacles on renewable energy, and bring usage of renewable energy goals to federal governments. Also, between 2015-2016, as the organizational

resources, the Obama Administration set goals to federal governments and the USA for cutting greenhouse gas emission and increasing share of renewable electricity. They brought the first-ever national standards on carbon emissions of power plants. Also, they signed the Paris Agreement, and wanted to establish cooperation of private sectors, states and universities for the energy transition. Donald Trump, as the organizational resources, remove regulations and costs, which Obama Administration brought, on fossil fuels. He, also, expedite environmental processes, permitted pipelines and opened oil, gas and coal extractions. Moreover, his administration withdrew from the Paris Agreement. In addition to that, he extended the construction licenses of five hydropower plants. Joe Biden returned to the energy transition policies in his term. And, as the organization resources, he used regulations on greenhouse gas emission, and he rejoined the Paris Agreement. He stopped to give permit extraction of fossil fuels. He ordered federal governments to take action for achieving net zero emissions goals. He supported wind energy projects, and education of the federal workforce for the energy transition.

As the systemic resources, the Obama Administration's policies were giving subsidies, tax credits and public lands for clean energy and clean energy technologies and limiting subsidies on fossil fuels. In addition to that, the Obama Administration promoted to private sector to accumulate capital for investing clean energy technology, gave subsidies to low-income households for the energy transition. They invested to clean energy entrepreneurship. Also, they wanted to stop subsidizes fossil fuels. As the systemic resources, the Biden Administration gave subsidies and tax credits to renewable energy and clean energy technologies. They wanted to stop give subsidies to fossil fuels. In addition to that, his administration used direct investments to clean energy technologies.

As the discursive, ideological and symbolic resources, between 2008 and 2014, to legitimize their policies, Obama Administration claimed the energy transition increases number of jobs and energy security, contributes the leadership of the USA, and benefit to public health. Also, they said the energy transition is moral obligation. Between 2015 and 2016, they underlined creation of green jobs, cutting energy bills, increasing energy diversity and security, impacts of climate change on public health, food safety and vulnerable people, and American leadership in the energy transition. Moreover, they assumed climate change is threat to global and national welfare and economic output, and they claimed the energy transition is their moral obligation. On the other hand, for the legitimation of his policies, the Trump Administration emphasized on reducing cost of goods and services, increasing wages, creating jobs, national security, lower energy bills and energy independency. Trump criticized Obama Administration's policies for increasing electricity bills, costing jobs and energy dependency to Russia. He called Clear Power Plan as the job-killer plan and the Paris Accord as the one-sided agreement. According to him, because of the energy transition policies, the USA cannot reach full potential, and compete with other countries. He, also, claimed the Paris Agreement allows top polluters to continue polluting. Moreover, he said, because of that agreement, the USA was hostage of foreign powers. In the last years of his term, Trump argued, with his energy plan, the USA became net energy exporter, energy independent, and leader in reduction of greenhouse gas emission. He, also, said his policies created many energy jobs. Lastly, the Biden Administration offered many new good paying jobs, the USA's economic competitiveness, and the USA's leadership in the energy transition for legitimation. Biden, also, emphasized on impacts of climate change,

and he accepted the climate change as the problem of national security (Biden 2021a).

3.2.f. Energy Transition Related Bills Introduced in The Congress

In this part, I will examine Democrats' and Republicans' bills which are related to the energy transition in the Congress. In total, Democrats introduced 397 bills related to the energy transition, whereas Republicans introduced 420 bills related to the energy transition between 2008 and 2021. The breakdown of these bills before and after the 2015 Paris Agreement is as follows:

- Between 2008-2014, Democrats and Republicans introduced 117 and 181 energy transition related bills to the Congress, respectively.
- Between 2015 and 2016, Democrats and Republicans introduced 58 and 77 energy transition related bills to the Congress, respectively.
- Between 2017 and 2020, Democrats and Republicans introduced 154 and 120 energy transition related bills to the Congress, respectively.
- In 2021, Democrats and Republicans introduced 68 and 42 energy transition related bills to the Congress, respectively.

When we examine the organizational resources through these bills, the Democrats wanted to bring standards and regulations on the fossil fuel sector and greenhouse gas emission, limit to the authority of one of the state's departments which give support to extraction of fossil fuels, support the Paris Agreement, and research on cost of the regulations (See Table 3.17.). After the election of Trump, Democrats tried to limit Department of Interior or the President's authority which allows extraction of fossil fuels.

The Republicans, on the other hand, tried to limit the regulation authority on the energy sector of Department of Energy, Environmental Protection Agency or the President, and remove regulations on greenhouse gas emissions. Even in one bill, they tried to terminate EPA (See Table 3.18.). The Republicans supported the hydroelectric power more among other renewable energy resources. Mostly, they extended construction or usage of hydroelectric power dams. Further, in Trump Era and 2021, the Republicans, like the Democrats, also wanted to bring regulation on greenhouse gas emissions.

The systemic resources reflected in the bills introduced by the Democrats focus on giving subsidies or tax credits to private sector which invest in renewable energy and clean energy technologies, investing directly to renewable energy sector, eliminating fossil fuel's subsidies, supporting research and development of clean energy technologies, and supporting cap and trade program. Also, a few bills wanted to give subsidies for or removal of carbon tax for fossil fuel sector.

On the other hand, the Republicans generally wanted to reduce subsidies on renewable energy and bring new subsidies on fossil fuels. For example, In Trump era, a few bills tried to support fossil fuels with subsidies. Also, they tried to support cap and trade program. Although this program is designed to control emission of greenhouse gases, it does not necessarily decrease greenhouse gas emission. Nevertheless, there are some bills offered by the Republicans that gave tax credits and subsidies to clean energy, and support R&D on clean energy technologies.

In terms of the discursive, ideological and symbolic resources reflected in the bills that legitimize energy policies, the Democrats used energy security and independency, unemployment, the USA's global leadership on the energy transition,

electricity bills, impacts of climate change, and cleaner energy future concepts. For legitimizing policies, the Democrats, mostly, emphasized on cleaner energy future especially in Trump era. In another words, they stated, with the energy transition, they wanted to protect next generations. After that, they used “the energy security” and “the unemployment” concepts to legitimation. Also, in Trump Era, they mentioned the impacts of climate change on public health, and green job creation. Interestingly, between 2015 and 2016, the Democrats did not bring “the USA’s leadership on the energy transition” reason, although the USA joined the Paris Agreement. In this era, they emphasized on energy security and lower electricity bills.

On the other hand, the Republicans claimed that the fossil fuels should be used to satisfy the increasing energy demand. They also emphasized job creation, energy security and the USA’s energy independency. Some of these bills claimed that carbon dioxide is not an air pollutant so it should not be limited as air pollutant. In few bills, the Republicans tried to bring a condition to the regulations on greenhouse gas emission. The Republicans argued the states (China, Russia and India) which have highest greenhouse gas emission did not bring regulations on greenhouse gas emission. They suggested only if these states bring regulations, the USA could bring regulations.

According to total number of bills introduced in the Congress between 2008 and 2017, the Democrats mostly used systemic resources (See Table 3.17.). In another words, they wanted to support renewable energy by economic and financial means. Year by year, they introduced more bills related to the energy transition. In average, between 2008 and 2014, they brought the smallest number of bills, which were before the Paris Agreement. On the other hand, the Republicans tried to limit DOE,

EPA or the President or remove regulations on greenhouse gas emission in most of the bills, (See Table 3.18.). Thus, they usually target regulations. Also, the Republicans support hydroelectric power plants which are owned by large companies. They wanted to support the energy transition with giving credits and subsidies to renewable energy, and R&D on clean energy technologies. The Republicans emphasized especially, the energy security and the energy demand. They also underlined increasing employment with their policies. Before 2015, the Republicans assumed carbon dioxide as not an air -pollutant in many bills. After 2015, usage of this argument decreased considerably.

	2008-2014- Era	2015-2016 Era	2017-2020 Era	2021	Total
Democrats	Bring standards and regulations on the energy sectors(30)	Bring standards and regulations on the energy sectors(24)	Bring standards and regulations on the energy sectors(44)	Bring standards and regulations on the energy sectors(30)	Bring standards and regulations on the energy sectors(118)
Organizational Sources			Limits Department of Interior(7)	Limits Department of Interior(7)	Limits Department of Interior(14)
(Bureaucracy, bills etc.)			Support Paris Agreement(3)		Support Paris Agreement(3)
			Research on cost of regulations(3)		Research on cost of regulations(3)

Systemic Sources	Give Grants, Bonds, Loans and Credits to private sector which invest clean energy technologies (63)	Give Grants, Bonds, Loans and Credits to private sector which invest clean energy technologies (24)	Give Grants, Bonds, Loans and Credits to private sector which invest clean energy technologies (64)	Give Grants, Bonds, Loans and Credits to private sector which invest clean energy technologies (34)	Give Grants, Bonds, Loans and Credits to private sector which invest clean energy technologies (185)
(Economic incentives and sanctions)	Direct investment to Clean Energy technologies (22)	Direct investment to Clean Energy technologies (6)	Direct investment to Clean Energy technologies (41)	Direct investment to Clean Energy technologies (17)	Direct investment to Clean Energy technologies (86)
	Withdraw subsidies on Fossil Fuels (4)	Withdraw subsidies on Fossil Fuels(1)	Withdraw subsidies on Fossil Fuels(10)	Withdraw subsidies on Fossil Fuels(2)	Withdraw subsidies on Fossil Fuels(17)
	Subsidies on Fossil fuels and Removal Carbon Tax(1)		Subsidies on Fossil fuels and Removal Carbon Tax(2)		Subsidies on Fossil fuels and Removal Carbon Tax(2)
			Support cap and trade program(5)		Support cap and trade program(5)
	Support R&D for the Energy Transition (38)	Support R&D for the Energy Transition(20)	Support R&D for the Energy Transition(47)	Support R&D for the Energy Transition(14)	Support R&D for the Energy Transition(119)
Ideological and symbolic sources	Emphasize Energy Security and Independence (20)	Emphasize Energy Security and Independence (9)	Emphasize Energy Security and Independence (11)	Emphasize Energy Security and Independence (4)	Emphasize Energy Security and Independence (44)
(Legitimation Cause)	Emphasize Unemployment and Job Creation	Emphasize Unemployment and Job Creation(5)	Emphasize Unemployment and Job Creation(14)	Emphasize Unemployment and Job Creation(5)	Emphasize Unemployment and Job Creation(34)

Creation(10)					
Emphasize the US's Global Leadership on energy sector or struggle Climate Change(7)		Emphasize the US's Global Leadership on energy sector or struggle Climate Change(7)		Emphasize the US's Global Leadership on energy sector or struggle Climate Change(2)	Emphasize the US's Global Leadership on energy sector or struggle Climate Change(16)
Emphasize impacts of climate change on public health(5)	Emphasize impacts of climate change on public health(6)	Emphasize impacts of climate change on public health(16)	Emphasize impacts of climate change on public health(3)	Emphasize impacts of climate change on public health(30)	
Emphasize Electricity bills(2)	Emphasize Electricity bills(8)	Emphasize Electricity bills(9)	Emphasize Electricity bills(2)	Emphasize Electricity bills(21)	
Emphasize cleaner energy future(6)	Emphasize cleaner energy future(6)	Emphasize cleaner energy future(36)	Emphasize cleaner energy future(13)	Emphasize cleaner energy future(61)	

Table 3.17 Bills of Democrats

Republicans	2008-2014-Era	2015-2016 Era	2017-2020 Era	2021	Total
Organizational Sources	Limit to DOE, EPA or the president's regulation power (67)	Limit to DOE, EPA or the president's regulation power (40)	Limit to DOE, EPA or the president's regulation power(32)	Limit to DOE, EPA or the president's regulation power(16)	Limit to DOE, EPA or the president's regulation power(155)
(Bureaucracy, bills etc.)	Remove regulations on greenhouse gas emission (96)	Remove regulations on greenhouse gas emission (43)	Remove regulations on greenhouse gas emission(44)	Remove regulations on greenhouse gas emission(14)	Remove regulations on greenhouse gas emission(194)
	Support Hydroelectric power(20)	Support Hydroelectric power(21)	Support Hydroelectric power(29)	Support Hydroelectric power(3)	Support Hydroelectric power(73)

			Terminate EPA(1)		Terminate EPA(1)
			Bring regulation on greenhouse gas emission (24)	Bring regulation on greenhouse gas emission (6)	Bring regulation on greenhouse gas emission (30)
Systemic Sources	Give grants, loan, bonds and credits to renewable energy (36)	Give grants, loan, bonds and credits to renewable energy(5)	Give grants, loan, bonds and credits to renewable energy(17)	Give grants, loan, bonds and credits to renewable energy(5)	Give grants, loan, bonds and credits to renewable energy(63)
(Economic incentives and sanctions)	Reduce incentives on renewable energy(15)	Reduce incentives on renewable energy(4)	Reduce incentives on renewable energy(11)		Reduce incentives on renewable energy(30)
	Bring new subsidies on fossil fuels(15)	Bring new subsidies on fossil fuels(3)	Bring new subsidies on fossil fuels(11)	Bring new subsidies on fossil fuels(3)	Bring new subsidies on fossil fuels(32)
	Support R&D on clean energy technologies(32)	Support R&D on clean energy technologies (4)	Support R&D on clean energy technologies (19)	Support R&D on clean energy technologies(6)	Support R&D on clean energy technologies (61)
Ideological and symbolic sources	Emphasize on Energy Demand(57)	Emphasize on Energy Demand(24)	Emphasize on Energy Demand(15)	Emphasize on Energy Demand(7)	Emphasize on Energy Demand(103)
(Legitimation Cause)	Emphasize on employment(47)	Emphasize on employment (11)	Emphasize on employment (6)	Emphasize on employment(3)	Emphasize on employment (67)
	Bringing conditions to regulations to countries which have most greenhouse gas emission(10)	Bringing conditions to regulations to countries which have most greenhouse gas emission(5)	Bringing conditions to regulations to countries which have most greenhouse gas emission(2)	Bringing conditions to regulations to countries which have most greenhouse gas emission(2)	Bringing conditions to regulations to countries which have most greenhouse gas emission(19)

	Claim that CO2 isn't air pollutant(34)	Claim that CO2 isn't air pollutant(1)	Claim that CO2 isn't air pollutant(2)	Claim that CO2 isn't air pollutant(1)	Claim that CO2 isn't air pollutant(38)
	Emphasize on Energy Security(58)	Emphasize on Energy Security(18)	Emphasize on Energy Security(12)	Emphasize on Energy Security(8)	Emphasize on Energy Security(96)

Table 3.18 Bills of Republicans



CHAPTER IV

CONCLUSION

In this thesis, I demonstrated the role of the American state during the energy transition process particularly between 2008 and 2021. According to Wallerstein, since 1968, the USA's hegemonic power has started to decline, and the USA tries to reinforce hegemonic power. I argue that the energy transition is an opportunity to revitalize the USA's declining hegemony. Accordingly, I examined the role of American state in responding to the conflicts between some fractions of the capitalist class. In the energy transition process, there is conflict between the owners of the production of the renewable energy and the owners of the the production of fossil fuels. With supporting the one of them, the state, also, takes part in this conflict. Since my case is about the conflict between the fractions of the capitalist class during the energy transition process, I used the HMPA for my method. I analyzed discourses of the American state's actors through the HMPA. I tried to answer that how the American state has played a role in the conflict between the fractions of the capitalist class during the energy transition process in historical context.

Especially after the Paris Agreement, the USA's energy transition accelerated in the last decade. This energy transition mostly occurred in the electricity generation sector. I observed the change of relations of the production in the electricity sector. The energy transition has, also, some potential impacts for the other sectors. These changes cause conflictual class relations. Historical Materialist Policy Analysis (HMPA) is method for analyzing the state's functions in the conflictual class relations. In my case, I examined the state's roles which are establishing cohesion

between the levels of a social formation and maintaining the unity of the relations of production in the USA's energy transition process. In this process, while the fossil fuel related jobs decreased, the renewable energy-related jobs increased. Also, after the Paris Agreement, the energy prices and the energy dependency of the USA decreased. Both the pro-energy transition actors and the anti-energy transition actors used these changes for legitimizing their policies as I demonstrated in my research findings based on discourses of the American state actors analyzed through the HMPA. These actors are the Obama Administration, the Trump Administration, the Biden Administration, and the members of the Congress.

I used three power resources of HMPA for investigating discourses. These resources are organizational, systemic and the discursive, ideological and symbolic resources. I traced usage and change of these power resources between 2008 and 2021. However, I especially focused on 2015-2021 era because, in 2015, the Paris Agreement signed; and the USA changed its position regarding the agreement.

As the organizational resources, the pro-energy transition actors tried to cooperate with federal governments, to bring renewable energy goals for federal governments, and to bring ozone regulations to power plants, and they supported the Paris Agreement. Also, with a few bills, they tried to limit Department of Interior's authority for permitting extraction of the fossil fuels. On the other hand, the anti-energy transition actors removed the regulations on the fossil fuels, expedited environmental processes, and they wanted to limit Environmental Protection Agency, Department of Energy or the presidents' authority about regulations on greenhouse gas emission. They are against the Paris Agreement. Interestingly, these actors, also, supported hydroelectric power.

As the systemic resources, the pro-energy transition actors gave subsidies, tax credits, loans and public lands for usage of renewable energy and renewable energy technologies. They, also, wanted to directly invest clean energy and to limit subsidies on fossil fuels. They supported research and development's projects for the energy transition. The anti-energy transition actors wanted to reduce incentives on renewable energy, and to bring new subsidies on fossil fuels. Interestingly, with a few bills, they wanted to give subsidies to clean energy technologies.

As the discursive, ideological and symbolic resources, the pro-energy transition actors claimed, with their energy transition policies, they would increase number of the jobs, energy security, energy independency, and would decrease electricity bills. They, also, emphasized on impacts of the climate change on public health, food safety, and vulnerable people. They assumed the climate change as the problem of the national security, and the energy transition as the moral obligation. Lastly, they supported the USA's leadership on the energy transition, and the USA's economic competitiveness during the energy transition process. The anti-energy transition actors criticized the pro-energy transition actors' policies. They stated that these policies increase electricity bills, costing jobs, and increase energy dependency especially to Russia. In addition to that, some of them claimed that CO₂ isn't air pollutant. Lastly, they objected the Paris Agreement. They claimed the Paris Agreement is one-sided agreement. According to then, because of the Paris Agreement, while the USA can't use all of its potential and compete with other countries, the top polluters continue polluting.

Within the framework of Wallerstein's studies regarding the decline of the USA's hegemonic power, and the American state's strategies for dealing with that I examined the American state's role during the energy transition by using the HMPA.

My findings suggest that there are continuities in the role of the American state during energy transition process in the broader context of historical material relations of capitalism.

In this research, I only focused between 2015 and 2020, which is quite limited for a comprehensive HMPA to understand the role of the American state and to critically assess the Wallerstein's arguments on the declining American hegemony. Therefore, my time period should be extended in future research. The state's role can be examined in crises during the energy transition process. Also, I only looked at the discourses of the state's actors. However, the media, non-profit organizations, lobbies, and the transnational companies, in other words different fractions of capitalist class, could be investigated for more comprehensive research about the decline of the American hegemonic power and the policies aiming to preventing that decline.

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