

Sustainable Energy and Energy Security

- A study of energy transition and motives for such under the Obama administration.

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Abstract

This paper studies the American transition to sustainable energy under the Obama administration. America is the most energy consuming country in the world and dependent on an uninterrupted flow of oil. The dependence poses a threat towards American energy security and one of the solutions to improving energy security is sustainable energy. Prior to Barack Obama's election in 2008, he presented his plans for improving the energy situation of his country. After Obama's first term how much has changed? And how do the results measure up with the goals of the proposed solutions?

To address the changes, this paper first seeks to investigate the relationship between sustainable energy and energy security. In order to thoroughly investigate the motives behind Obama's plan, the paper analyses Obama's 'New Energy for America' speech by examine Obama's problem representations. Secondly, the paper assesses the changes that have occurred by taking a stand in the proposed solutions. The results are then put into perspective and explained by looking at argumentation that is, respectively, against and in favour of Obama's approach and results.

Obama presents sustainable energy as the solution to the energy security issues of the country, which are caused by oil addiction – an addiction nurtured within the US. Sustainable energy would improve energy security and simultaneously reinforce the US from within by creating jobs and lessen the dependence on foreign oil providers. The execution of the solution has, to a large extent, been according to the proposed plans. Despite Obama's partly positive results, he has, however, faced criticism due to a lack of effort and failed government investments. The criticism is countered by exemplification of successful investments and illumination of results that have not only improved energy security, but also benefitted the environment. Obama is argued to have shown too little leadership on the topic of sustainable energy and the environment and he promoted more domestic oil and gas extraction. This could indicate that short term energy security improvements are of higher importance than a quick transition to sustainable energy.

Throughout the paper it becomes evident that improvement of energy security is crucial. The transition to sustainable energy provides an array of benefits that affects energy security positively, but the change is not easy and a few obstacles have appeared. The Obama administration has, however, taken a step towards a more sustainable future and started a process that may benefit the US long term and enable continued sustenance.

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1. Introduction

In the last few decades, sustainable energy, energy independence, and the environment have become increasingly utilised in politicians' rhetoric. The ice caps are melting, the air is polluted by methods of combustion, and the world is, almost on a daily basis, reminded that our current treatment of our planet is unacceptable and must be improved. Mankind's current addiction to fossil fuels for energy is a major reason we cannot just change the development – our societies rely on the energy that pollutes by extraction and use. Not only do these methods pollute, the availability of fuels to power them is also limited. How will we power our societies when the resources we heavily rely on are unavailable or emptied?

The world's current superpower is a curious example of how securing energy has become more important. The US has for many years been the most dominating power in the world, displaying its superiority which, however, is diminishing slowly. With the presidential election in 2008, it was proclaimed by Obama's campaign¹ that a change was coming. The debate about energy independence and a greener America was a hot topic and as the democratic candidate won, it seemed that America would initiate sustainable energy policies for the benefit of itself and the environment. In this paper, the US will be the pivotal point of analysis. The Obama administration has now been in charge for more than one term and thus the 2008 election campaign promises can be held up against actual achievements. The financial crisis that struck the world as Obama entered office has put further emphasis on the American energy security in terms of domestic fuel extraction and independence from foreign fuels. The more sustainable solution, however, was the proposed plans for sustainable energy within the US that were to create independence and strengthen the US from within in the future. During Obama's second term, how much has changed? Has the change in US policy caused sustainable energy to play a larger role in the nation's energy security measures? While domestic hydraulic fracturing and increased oil drilling comprise a strong temporary solution, the slow implementation of sustainable energy technologies may prove to be of utmost importance for the US. Seeing as the US has an immense impact on the world's economy, their energy security will be of high importance for other countries.

Firstly, this assignment will cover the methodology and theory that create a foundation for the analytical chapters. Secondly, Obama's stand on energy and motives to implement sustainable energy solutions will be investigated, point of departure being an energy policy speech delivered during the election campaign in 2008. Then a follow-up analysis will be conducted, investigating to what

¹ Obama and Biden's campaign utilised the word 'change' as one of their keywords in the 2008 campaign: <http://change.gov>

extent Obama's energy policies have been successful. Lastly, a discussion will tie the ends together, followed by the conclusion.

To illuminate the above, this paper will address the following research question:

How has the concern for energy security affected the American development of sustainable energy and to what extent have these sustainable energy policies been successful?

2. Methodological Considerations

2.1. Choice of focus

This paper was initially spurred by an interest in solutions and challenges that energy transitions pose in today's society. With an increasing world population, the continuous access to energy is paramount for continued growth and with more energy consumption comes the question of sustainability. As the world's spotlights are continuously directed towards the US, the Obama administration poses an interesting case for analysing a society's energy security issues and renewable energy transitions.

To investigate the challenges posed, the proposed solutions, and outcome, this paper will approach the research question from two angles. Firstly, the motives and representation of energy policies in the US will be examined. Secondly, the success of Obama's presented solutions will be investigated, both in terms of measurable outcome and perception. Most material on this topic has a one-sided approach to Obama's results, arguing either for or against. This paper, therefore, seeks to contribute by providing an assessment of Obama's intentions and the outcome, and in relation to the outcome investigate the argumentation for and against Obama's results.

In the following methodological section, the two analytical approaches will be outlined, followed by the paper's delimitation.

2.2. Speech analysis

The speech analysis in this paper serves to investigate the first question within this paper's problem formulation. The analysis serves to elucidate the problems that the US energy security poses and how sustainable solutions are presented to improve energy security. As Obama is currently on his second term, it is possible to go back and look at his problem representations during the election campaign of 2008. It is, of course, only because of Obama's subsequent victory, that analysing his approach to energy policies is relevant, seeing that execution of such policies could become a reality. The speech analysis seeks to illuminate the way the problems were represented, including not only the direct formulation, but also the underlying messages. Approaching the representation of the problem(s) thus provides a more elaborate picture of the situation. For analysing the speech, the WPR approach will be utilised, which will be elaborated in point 2.6. . The speech analysis is of an inductive and qualitative nature. The analysis relies on one major source, which creates a foundation for the analytical tool (WPR) and provides a thorough investigation of Obama's problem representation.

2.3. Result analysis

The second analysis seeks to investigate the second half of the problem formulation. To assess the outcome of the policies presented by Obama in his 2008 speech, the second analysis will illuminate two important aspects: the results that can be compared to Obama's three-step plan, and how Obama's results or lack thereof have been received. By looking into Obama's results this far, one can make a clear assessment to which extent his plan has worked. However, the result of Obama's energy policies lies not only in numbers but also the perception of the results. Thus, in order to assess the success of Obama's policies, it is important to look beyond the presented numbers in order to illuminate the reasoning for success or lack thereof. Furthermore, investigating opinionated material allows for an analysis of how certain policies have been carried out and which actions have contributed to the perception of Obama's actions. Different opinions on Obama's actions will therefore be analysed, to provide a two-sided analysis that investigates criticism and the arguments that support his actions. The second analysis is, as the first, of a qualitative and inductive nature. The analysed material provides a framework from which one can assess the research question, illuminating Obama's results and providing explanations for such.

In the information and discussions about Obama's energy results one can find an abundance of criticism and praise of Obama's approach. The material covering the topic tends to approach the question from one angle. This analysis, on the other hand, seeks to investigate two different angles of explanations for Obama's results, while being based on the measurable results from Obama's presented three-step plan. The opinionated material that has been chosen either represents arguments for or against Obama's approach and, to some extent, represents the opinion voiced by many sources alike. For example, Al Gore presents criticism that is echoed across the US and he is a public figure who has a certain influence and knowledge on the topic. The opinionated material that argues for Obama's approach has been chosen with the results of the three-step plan, presented by Obama, as a starting point. As the numbers create a clear reference of what has happened, material that acknowledge these results are, to some extent, relevant. Furthermore, the material has been chosen from sources gives the article a substantial exposure, such as large news distribution source.

2.4. Delimitation

When it comes to the US and energy there are many aspects that would be interesting to illuminate, but in order to not grasp too widely, this paper has chosen not to address certain topics. This has created limitations that have shaped the project.

Firstly, regarding energy security solutions, only sustainable energy has been addressed, which only covers a part of American energy security. This has

been chosen because of its sustainable aspect, meaning that other roads towards improving energy security are temporary and, to some extent, considered a transitive solution. An aspect that is not investigated but briefly mentioned is the extraction of shale gas by hydraulic fracturing (fracking), which has provided the US with large quantities of natural gas that has enhanced American energy independence and thus its energy security. Fracking has provided an excellent source of energy during the transition to sustainable energy. However, as with oil, these gas pockets will eventually be emptied. Furthermore, the environmental consequences of fracking for shale gas have not been completely determined. Should fracking prove to have dire consequences for the underground from which it is extracted, the cost of shale gas may be compared to that of oil, as both fuels are extracted or utilised in a way that causes harm to the environment.

Secondly, the analysis is one-sided, as it only includes the approach presented by Obama through his rhetoric. As Obama's approach became the one that counted after the 2008 election, other presidential candidates' approaches cannot be evaluated upon, as they were never realised. However, one could choose to include and analyse other approaches of investigation - e.g. McCain's reasoning for his proposed energy policies. This aspect has not been included, as it would encourage a comparative analysis of motives, rather than assess the progress and feasibility of Obama's approach.

Thirdly, another aspect has not been included is the former US Secretary of Energy, Stephen Chu who was in office until April 2013. The reason that Chu has not been included lies partly in the choice of focusing on Obama's problem representation prior to the election. As Chu was nominated by the Obama administration, he was to take care of Obama's proposed aspirations in terms of energy. One of the reasons not to include Chu is that the criticism against Obama's energy policies is directed at Obama himself and much less at Chu. Furthermore, US Secretaries are often replaced throughout presidential terms, which is also the case for Chu, whereas Obama, seeing as he won the 2012 election, will be president for two whole terms. The policies are presented by Obama in his 'New Energy for America' speech and, in most cases, he is the one that is criticised for the policies' outcome or lack of such. Should one wish to expand the analysis, Stephen Chu would be an important factor to include.

Finally, the elucidation of sustainable energy policies and the execution of such could have taken a more detailed approach, examining the specifics of these policies. However, seeing as the analysis takes a stand in motives of implementation and the subsequent results, the analysis would become rather technical instead of addressing the policies' outcome and perception.

2.5. What's the problem represented to be? (WPR)

In order to get a better understanding of which problems the US is facing when it comes to the question of energy, this paper will analyse a speech by Barack Obama. The speech analysis is intended to illuminate the current energy situation in the US as well as the recent past and furthermore investigate the Obama administration's proposed approach to handling the energy question. For this purpose, a model of analysis called 'What's the problem represented to be' (WPR), created by Carol Bacchi, will be utilised. The model consists of six questions that approach the presented problems from different angles, providing a solid investigation of the problem representation(s) (Bacchi, 2009). One might say that the analysis adds a new level to the problem representation as each question approaches the issue from a new angle.

In order for the reader to better understand the analysis that will be conducted later in this paper, the definition of a problematisation, as well as the six analytical questions will be outlined.

It should be noted that this WPR approach offers a method of analysis, but at the same time it is a theory on how problems are presented and understood in our society. The theoretical aspect lies within problematisation, which will be outlined firstly. The idea of problematisations is closely connected with social constructivism, due to its focus on a reality constructed by human interaction.

2.5.1. Problematisations:

Firstly, the concept of problematisations will be outlined.

Problematisations, unlike problems, not only deal with facts, but how these facts have been presented. There are many examples of different approaches to a problem, and the way that a certain medium presents a problem can be categorised as a problematisation (Bacchi, 2009: xii). Discursive tools play a big part in how a problem is framed towards a certain audience, but looking beyond discursive tools, the settings, time period etc. also play a part in how the problem is looked upon. An example of this could be women's suffrage, which has gone from being a topic to be voted on to allowing women the right to vote on topics on the same level as men. Approaching women's rights in 1905 would therefore be different than in 2005. Times change and so do opinions – problematisations are thus how problems are presented and perceived in context.

Carol Bacchi states that the WPR approach to policy analysis rests on the three following points:

1. We are governed by problematisations.
2. We need to study problematisations (through analysing the problem representation they contain), rather than 'problems'.

3. We need to problematise (interrogate) the problematisations on offer through scrutinising the premises and effects of the problem representations they contain. (Bacchi, 2009: xxi)

The three above points denote an acknowledging, investigative, and critical stance towards problematisations. It thereby provides a great framework for analysing the American situation at a time where a proposed change was needed and asked for.

In the following section the questions, of which the WPR approach is constituted, will be outlined one by one.

2.5.2. Question one

What's the 'problem' represented to be in a specific policy?

This first question is rather straightforward and as the title suggests, the question wants to determine the foundation on which the rest of the analysis will be conducted. Not only does this question seek to identify the problem(s) in a policy, but it also outlines how the problem(s) have been represented in a policy. Within this question there is, of course, also the assumption that there is a problem represented and Bacchi describes the goal of the first question as '[...] identify[ing] implied problem representations in specific policy proposals.' (Bacchi, 2009: 4).

2.5.3. Question two

What presuppositions and assumptions underlie this representation of the 'problem'?

Whereas the first question identified the problems(s), the second question seeks to investigate the inherent assumptions that exist in order for the question to be valid within a context. Within this second question lies a focus on framing and the discourse utilised in order to identify the contextual framing.

Bacchi describes the goal of question two as,

'[...] to identify and analyse the conceptual logics that underpin specific problem representations. The term 'conceptual logic' refers to the meanings that must be in place for a particular problem representation to cohere or make sense.' (Bacchi, 2009: 5)

Seeing as there are many stages in the world where a problem representation could be presented, there are also various backgrounds that shape the

approaches and framings of different problems. This second question strongly wants to investigate what shapes the problem representation. For example, the discussion of gun law might be very different depending on whether it is discussed in the US or a Scandinavian country.

In order to address these presuppositions and assumptions, question two incorporates three concepts that are meant to investigate the language utilised within the text. These three concepts are called binaries, key concepts, and categories and will be outlined briefly.

Essentially, binaries are opposites and when used in context they can create contrasts or denote the presence of the other. Good/evil can quickly frame different groups and emphasise that one side is more privileged than the other. Bacchi states that '[...] we need to watch where they [binaries] appear in policies and how they function to shape the understanding of the issue.' (Bacchi, 2009: 7)

Key concepts, in essence, are concepts that are highly visible throughout a policy, which, in the speech that is to be analysed later, could be energy and environment. Bacchi states, 'Many concepts [...] appear to have clear-cut and obvious meanings, until we probe more deeply' (Bacchi, 2009: 8). This means that we should not just accept the presentation of concepts, but investigate the meanings behind them.

Categories is a way different segments are segregated through language and Bacchi states, 'Categories are concepts that play a central role in how governing takes place.' (Bacchi, 2009: 9). Examples of categories could be: elderly, poor, families, and Westerners. Bacchi furthermore states, '[...] as with binaries and key concepts, [the task] is not to accept these categories as given but see how they function to give particular meanings to problems representations.' (Bacchi, 2009: 9).

2.5.4. Question three

How has this representation of the 'problem' come about?

The third question provides a more historical perspective to the analysis as it wishes to investigate what has led to the representation of the problem(s) in this particular way.

Regarding the purpose of question three, Bacchi states:

'The purpose of Question 3 of a WPR approach is to highlight the conditions that allow a particular problem representation to take shape and allow dominance.' (Bacchi, 2009: 11).

This third question denotes a certain level of social constructivism, which implies that human interaction has shaped our reality (Goldman, 2001: 3). Bacchi states that there are two main objectives of the third question:

‘One is to reflect on the specific developments and decisions (the non-discursive practices) that contribute to the formation of identified problem representations. The second is to recognise that competing problem representations exist both over time and across space, and hence that things could have developed quite differently.’ (Bacchi, 2009: 10)

To put the question into context, Bacchi also compares question 3 to conducting a genealogy of one’s family:

‘We look back in time to trace ‘roots’, the ‘descent’ of our family. What we often find are surprises. There is not a clear path of descent with predictable outcomes; rather there are twists and turns, even the occasional skeleton in the closet.’ (Bacchi, 2009: 10)

2.5.5. Question four

What is left unproblematic in this problem representation? Where are the silences? Can the ‘problem’ be thought of differently?

This question provides an important aspect to the analysis, namely what is not mentioned - silences - and what could be thought of differently. It allows the analyser to look away from the representations, learn what is not mentioned (important or not), and scrutinise the way the policy presents the problem.

The question allows for contemplation of how the problem has been framed by however presents it and Bacchi states that the fourth question is meant to: ‘[...] raise for reflection and consideration [of] issues and perspectives silenced in identified problem representations.’ (Bacchi, 2009: 13)

2.5.6. Question five

What effects are produced by this representation of the ‘problem’?

The fifth question focuses on the impact that the representation has caused. Bacchi describes the goal of Question 5 as: ‘[...] identify[ing] the effects of specific problem representations so that they can be critically assessed.’ (Bacchi, 2009: 15). In order to execute the aforementioned assessment, Question 5 investigates three different effects: discursive effects, subjectification, and lived effects (Bacchi, 2009: 15).

Discursive effects assess how discourse has framed the issue and whether the framing has created boundaries that limits one from thinking differently about a certain issue (Bacchi, 2009:15).

Subjectification essentially categorises things or groups. This creates

categories that are framed by the problematisation and Bacchi states: '[...] we become subjects of a particular kind partly through the ways in which policies set up social relationships and our place (position) within them.' (Bacchi, 2009: 16).

Lived effects are the more real and tangible aspect of question five. Lived effects addresses the impacts that problem representations may have on people's lives. Lived effects can e.g. be caused by subjectification or framing of a group of people, which eventually might have a measurable impact on this group (Bacchi, 2009: 17).

2.5.7. Question six

How/where has this representation of the 'problem' been produced, disseminated, and defended? How could it be questioned, disrupted, and replaced?

The sixth and last question addresses the 'where' and 'what' regarding problem representations in policy. Depending on the way that a policy is presented and to whom it is presented, the outcome of the problem representation might differ greatly. Much like the old quote 'if a tree falls in a forest and no one is around to hear it, does it make a sound?' (Uncredited author), a problem representation does not matter if no one hears it. The channels through which the representation is distributed is therefore of high importance. Bacchi sums the questions importance up by stating: 'how is the relationship institutionalized between the discourse, speakers and its destined audience.' and 'what individuals and groups or classes have access to a particular kind of discourse?' (Bacchi, 2009: 19).

3. Theoretical and Conceptual Framework

In this following section, the theoretical and conceptual framework of this study will be outlined.

3.1. Realism

Realism denotes a theory that describes how states strive for self-maximisation and self-sustenance and will use all means to gain such. Realism presents a rather dark side of human nature that emphasises egotism and self-interest to the point where a state might void moral obligations to reach a certain goal (Korab-Karpowicz, 2010: 1.1.1).

Realism is appropriate in regards to the problem formulation of this assignment, seeing as energy security is vital for the American future and therefore, any improvement that is made is for the purpose of self-sustenance. Furthermore, it is important in relations to US energy policies of the past. Notably, it can be connected with how the US government rejected the Kyoto protocol in 2001 as the past administration, for example, did not find it profitable for the US economy (Bang, Froyen, Hovi, & Menz, 2007: 1283).

The US energy policies have a lot of different aspects to it, but in many regards, one may stipulate that realism plays a role. Environmentally, realism seems less suitable - however, if environmental changes continue to happen due to pollution, it might threaten the US in terms of catastrophes and changed geographical circumstances. Sustainable energy is obviously also sustainable, enabling future sustenance for the US, whereas other sources of energy that are non-renewable will eventually fail, thus obstructing development.

In this paper, realism seeks to explain the motives behind the choices that have been made in regards to sustainable energy (see section 3.3.). The second question of the problem formulation, however, may prove to answer the first question, depending on the outcome. If Obama's policies have not been successful or executed properly, it might have been sustainable energy that has failed and not the realism aspect that describes a motive of self-maximisation and sustenance.

3.2. Energy Security

Energy security is the main focus of this study because of the international dimensions that surround energy security (import, export, dependence). The International Energy Agency (IEA) describes energy security as:

‘[...] the uninterrupted availability of energy sources at an affordable price.’
(International Energy Agency, 2013)

The IEA, of which the US and 27 other countries are members, is thus trying to make sure that energy can flow uninterruptedly – its focus being mostly on oil. The world is highly dependent on oil, and seeing as the majority of oil in the world stems from the Middle East (Iraq, Iran, Kuwait, Saudi Arabia and the UAE all being in top ten), the world oil consumption and prices can be highly affected by any local or regional uncertainties and instabilities (Central Intelligence Agency, 2013).

According to CIA, the US is also, by far, the number one oil consuming nation in the world, consuming approximately 19,150,000 barrels a day - the European Union being in second place with 13,680,000 barrels (Central Intelligence Agency, 2013). This would suggest that the US society is heavily reliant on foreign resources as domestic production is only estimated to 9,688,00 barrels a day (Central Intelligence Agency, 2013).

Essentially, this serves to demonstrate that energy security is extremely important in the US, as the nation is far from able to be self-sufficient with oil. Not only must there be supply, but the prices may affect the US economy when such large amounts of oil are imported. Energy security introduces an international aspect to this paper, as it takes a wider geographical view into consideration, as the US is not independent in terms of energy sources and thus must rely on foreign oil providers.

Because the US is not energy independent, one solution is to decrease the country's dependence on oil by pursuing sustainable energy.

3.3. Sustainable energy

The second important concept that this paper wishes to address is sustainable energy. Sustainable energy, in this assignment, is connected to energy security, in terms of how the need for energy security has affected domestic development of sustainable energy.

As argued in a report by the American Council for an Energy-Efficient Economy (ACEEE), sustainable energy is constituted by two pillars, namely *green energy* and *energy efficiency*. Green energy encompasses technologies that create energy in a way that is little or non-damaging to the environment. Energy efficiency relates to technologies that can somehow diminish the need for energy, such as more miles per gallon or more lumens per watt, so that rising technologies may be able to substitute e.g. fossil fuels (Eckhart, Eldridge, Frederick, & Prindle, 2007: iii).

The report from ACEEE furthermore states:

'If energy use grows too fast, renewable energy development will chase a receding target. Likewise, unless clean energy supplies come online rapidly, slowing demand growth will only begin to reduce total emissions; reducing the carbon content of energy sources is also needed.'

Any serious vision of a sustainable energy economy thus requires major commitments to both efficiency and renewables.' (Eckhart, Eldridge, Frederick, & Prindle, 2007: iii)

This above quote denotes how the two pillars must each play an active role in the activation and future feasibility of sustainable energy.

It should also be noted that while Obama does not utilise the exact term 'sustainable energy' in the analysed speech, he uses both of the terms that constitute sustainable energy, namely energy efficiency and green energy. Both energy efficiency and renewable energy are to be found within the solutions that Obama presents in his three-step-plan that is mentioned further on in section 4.2. and 5.1..

For clarification, Obama's steps towards sustainable energy are not only framed by the implementation of green energies and enforcement of energy efficiency, but also by the mentioning of climate policies. As sustainable energy consists of more environmentally safe energy solutions, climate policy and sustainable energy are closely connected and present two sides of the same coin. More sustainable energy leads to less pollution, while at the same time improving the energy security of the US by creating a safe and lasting source of domestic energy.

3.4. Barack Obama and the US

The American President, Barack Obama, is an important point of focus within this paper. As the first black American president, not only does he symbolise a change of appearance, but a change in policy emphasised by the much criticised republican administration before him. Obama won the 2008 election, hence Obama's presentation of his policies provides a basis for analysis and a follow-up result assessment.

Furthermore, as the US is generally perceived to be a hegemon, American actions are closely followed by its peers worldwide who, to some extent, are affected by American decisions. American culture is ubiquitous and any changes within the country could result in ripple effects, leading to other countries assimilating to certain trends. Furthermore, the media coverage of the US is quite extensive, providing a plethora of material concerning political matters etc.

4. What's the problem represented to be?

In the following chapter, the speech analysis will be conducted. Firstly, the speech will be introduced, whereafter the analysis will follow the questions as described in 2.6..

4.1. Introduction of speech

The speech in question is called 'New Energy for America' and was given by Barack Obama on August 4th 2008. This was approximately three months before Obama won the presidential election and became the 44th president of the US. The speech concerns US energy and the policies that Barack Obama stands/stood for and, should he win the election, would strive to execute. The speech was held in Lansing, Michigan – a city approximately 145 km from Detroit, which is famously known for automobile production (Counts, Ronson, & Spencer, 1999). The speech outlines the energy problems that the US is facing, and because it is a speech before an election, it also provides a proposed solution to those problems. Throughout the speech the reader will notice that there is emphasis on the previous administration's handling as well as the opponent's (John McCain) proposed solutions. In general, it is noticeable that Obama is reaching out towards sustainable energy, but he also focuses on short-term solutions, such as increased drilling on US territory as well as off-shore, to increase US energy production and diminish the dependence on Middle Eastern energy sources. Furthermore, Obama also addresses the specific crowd to which he is speaking – people in the state Michigan. Many of the proposed solutions are thus aimed at the live audience. The speech can be found under appendices, where it has been formatted into a document for reference purposes and is approximately 10 pages long (23.586 characters).

4.2. Question one

The first question will identify the problems that are presented in the speech, as well as how these problems are *represented*. For delimitative purposes, the problem representations that directly or indirectly concern energy policy will mainly be addressed. Within the first question, there will also be a focus on the solutions proposed by Obama in order to illuminate the proposed plan and assess its progress further in the analysis.

Obama starts the speech dramatically, by mentioning how the US is conducting two different wars and how terrorists are plotting attacks against the US. He then, more relevantly, proceeds to mentioning how the changing climate is posing a threat, while the American economy is troubled. There is an additional emphasis on the lack of action from the US leadership. As the third paragraph progresses, Obama sums up how economy, security, and future of

Earth are important topics and how foreign oil addiction is a central issue that is relevant in relations to the three aforementioned points. Oil addiction is, essentially, the first topic-relevant problem representation, which Obama describes as: '[...] one of the most dangerous and urgent threats this nation has ever faced [...]' (Obama, 2008: 1). Obama emphasises how the oil prices are affecting the average US inhabitant's income in a country that, according to Obama, is in need of more jobs. He continues to describe how oil creates instability in the Middle East and the utilisation of oil creates unnatural environmental behaviour that may affect all countries.

Obama divides the problem of oil addiction into two categories (not to be mistaken with the terms 'categories' utilised in the WPR analysis); firstly, the environmental aspects and how mankind is polluting the Earth and secondly, the problems caused by oil dependence and addiction. The whole environmental aspect seems important to Obama, but there is a certain focus inwards that relates oil addiction to the US and how the proposed plans can strengthen the US from within. Such an inward focus seems quite natural, seeing as he needed to convince the US inhabitants that they should vote for him.

The main problem, oil addiction, is described as a problem that has been relevant for a rather long period of time. Obama states that: 'We've heard talk about curbing the use of fossil fuels in State of the Union Addresses since the oil embargo in 1973' (Obama, 2008: 1), denoting the historical aspect of this problem, which has been an issue since 1973 where energy security first proved to be vital. Obama continues: 'Back then, we imported about a third of our oil. Now we import more than half. Back then, global warming was the theory of a few scientists. Now it is a fact that is melting our glaciers and setting off dangerous weather patterns as we speak.' (Obama, 2008: 1). By adding this historical dimension, Obama stresses how oil addiction has been a problem for long, yet oil consumption is still increasing. Additionally, the proof of global warming was weak, and now it is a fact – yet oil is still being consumed at an even higher pace. Obama's problem representation frames the US as puppeteers of their own demise, by not acting on the issue in the past.

In regard to his opponent, Obama makes it clear that his plans are not shared with Senator John McCain and states:

'Senator McCain would not take the steps or achieve the goals I outlined today. His plan invests very little in renewable sources of energy and he's opposed helping the auto industry re-tool. Like George Bush and Dick Cheney before him, he sees more drilling as the answer to all of our energy problems, and like them, he's found a receptive audience in the very same oil companies that have blocked our progress for so long (Obama, 2008: 7)'

Clearly, Obama frames himself and his solution as a sharp contrast to his opponent and his opponent's solutions. One could perceive this as the candidates having very different views of the problem, because McCain is described to see the same problem, yet only in a limited version, compared to Obama. If McCain truly stands for what Obama claims, his problem representation is different.

It should also be mentioned that within his framing of the problem, Obama has a very clear three-step-plan that addresses oil addiction, which he wishes to execute, should he be elected. I list Obama's proposed plan under question one, because by explaining the solutions to the problems, Obama implicitly frames the problems. The key points of the three steps are as following:

- 'First, we will help states like Michigan build the fuel-efficient cars we need, and we will get one million 150 mile-per-gallon plug-in hybrids on our roads within six years.'
- 'The second step I'll take is to require that 10% of our energy comes from renewable sources by the end of my first term -- more than double what we have now.'
- 'Finally, the third step I will take is to call on businesses, government, and the American people to meet the goal of reducing our demand for electricity 15% by the end of the next decade.' (Obama, 2008: 4-6)

We can deduce from the above that the US cars were not energy efficient enough, thus leading to Obama wanting to improve the car industry. Secondly, we can deduce that the US receives less than 5% of their energy from renewable sources and that this is not enough, according to Obama. Lastly, the overall consumption of energy is high - decreasing the consumption, will lower demand and help realise the solutions for renewable energy.

To summarise, the overall problem, as stated by Obama, is 'addiction' to oil, which endangers the American energy security. The oil addiction brings a lot of additional problems in its wake, such as pollution, dependence on foreign oil suppliers, and the challenge to make a substantial change to sustainable energy.

Obama clearly frames it as a problem that has been nurtured within the US, because of Washington's inability or unwillingness to act. Furthermore, Obama stresses how the transition to sustainable energy has the ability to strengthen the US from within. Essentially, by strengthening energy security measures, the US becomes increasingly independent while at the same time contributing to the country's economy. It is, of course, also important to notice the environmental benefits that a sustainable energy transition would contribute, and as long as both cleaner technology and improved economy are positive improvements, it

makes a lot of sense to utilise them as motives within the representation of the problem.

4.3. Question two

The second question seeks to identify which presuppositions and assumptions underlie the problem identified in Question one. The conceptual logics that create a foundation for the problem representation will therefore be examined along with rhetorical concepts utilised.

The above problem representation frames an issue that provides future challenges and opportunities. Obama puts emphasis on how it is the America's own fault, but at the same time, he brands certain oil nations by stating: 'Will we allow ourselves to be held hostage to the whims of tyrants and dictators who control the world's oil wells?' (Obama, 2008: 1). At the same time, Obama emphasises the American spirit and ego by mentioning the American greatness and superiority regarding clean energy sector jobs: 'Or will we create them here, in the greatest country on Earth, with the most talented, productive workers in the world?' (Obama, 2008: 1). While this nation pride might be utilised to gain votes, it is a quite bold statement, putting every single country in the world below the US. As to how Obama measures the nation's greatness is not stated. The US can be categorised as a super power and still holds the highest GDP in the world, but there are many aspects where the US are not leaders. As mentioned by Obama in the beginning of his speech, many countries have surpassed the US when it comes to jobs in the clean energy sector, and one could probably find many more examples, such as healthcare and social security. Thus, Obama is making a clear statement, that the US is still greater and the workers are still superior, it is just a matter of utilising their potential. It would encourage placing the blame within the country on the previous administration, yet it implies that the US citizens are not to blame and that the US workforce has better potential than other countries' workforces. This is further illustrated when Obama says:

'Our economy is in turmoil and our families are struggling with rising costs and falling incomes; with lost jobs and lost homes and lost faith in the American Dream. And for too long, our leaders in Washington have been unwilling or unable to do anything about it.' (Obama, 2008: 1)

As Obama reaches back in time to place the blame of the current oil addiction, he also utilises history in order to enforce his own agenda. As the transition to a new energy system is a substantial change, Obama stresses that it is possible and utilises the example of two well-regarded presidents to emphasise it:

'And when President Roosevelt's advisors informed him that his goals for wartime production were impossible to meet, he waved them off and

said "believe me, the production people can do it if they really try." And they did.' (Obama, 2008: 8)

'Think about when the scientists and engineers told John F. Kennedy that they had no idea how to put a man on the moon, he told them they would find a way. And we found one.' (Obama, 2008: 8)

The above quotes serve to stress that Obama tries to induce a sense of the American spirit and legacy – that the way he wishes to address the oil addiction is hard, but when other leaders (i.e. Roosevelt and Kennedy) were faced with similar great challenges, they pulled through.

Throughout the speech, several binaries can be identified, which help frame the differences and create contrasts. The binaries are not particularly strong in this particular speech. This could be because Obama proposes solutions to problems that he presents, but the issue at hand is not an enemy. It is a topic with various solutions, as opposed to wanting to hunt down Bin Laden and the other people responsible for the 9/11 attacks, which could result in binaries such as good/evil. The binaries in this particular speech, in essence, concern three different presentations; Oil vs. sustainable energy, the US vs. other nations in terms of green energy and oil, and Obama vs. John McCain and the Administration at that time. One thing that is common for the binaries that are found within this speech is that they are very descriptive and are sentences that can be compared, rather than simple black/white words.

A good example of a binary is on page one where Obama describes some of the people/countries that control a lot of oil as: '[...] tyrant and dictators who control the world's oil wells [...]' (Obama, 2008: 1) and one sentence later describes the US as: '[...] the greatest country on Earth, with the most talented, productive workers in the world' (Obama, 2008: 1). The first of those two quotes also presents an energy security problem, as 'tyrants and dictators' (who can be deemed unreliable) control a major source of energy, which the US is addicted to. Another example, which is very brief, compared to the other binaries, is how Obama describes global warming in the 1970s vs. 2008: 'Back then global warming was the theory of a few scientists. Now, it is a fact.' [emphasis added] (Obama, 2008: 1). One might argue that the opposite of fact is fiction, but nonetheless, Obama uses these two words to create a contrast that emphasises scientific advances and an escalation of the problem's severity.

Another strong contrast Obama makes is towards McCain and the previous government. After presenting the aforementioned goals, Obama describes his opponent: 'Like George Bush and Dick Cheney before him [read: McCain], he sees more drilling as the answer to all of our energy problems. ' (Obama, 2008: 7)

There are several key concepts that Obama utilises which help create a flow of argumentation throughout the speech. As the theme of the speech is energy, the most utilised key concepts are closely related to energy aspects. Examples of such are: Oil, drilling, foreign oil, challenge(s), energy independence, nation, renewable energy, clean, technology, economy, jobs, industry, and goal.

The abovementioned concepts are to be found several places in the speech and are the most dominant concepts. Just by giving them a brief look it is noticeable how they shape a clear picture of the direction of the speech. They describe and frame the core problem; oil addiction and its crippling of energy security. Furthermore, the concepts highlight the problems the addictions cause in its wake while presenting the solutions (increased energy independence, technology). Finally, the concepts outline the possible outcome from the proposed solutions and which sections of the US these might improve. Several of the concepts hold both positive and negative connotations, such as Obama describing his plans for drilling and his opponent's plans for drilling. The same goes for economy, which outlines the bad economy, but also the future prospects that Obama describe.

Lastly, Obama utilises several categories throughout the speech. Some of the key words like 'nation' or 'industry', also serve as categories, wherein Obama frames his message. His utilisation of nation, for example, includes all of the US, implying that he is not just speaking to the inhabitants of Lansing, Michigan. However, when he mentions industry, it frames many of the inhabitants in Michigan, who are dependent on the car industry and the industrial changes that Obama wants to implement.

Notably, Obama uses categories to avoid resemblance with Washington and the decision they have made in the past. Obama is describing McCain's time in Washington, the inability of the previous government, and lastly says: 'I ask you to join **me**, in November and in the years to come, to ensure that **we** will not only control **our own** energy, but once again control **our own** destiny, and forge a new and better future for the country that **we** love [emphasis added]' (Obama, 2008: 8). He then creates a notion of me/us and them, which creates a contrast. McCain is framed as no better than the administration at that time, whereas Obama wants progress unlike what has been made by the government before.

4.4. Question three

The third question will investigate the foundation of the problem representation. Events that have impacted the situation in which the policy is presented are elucidated. In order not grasp too widely, this question will predominantly deal with some of the historical aspects that have direct relevance to the situation in which Obama delivers the speech. Thus, in order to shed light on past events that

have lead to the problem representations presented by Obama, this question addresses a few historical aspects, some of which are mentioned in the speech.

4.4.1. OPEC Oil embargo 1973

As mentioned by Obama in the speech, the US has 'Heard talk about curbing the fossil fuels in state of the Union addresses since the oil embargo of 1973' (Obama, 2008, s. 1). The oil embargo proved the first dire challenge in terms of energy security as the oil became increasingly scarce and highly priced. The US had become increasingly dependent on foreign oil as its oil consumption had increased (U.S. Department of State, 2013). This particular historical event is important because it demonstrated how a powerful nation, such as the US, could become vulnerable in a short time due to a lack of resources. It proved that energy independence, and thus energy security, is important to avoid instabilities.

When the oil shortage, brought about by the above-mentioned embargo, became a harsh reality for the US, President Nixon took a step towards more sustainable policies. It should be noted that the technologies available at the time were nowhere near what can be accomplished today, thus the approach to sustainability was different. Nixon, however, clearly provides a link between oil addiction and energy security with the US. In a speech given November 7, 1973, Nixon mentions several ways to improve one of the pillars of sustainable energy; energy efficiency. Nixon asks the American people to lower their thermostats and asks commuters to car pool. Nixon furthermore explains a series of initiatives to reduce government energy consumption and ensures that new methods for utilising and producing energy are being funded and accelerated (Nixon, 1973). We can thereby see a notion of promoting sustainable energy when energy security is threatened.

Additionally, when President Jimmy Carter took office in 1977 he presented a plan that focused highly on energy efficiency and strongly promoted the development of sustainable energy sources. Carter frames sustainable energy as 'America's hope for long-term economic growth' and introduced a program to install solar energy on government building (Carter, 1977: H). However, when Ronald Reagan took office 1981, he lifted many of the government restrictions on energy (Reagan, 1981). As can be seen from in figure 1, in point 4.4.2 below, the consumption was falling until 1983, where it started to grow slowly until 2007.

4.4.2. US oil consumption

Another important aspect to investigate is the US oil consumption. As Obama emphasises the need for reducing oil addiction it is interesting to see the numbers that represent the growing addiction.

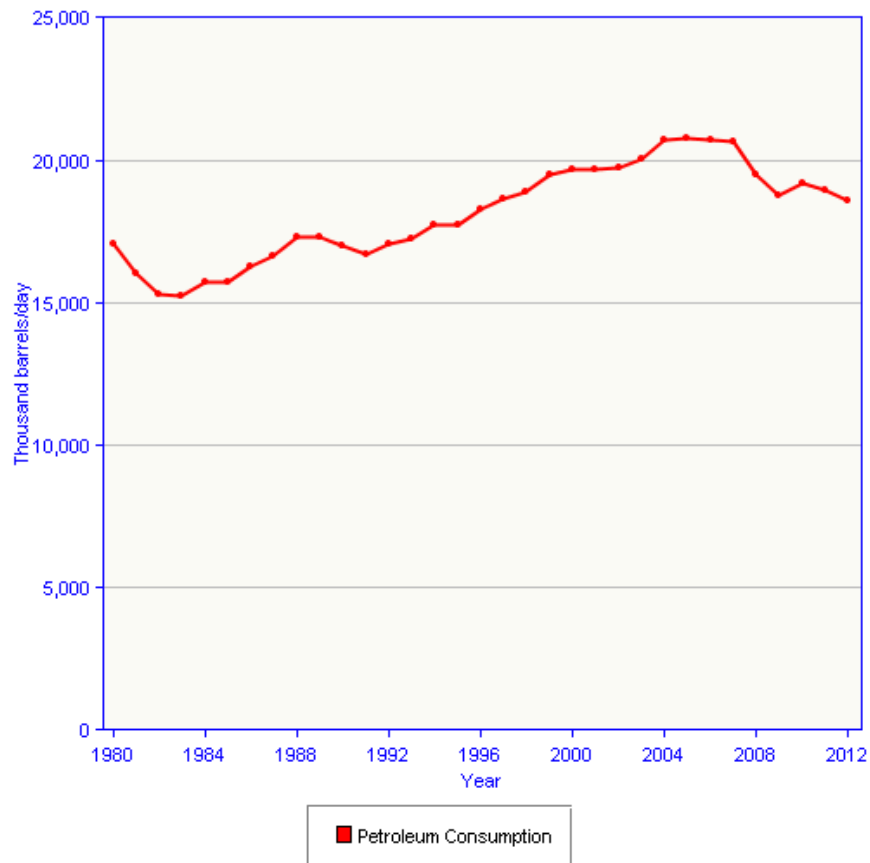


Fig. 1 (International Energy Agency, 2013)

As can be seen in figure 1 above, the oil consumption dropped in the early 80s and rose steadily until around 2007 – from around 15.000.000 barrels a day to around 21.000.000 barrels a day. In all this time, the US has become increasingly dependent on foreign oil as the US oil reserves are low. Therefore, despite the fact that American energy security is compromised by relying heavily on foreign oil providers the utilisation continued to increase.

4.4.3. General Motors and the car industry

Detroit has been in sharp decline over the last years as General Motors (GM) has downsized and been on the verge of bankruptcy, which has left many people in and around Detroit without jobs, leading to an economic downturn in the area (Schifferes, 2007). In a BBC article by Steve Schifferes, he argues that globalisation and import of cars has caused the demise of GM. However, GM's loss of customers was due to international alternatives, that provided cars with better mileage than the American SUVs (Sport Utility Vehicle) (Schifferes, 2007). Thus, to some extent GM failed to meet the consumers' expectations and the Government came to the rescue with funding in 2009 (barackobama.com, 2013).

Keeping GM afloat is therefore important for the government. As GM provides a lot of jobs for American families, Obama encourages their continued progress. This also explains why Obama addresses the production of

technologically updated cars, rather than having an increased import of e.g. Asian cars (Obama, 2008: 4).

4.4.4. The administration before Obama

Obama states that Washington has not been willing or able to do anything about the energy situation. As mentioned, Obama categorises McCain along with George W. Bush as wanting to drill for more oil rather than seek new technological solutions as Obama (Obama, 2008: 7). To illuminate Obama's framing of the previous government's failure one might take a look at the conduct before Obama entered office.

In a report released by Gallup, George W. Bush is, as of 2009, classified among the worst presidents to have taken office (Saad, 2009). Being associated with the previous administration could thus be stipulated to be a negative association. It furthermore indicates that Obama wants to go in a different direction than the Bush Administration, which, considering Bush's reputation, could be considered a beneficial approach.

Another important international event during the Bush administration was the rejection of the Kyoto Protocol in 2001. Bang, Froyn, Hovi, and Menz present the two main objections causing the American repudiation of the Kyoto Protocol in March 2001: (1) The Kyoto Protocol does not include countries such as China and India. (2) The Kyoto protocol would hurt the US economy (Bang, Froyn, Hovi, & Menz, 2007: 2). The second reason could be argued to be closely associated with a realism point of view. However, it shows an America going in a different direction than Obama. Rather than embracing the transition of sustainable energy and reduction of greenhouse gasses, the Bush Government deemed the restriction hurtful towards the American economy. It shows two sides of realism, both aimed at the country's sustenance, but with two widely different approaches.

4.4.5. Obama before his presidency

Before running for president, Obama served as a US senator in Washington D.C. Obama mentions that within his speech. He notably states:

'When I arrived in Washington, I reached across the aisle to come up with a plan to raise the mileage standards in our cars for the first time in thirty year – a plan that won support from Democrats and Republicans who had never supported raising fuel standard before. I also led the bipartisan effort to invest in the technology necessary to build plug-in hybrid cars.' (Obama, 2008: 5).

This example of Obama's own past is highly relevant for his presentation. Not only does he make sure to emphasise that he has experience and is willing to

cooperate with the other party for the greater good, he shows consistency. It indicates that Obama was dedicated to change prior to his election campaign, thus giving a certainty that he is committed to his cause and is not just trying to appease the general population. This can be compared to the latest election in 2012 where presidential candidate Mitt Romney was heavily accused of changing his position on several topics before and during the campaign².

This aspect of Obama's past is important in regards to his problem representations, as he is not a novice on the subject, and at the same time a strong tool utilised within the speech to reinforce himself and his belief.

4.5. Question four

The fourth question will investigate some aspect of the problems that Obama does not mention in the speech and whether the problems could be thought of differently.

Firstly, it is noteworthy that Obama focuses on technical solutions to solve the energy crisis and does not focus on the cultural aspects of energy consumption. One may stipulate that the American culture may have impacted the oil addiction, and that this tendency has to be changed from within. The reasons for framing the solution to be within technology may have been intended to not blame the American population, from which Obama needs votes. Furthermore, the previous administrations have all been selected by 'the people' as the US is a democracy. This would indicate that a significant amount of the population have backed up the previous presidents in their endeavours and that American citizens thus, to some extent, share the responsibility of the situation the US is in. Obama's solutions do not seek to change the minds of the American citizens, but offers technological advances that can solve the problem at hand. Thus, if one were to think about the problem differently, could it be that the responsibility lies with the citizens just as much as the government? Maybe schooling in energy utilisation and campaigns to address oil consumption should be enforced to re-educate the public. As mentioned, it is clear why such a point would be left out, yet it also frames the way the problem is represented; in the context of an election campaign and to encourage change without making it a blame-game.

Secondly, Obama puts very little focus on the negative sides of the implementation of the solutions. He does emphasise that it is a considerable challenge and asks the audience to: '[...] look to the future with confidence that we too can meet the great test of our time.' (Obama, 2008: 8). Obama also describes McCain's favourable approach to oil companies - an approach Obama does not share (Obama, 2008: 8). Thus, the oil companies would gain more from a

² For more information, see the list of Mitt Romneys 'flip-flops' compiled by Samuel Warde: <http://samuel-warde.com/2012/06/list-of-mitt-romney-flip-flops/>

McCain victory. However, there is no mentioning of how the transition to sustainable energy might affect the citizens of the US. If production of green energy should provide new jobs, the people who are going to work such jobs must be educated accordingly. Maybe these jobs are unattainable for people who cannot afford to educate themselves anymore or individuals that are too old and close to retiring. Furthermore, one may argue that there are Americans who cannot afford to purchase a plug-in hybrid car and therefore are still forced to rely on an older car that has lower mileage. Some of these citizens might prosper more from how it used to be and could be in the danger zone of getting lost in transition. This might potentially create a vicious circle where a person cannot seize new opportunities or improve his/her situation, thus leading to no income.

Another subject that is scarcely mentioned in the speech is the utilisation of energy sources that pollute. On page six, Obama briefly mentions how he wants to increase clean energy with coal plants, but does not address the addiction to coal which, as Obama states, is 'America's most abundant energy source.' (Obama, 2008: 6). As can be seen from the EIA statistics concerning US energy generation, coal in the US has been responsible for up to around 50 percent of the total megawatt-hours (U.S. Energy Information Administration, 2013). Of course, coal does not fuel means of transportation, other than providing energy for vehicles that rely on such, but it plays a great role in the American energy security and is a major source of pollution.

The reasons for not mentioning coal, one may stipulate, could be that it is domestic and changes within that industry will not generate as many jobs as oil independence would. Hence, substituting oil import with domestic solutions would not only reverse the outflow of money, but also create a platform for job creation.

4.6. Question five

As the fifth question examines the effects of the speech, it is not addressed within the WPR analysis because the outcome is investigated in the second analysis. One may, however, argue that as Obama wished to win the 2008 election, one of his motives for giving the speech were, to some extent, fulfilled.

4.7. Question six

The sixth and last question concerns the circumstances under which the speech was presented. This includes the speech giver, location, audience (live, internet etc.), and discusses whether the parameters could have affected the impact of the speech.

Firstly, one may look at the sender of the speech, which is Barack Obama. There are several aspects that may explain why he is important when it comes to the delivered message. First of all, he is a politician, and at the time a senator, meaning that he has experience from his job, adding credibility to the message he is conveying. Obama was elected to the Illinois state senate in 1996 and to the US senate in 2004, thus, presumably, providing him a background that enables him to understand the matters at hand. Seeing as Obama at that time was a presidential candidate, he is obviously striving to win, which means that he is prone to promote what he can do best and highlight other factions' flaws. By that I want to illustrate that he might not have shared the full story and has a reason for enforcing some of the 'silences' as discussed in question four (4.5.). However, Obama is in the public and reaches a large audience with his speeches, and therefore his facts must be valid if he does not want to be scrutinised by media and opposing factions.

What is also important for Obama's message is his persona. Barack Obama is the first black president in the US, and his appearance is much different from his opponent at the time, John McCain. By signalling a difference he may also indicate that he is more open to change than a significantly older republican candidate. As discussed in question three (4.4.), the previous republican government was strongly criticised, which might have improved Obama and the democrats' chance of winning.

One of the more interesting aspects of the speech is the location on which it is given. As mentioned in the introduction of the speech, Obama gives the speech in Lansing, Michigan, which is a short drive from Detroit, in which city America's biggest car manufacturer, General Motors (GM)³, is situated.

Giving a speech that promises change to a region that is in dire need of such, as discussed in question three, would potentially provide an audience that is interested in change. Obama's plans, as presented previously, encompassed changes in the Michigan auto industry and encouraged new production of green energy that would help provide the society with jobs and hence sustainability. Had Obama given the speech in another state with a better economy, the vote-outcome in Michigan might have been different and the speech would have had a different impact. By going to a part of the US where Obama's solutions were direly needed, Obama might have sent a stronger message and emphasised his quest for change.

Lastly, there is the audience of the speech and the channels through which it was distributed. The coverage of the presidential elections today is quite extensive and can be followed around the world. Seeing as Obama gained much of the world's attention prior to his election, his audience is thus not limited to the US.

³ For more information, see: <http://www.gm.com>

One may presume that if an American wishes to watch his speech, it would be easy to get access to video coverage or to find transcripts of it elsewhere.

Essentially, Obama was certain to receive a lot of media coverage and thus the outcome of the speech could have been quite different, if the situation had been altered. If the media coverage of Obama was not so extensive and if people were less interested in Obama and what he represents, his message could have been significantly restrained.

4.8. Summary

Obama states that oil addiction is the main problem. The problem manifests itself in energy security problems within the US through high oil prices and a transition curve to more sustainable energies. The problem is presented to be solved by development within the country to restructure the country's energy framework, technology, and energy utilisation in order to attribute to sustainable energy and thus strengthen US energy security. Subsequently, the aspirations to develop cleaner energy result in a reinforcement of the US from within in terms of job development and economy. Renewable energy solutions have been proposed to improve the US energy security since oil proved to be a weak spot for the US sustainability, seeing as it highly depends on oil import to cover its consumption.

Obama, furthermore, frames himself and his solution as a contrast to the previous government and the republican candidate. The notion of change and history is emphasised, as Obama presents different solutions to remedy the country's oil addiction and at the same time improve certain issues within the US. Also, as Obama presents his solution to be of paramount importance for America's future, one may say that realism plays a big part in the problem representation. Whether or not the presented sustainable energy solutions will be successful, they are presented with the intention of improving the chances of survival for the US as both energy security and economic aspects of the policies will strengthen the country.

5. To what extent have Obama's sustainable energy policies been successful?

In the following analysis, I will investigate the results of Obama's energy policies by taking a stand in the proposed plan that has been outlined and analysed in the first analysis. Firstly, I will look at the three-step-plan as it provides a framework of solutions to be evaluated upon. Secondly, materiel concerning Obama's progress will be analysed to elucidate the American perception of the results of Obama's solutions.

To begin with, a reminder of the three-step plan that Obama proposed in his speech:

- 'First, we will help states like Michigan build the fuel-efficient cars we need, and we will get one million 150 mile-per-gallon plug-in hybrids on our roads within six years.'
- 'The second step I'll take is to require that 10% of our energy comes from renewable sources by the end of my first term -- more than double what we have now.'
- 'Finally, the third step I will take is to call on businesses, government, and the American people to meet the goal of reducing our demand for electricity 15% by the end of the next decade.' (Obama, 2008, s. 4-6)

5.1. Three-step plan assessment

Now, to assess whether and to which extent Obama has completed the above points, one can look at the facts and compare those to what Obama proposed. As mentioned in question three, one can already conclude that the government has intervened and supported the auto industry financially. This resulted in GM exiting bankruptcy in July 2009 as reported by Reuters (Krolicki & Bailey, 2009). However, if we look at the more specific target that Obama set with one million 150 mile-per-gallon plug-in hybrids, which roughly translates to 63 kilometres per litre, the numbers are not in Obama's favour. Firstly, the Electric Drive Association (EDTA) shows that from 2012 (introduction of the plug-in hybrid) to April 2013 there has been a total sale of 77,386 plug-in hybrids, meaning the goal is 922,614 cars away in less than 2 years (EDTA, 2013). Reaching the target amount of cars might be impossible - however, the proposed range of 150 mpg might be realisable as e.g. Ford (an American company) has presented their C-Max Energi that has a fuel Economy of 100 mpg (Los Angeles Times, 2013).

If not only plug-in hybrid but hybrid vehicles in general are taken into consideration, statistics presented by statisticbrain.com through the U.S. Department of Energy, show a total of 2.180.000 hybrid vehicles sold in the US as of September last year (Statistic Brain, 2012). While the sales are promising, the

performances of the cars are much lower than Obama's plug-in aspirations (53 mpg for best performing car, Toyota Prius c). What is more, the vast majority of hybrid vehicles sold derive from Asia and not the US.

Secondly, Obama aspirations to increase the production of renewable energy can be assessed. The progress itself can be measured quite easily seeing as Obama wished to double the amount of created renewable energy to 10 percent by the end of his first term. According to the US Energy Information Administration, the US generated 4,054,485 thousand megawatt-hours in 2012 and out those hydroelectric and other renewable sources constituted 276,535 and 218,787 thousand megawatt-hours. This amounts to 12.2 percent of the US net generation (U.S. Energy Information Administration, 2013).

On the White House's homepage, one can also find a diagram showing and stating the doubling of renewable electricity generation from 2008 (The White House, 2013). We can thus conclude that Obama's goal of doubling the renewable energy production to 10 percent has been successful.

The third step of the plan addresses energy efficiency. Now, while the statistics do not include the 2012 numbers, the chart below indicates a tendency.

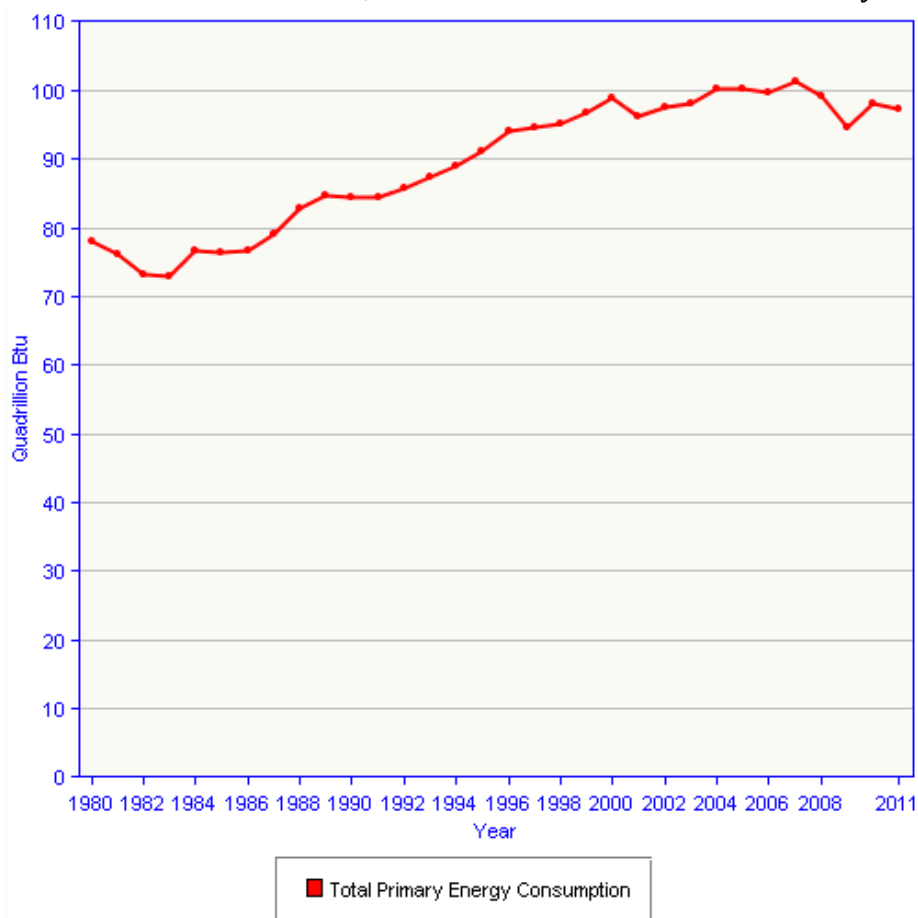


Fig. 2 (U.S. Energy Information Administration, 2013)

The above decline only shows three years out of a decade, as suggested by Obama, there is a tendency that indicates an overall decline in consumption. As we can see from the chart, the maximum energy consumption was in 2007 and was slowly building up since 1982. As this is the longest-spanning step of Obama's plan, it is impossible to predict the steadiness of the curve in the years to come. However, one may stipulate that seeing as Obama's policies are directed at increasing energy efficiency, we may see a continuous future decline in energy consumption. It should also be noted, that the oil consumption, which was mentioned in point 4.4.2., while showing a single spike up, indicated a decline in consumption, thus attributing to the notion of improved national energy efficiency. However, as Obama entered office at the same time as the financial crisis struck, it is possible that the decline in consumption could be attributed to frugality or saving needs. Furthermore, as previous energy security problems have indicated, consumption has risen as the situation improved and we might be seeing a tendency that will change if the circumstances allow.

While Obama's three-step plan might not have been 100 percent successful, some of the goals have been achieved or at least reached for. There are results that only time will provide, but it is fair to say that the prospects and the actual outcome do not appear to be too far from each other. While the plan does not appear to be much off target, Obama has still received massive criticism of his energy policies. The criticism and praise will therefore be analysed to explain Obama's success (or lack thereof) beyond his three-step plan. Subsequently, arguments that speak in favour of Obama and his policies will be analysed to assess both sides of the case.

5.2 Critique of Obama's energy approach

In the following section, points of criticism towards Obama's energy policies will be analysed. Firstly, argumentation for the failure of Obama's policies will be analysed, followed by an assessment of government investments which have been proclaimed to be a failure.

One of the strongest critics of Obama's energy policies is former vice president Al Gore, who, on several occasions, has criticised Obama's actions or lack of such. Curiously, Al Gore is a democrat like Obama, but after his time in office as vice president (1993-2000) and a failed presidential election against George Bush, he started to investigate and illuminate environmental issues (algore.com, 2013). Whereas Obama presented sustainable energy solutions to strengthen the US, Al Gore focuses more on the environmental aspect that energy policies entail⁴. While Al Gore's focus is more on the environment, it should be noted that

⁴ For more information, see Al Gore's published works including the book/dvd 'An Inconvenient Truth' - <http://www.algore.com/booksdvds.html>

environmental issues and sustainable energy solutions go hand in hand, as sustainable energy would improve the environmental situation.

In an article in Rolling Stone magazine in 2011, Al Gore presented his view on Obama's approach to climate and thus his sustainable energy policies. Notably, Al Gore does sympathise with the situation that Obama was in and states:

'First of all, anyone who honestly examines the incredible challenges confronting President Obama when he took office has to feel enormous empathy for him: the Great Recession, with the high unemployment and the enormous public and private indebtedness it produced; two seemingly interminable wars; an intractable political opposition whose true leaders — entertainers masquerading as pundits — openly declared that their objective was to ensure that the new president failed; a badly broken Senate that is almost completely paralyzed by the threat of filibuster and is controlled lock, stock and barrel by the oil and coal industries; a contingent of nominal supporters in Congress who are indentured servants of the same special interests that control most of the Republican Party; and a ferocious, well-financed and dishonest campaign poised to vilify anyone who dares offer leadership for the reduction of global-warming pollution.' (Gore, 2011: 5).

Al Gore clearly shows that he understands Obama's situation and does not belittle the challenges that he has faced. While he presents the serious obstacles, he does so with the intention of explaining why he feels Obama has not done enough, regardless of the challenges presented within the country.

Al Gore present Obama's shortcomings as not having followed up on the initiative he started, as well as not living up to his 2008 campaign aspirations. Gore points out how Obama did not defend the Congress' decimation of his green stimulus package and explains how Obama '[...] made concessions to oil and coal companies without asking for anything in return.' (Gore, 2011: 6) and emphasises how Obama has called for increased drilling within the US. Gore continues to describe how the Copenhagen summit in 2009 was a failure and that there seemed to be no real improvement from the Bush era. More distinctly, Gore points out that he finds Obama to not show enough leadership and focus when it comes to climate change and the solutions that can counter those changes (Gore, 2011: 6).

Gore's criticism bears a resemblance to several aspects in Obama's energy speech. Gore emphasises that real leadership is needed and the reality must be presented to the Americans in order to rally the US and bring about change. The aspects of leadership can also be compared to Obama's comparison to historical events where Presidents were faced with as great a challenge and accomplished what they set out to do, even though it seemed impossible. Of course, Al Gore

only presents his opinion (while being regarded as an environment guru) and opens his assessment of Obama's approach to climate crisis with:

'His [Obama's] election was accompanied by intense hope that many things in need of change would change. Some things have, but others have not. Climate policy, unfortunately, is in the second category.' (Gore, 2011: 5).

This rather harsh evaluation of Obama's efforts seems to be set in stone. Gore, in essence, states that there was no change in climate policy since the Bush administration. Gore evidently addresses climate policies, but as has already been analysed previously in the second analysis, there were substantial changes in terms of sustainable energy during Obama's first term. In section 4.4.2., the decline in oil consumption should also be noted, which indicates a positive tendency. Gore's assessment thus seems a little rushed, seeing as his article was published 2.5 years after Obama's inauguration. While Gore does present several points where Obama might have been able to stand up and defend his campaign promises, Gore does not assess the feasibility of doing exactly that. Furthermore, Al Gore continues (as of December 2012) to criticise Obama's leadership and implies he is not aggressive enough and does not stand up against the Congress (Reuters, 2012).

Gore has no direct political influence anymore - however, his status as ex-senator and ex-vice president does provide him with a certain amount of power in terms of spreading his message. Thus, when he criticises the president, it is very unlikely that his statements will pass by unnoticed.

Several other factions join in and criticise Obama – both on leadership and how the plans are carried out. An example of this is an article published in and by New Republic in June, relatively close to Al Gore's article. The magazine outlines how Obama has stepped back on his sustainable energy policies. A strong point of criticism is increased domestic oil drilling, which increases pollution and will have very little effect on the oil prices in the future (New Republic, 2011: 1).

New Republic, however, states that the theory Obama proposed when he took office was 'brilliant' – emphasising how the change in oil perspective might be a tool to win more voters. Lastly, New Republic states that Obama's actions or lack thereof might prove fatal for future environmental sustenance (New Republic, 2011: 1).

To add to the criticism of increased drilling, there is also the proposed Keystone XL pipeline, which, if realised, would increase US carbon emissions. According to Jonathan Chait, Obama has hinted that he would approve the pipeline, which would be a step in the same direction as increased drilling (Chait, 2013: 2).

These are points of criticism that are repeated by newspapers, journalists, and politicians. While there is a clear acknowledgement of Obama's challenges, it is argued that Obama has been too weak and not steadfast when it came to defending his proposed plans. One may stipulate that what Obama has done was a necessary evil to win over voters that were paramount in terms of winning the election in 2012. What cannot be determined, however, is how the outcome may have been different, had Obama not been elected – and whether his second term may prove to be significantly different because he managed to get another four more years in which to pursue his goals.

In terms of public discussion, Obama has also faced substantial criticism in regards to government-funded sustainable energy companies. These companies, however, have in many cases not been successful and have gone bankrupt – making the government's investment unfruitful. The failure of government investments in green energy has been a major point of criticism, especially during the election campaign in 2012.

In an article in *The New Yorker*, James Surowiecki explains the situation of Solyndra, a company manufacturing solar energy panels, which is considered to be one of the biggest investment failures. More than half a billion USD was invested by the US government and Solyndra ultimately filed for bankruptcy (Surowiecki, 2011). Seeing as this investment failure was of a large magnitude it became a topic of criticism toward Obama. Additionally, many other companies have proven to be in dire straits and have either gone bankrupt or are on the edge of doing so (thedailycaller.com, 2012). These companies were (and some still are) funded by the green stimulus package that Obama launched to support companies invested in clean energy. This stimulus package can be seen as a part of the three-step plan, as it promotes both job creation within the renewable energy sector and leads to more renewable energy. One can easily understand why the failure of so many companies has been regarded as a major flaw in Obama's energy policy and the money the government has lost is very unlikely to be returned. The critique landed on the administration, not because they willingly invested in sustainable energy, but because Solyndra did not appear as a safe bet. Solyndra's technology relied on high-grade silicone, the price of which increased almost ten-fold in the course of a few years (Bensinger, Pfeifer, & Banerjee, 2011, s. 2). Subsequently, the price of the materials utilised for competing solar technologies plummeted, which increased competition (Bensinger, Pfeifer, & Banerjee, 2011: 3). Hence, a changing market and the company's inability to foresee such caused the failure. The government, one may argue, should be as much at fault for not investing more than \$500 million in a company. However, ultimately, it was the market that changed, hinting that in this regard it was a sustainable solution that failed, rather than the plan presented by the government.

There is criticism that addresses both Obama's approach and attitude towards sustainable energy, which is highly manifested in future speculation on climate change and US sustenance. Yet, the criticism does cover the execution of Obama's policies. If one takes Obama's promises into consideration, it seems that much of the criticism applies to Obama's character rather than what has been achieved. The environmental aspects of the three-step plan have been fulfilled, to some extent, and even though there have been failures, steps have been taken to e.g. support clean energy projects. We can thus assess that some of the criticism towards Obama is not on his sustainable energy results, but inaction in regards to promote environmental solutions and actions such as increased drilling.

5.3 Arguments in favour of Obama's approach

As Obama is the leader of the US it is obvious that he faces a great amount of criticism from his peers. As argued by Jonathan Chait, whose assessment of Obama's results is to be found below, the criticism of Obama is heavy and Chait states: 'His [Obama's] Climate policy has been an abject failure, says Al Gore and just about everyone else' (Chait, 2013: 1). Thus, in order to put the criticism into perspective, the following part will investigate argumentation that counter the above criticism.

Among the supporters of Obama's energy policies is journalist/editor/author Jonathan Chait who on the 5th of May 2013 released an article in New York Magazine that attacks much of the criticism head on. Not only does Chait argue that the critics are wrong, he also indicates that Obama has done a great job so far. In order to create an overview of which points Chait argue Obama has made progress, I will outline some of his statements:

- Emissions have declined since 2008 and may hit the 17% goal reduction five years before time in 2015 (Chait, 2013: 1).
- Through environmental reform, Obama boosted green energy industries. Despite failures, wind energy has doubled and solar energy increased six-fold. This has also caused the Department of Energy to transform dramatically and embrace new technologies. The stimulus has furthermore enabled 'futuristic devices' and advanced technology to thrive, which will 'reverberate for years' (Chait, 2013: 2).
- 'The administration has also carried out an ambitious program of regulation, having imposed or announced higher standards for gas mileage in cars, fuel cleanliness, energy efficiency in appliances, and emissions from new power plants.' (Chait, 2013: 2). According to Chait, Obama mandated an 83 percent increase in vehicle fuel-efficiency standard (Chait, 2013: 2).

The above points are quite in accordance with the assessed outcome of the three-step plan and one can conclude that despite failed investments, such as Solyndra, government funding has paid off and contributed to progress within sustainable energy.

Chait is not alone in his positive view on Obama's energy achievements. Already back in 2011 Coral Davenport outlined the progress of car-performance improvements. He presents how discussions indicate that increased mileage may prove to be more effective than increasing oil supply and how the sales of hybrids etc. have gone up (Davenport, 2011). Both Chait and Davenport argue that Obama's changes are going by unnoticed, but are nonetheless of importance and provide actual results.

Another article by Brad Plumer in the Washington post also argues in favour of Obama's policies. He, in particular, emphasises how there have been failures, but also sustainable energy companies that are still going strong and are repaying their government loans (Plumer, 2012: 2). In connection with success and repayment of loans, one may also have a look at the electric car manufacturer, Tesla, which lately announced that it repaid its government loan of \$451.8 million dollars nine years early. Not only is Tesla the most successful developer of electric cars, the company works in synergy with the government's goals of sustainable solutions. Tesla is owned by billionaire Elon Musk⁵, who initiated the leading US provider of solar power systems, SolarCity, and created the famous private sector space exploration company SpaceX. SpaceX's technologies are utilised within Tesla's cars and in addition to making cars, Tesla is improving the American infrastructure with charging stations. Tesla is a prime example of a company that is progressing in the direction Obama presents and has become successful enough to repay its government loan (teslamotors.com, 2013). One may, of course, stipulate that the government loans work partly as bait for other investors, thus enabling Tesla to raise a substantial amount of money, but it would also signify that the loan worked as intended. The early proclamation of the loan repayment could also be seen as a means of promotion, but it does not dampen the perceived success of Tesla motors.

Regarding the criticism of increased domestic drilling, one may say that while it is not sustainable and environmentally sound, Obama did have ambitions regarding increased drilling, which can also be seen in the analysed speech. As can be seen in the speech, Obama agrees that drilling will not solve any problems, but it is quite obvious that while the US is still dependent on oil, energy security is improved when the oil can be provided from within the

⁵ For more information about Tesla and Elon Musk:
http://www.ted.com/talks/elon_musk_the_mind_behind_tesla_spacex_solarcity.html

country. Thus, the criticism of increased domestic drilling is a criticism of the policy itself, as the results are rather similar to Obama's proposed plan.

5.4. Summary

If one looks at the progress during Obama's first term, it is safe to say that his policies cannot be categorised as a failure. There has been substantial progress and increase in renewable energy production and energy efficiency technologies, such as hybrid cars have shown improvement. While the results indicate progress, there is still noticeable criticism of Obama on sustainable energy. The criticism applies to the level of aggressiveness in sustainable solutions and its relation to the environment, as well as investments that have resulted in a negative outcome. Criticism has also been focused on domestic oil drilling, however, Obama made no promises to decrease the short-term oil production, but used it as a means to increase energy independence and energy security while transitioning. The criticism started relatively early in Obama's term and Al Gore, and others, felt confident enough in their criticism to address the administration's results after two years. As the results show, there has been progress, yet critics, like Al Gore, state that there has been little or no progress and that Obama is not emphasising the importance of the environment enough. It would indicate that they are searching for a different solution than Obama is providing them. As Gore mentioned, Obama has had a hard time, both politically in Washington but also in terms of the financial situation, yet there been progress. This serves as a proof that Gore, to some extent, is wrong in his assertion of stagnation. Moreover, as there has been progress in renewable energy, the environmental aspect has been addressed too. The arguments in favour of Obama's approach are emphasising the progress, some of which has been shown in the assessment of the three-step plan. Proclaimed failures, such as Solyndra, are also compared to more successful stories of companies that have benefitted from the government funding. Furthermore, the sheer amount of wind and solar energy progress indicates that failed investments, like Solyndra, are bets gone wrong and there are success stories that, to some extent, make up for the failures.

6. Discussion

Fighting for change can be hard when the problem being fought is manifested within the country's habits and addictions. Switching to sustainable energy seems like the perfect solution for the future, but as Obama indicated, it is not an easy task. When President Roosevelt and President Kennedy presented the solutions of which Obama speaks, they were both in unique situations. Roosevelt was in the midst of The Second World War and Kennedy served when the Cold War peaked. What was common for both of them was that the country had a common enemy outside the borders of the US. The problem of US energy security is internalised, as the addiction to fossil fuels cannot be blamed on foreign factions. Simultaneously, Obama's problem representation was presented in the midst of an election campaign, which is rather evident from his rhetorical presentation. The election campaign also restrained Obama, because he had to present an energy security related problem without being able to blame the US citizens or any external factor. Essentially, Obama points his finger at the US administration and its past choices, while presenting his vision of solving America's energy problems with sustainable energy technologies. Obama's solutions seem very appealing, especially because most of his solutions provide sustainable solutions with both environmental, economical, and energy security benefits. The contrast to the previous government that Obama presented, might also have been the reason that criticism eventually hit the policies presented. The notion of change that Obama stood for was hyped and thus the expectations were raised. By raising the expectations of change, the pressure to actually execute plans successfully would also be higher, and government failures would be touted as a broken promise or a faulty strategy. The pressure that therefore fell on Obama and his administration might therefore explain why there has been a substantial amount of criticism, despite the promising results. While Obama was regarded as a game changer, he still inherited a weak US that faced a financial trough and was engaged in two wars that had been on-going since 2001 and 2003.

While the financial situation created obstacles for Obama, it would also appear that it, to some extent, has helped Obama realise some of his plans. As the people are affected by the crisis they tend to consume less energy or at least attempt to be more frugal, which can explain the decrease in overall energy consumption and emissions. However, stipulating that the financial situation would improve, there is a chance that the curve of energy efficiency may change, yet so far it might have provided Obama with an opportunity to use the numbers to his advantage. If the pace of sustainable energy transition would continue or even pick up, the drop caused by lowered finances could prove to just have provided a boost in the right direction, allowing the US to exit the crisis in a better position.

One could also stipulate that there is difference between of how Obama's success is measured. Gore criticised Obama for not being the leader that the US needs to stand together and fight for a more sustainable society, yet that would suggest an approach to change the presidential image via rhetoric rather than action. Thus, if Obama's results have been perceived as less than satisfactory, one may stipulate that his success was not political while still providing a positive and tangible difference. Gore's statements would indeed suggest that Obama has not won ground rhetorically when it comes to sustainable energy, but it does still not change the measurable results.

One may also argue that while Obama has improved sustainable energy, he might be more interested in the aspect of energy security and less in that of environmentalism and sustainability. Obama's increased domestic drilling and expected approval of the Keystone XL pipeline both signal an energy security strategy that is not exclusively concerned with sustainable energy, but also securing resources, utilising domestic resources, and improving the energy framework. Focusing more on energy security would presumably create more short-term effects, as the country becomes more and more energy independent. The increased amount of shale gas and oil that has been extracted has provided a substantial increase in domestic production which, considering the American economy, is an opportunity tempting to take advantage of. It is also plausible that if improved energy security strengthens the US from within, there would be more financial means to enforce future sustainable energy solutions. As energy security is not the only challenge ahead of the US it is tempting to think that instead of gaining maximum sustainable energy results, the US would be interested in progressing while benefitting the country's own interests the most. The aspect of realism can be applied to many cases of sustainable energy approaches whether it is for quick adaption to sustainable energies or for a more conservative approach.

Oil, gas, and coal extraction and utilisation can be deemed as temporary solutions; hence sustainable energy is bound to replace the current polluting resources at a point in the future. During the transition, one may stipulate that energy security questions arise, as the flow of energy should be continuous. While the transition has to be responsible it could also be questioned whether enough is being done to complete the transformation. If oil could flow effortlessly without posing a threat to American energy security, would sustainable energy still be framed as a major solution? If we look at oil addiction on a historical scale, the oil scarcities and scares in the past have had a permanent impact on the consumption of oil. One might question whether this is the time that sustainable energy is going to change the US and its energy security or whether the old habits will pick up. Whether history repeats itself can, of course, not be answered, but one has to say that the technology provides better solutions that are developed continuously. The outcome might also depend on the next three and a half years of Obama's second term, as well as the

administration that will take over in 2017. Maybe Obama's current strategy, which has resulted in some of the criticism, was a means to get elected for another term and thus ensure that his visions were carried out and not shattered by another candidate.

The connection between sustainable energy and energy security is evident: Sustainable energy provides a solution that will persist and is able to transform the country from within. Energy security can potentially be improved tremendously by solutions that makes domestic energy production available and, to some extent, uninterruptable. So far sustainable energy has proven to be relatively feasible within Obama's framework of plans for improving the US energy security. The results speak for themselves – they are not ground-breaking, but follow the lines of the plans proposed in 2008. Regardless of the future speculation of sustainable energy transitions it is safe to say that the progress is undeniable and that the technology definitely provides a strong solution to future energy security and sustenance.

7. Conclusion

Firstly, a reintroduction of the research question that this project has investigated:

How has the concern for energy security affected the American development of sustainable energy and to what extent have these sustainable energy policies been successful?

The first analysis sets out to investigate the connection between energy security and development of sustainable energy in the US. Obama presents oil addiction as the main energy problem America is facing, which affects energy security, the economy and the environment. Oil addiction is presented as a problem that has been caused by inaction from within the country. The approach to remedy the oil addiction is presented as sustainable energy solutions that will be executed during Obama's terms and beyond. Energy security can be improved by creating energy domestically that harnesses the power of nature, as well as developing technologies that allow for less energy consumption. Increased domestic extraction of oil and gas also provide solutions for improving the American energy security, but lack the aspect of sustainability.

A historical overview, provided by the speech and the analysis, concludes that sustainable energy solutions have been proposed as solutions to energy security problems before. The initiatives improved the situations but oil consumption started to slowly rise once again, countering the positive progress. Obama frames his sustainable energy solutions as a contrast to what has led the US to more oil addiction, that is, the previous government, which Obama also compares his opponent with.

The concern for energy security is ultimately presented as a major cause for implementing sustainable energy which would improve to American energy independence, whilst also strengthening the US from within, contributing to future sustenance in terms of energy supply, energy prices, and the environment.

An assessment of the proposed plans, compared to the results, concludes that the while not all of Obama's policies have been or are projected to become successful, progress is evident. General Motors was saved by government intervention, hybrids and plug-in hybrid cars are slowly, but increasingly, taking the American stage, and all-electric vehicles are showing progress. Yet, the transportation improvements that Obama proposed in terms of plug-in hybrids seem to be unreachable within the given timeframe. Renewable energy production has reached the proposed goals, even though a series of government investments failed. Energy consumption has simultaneously showed a decrease. The decrease in this energy consumption might be partly attributed to the recession, which has worked in favour of Obama's energy efficiency goal.

The results have been criticised regardless of their evident similarity to the proposed plans. Obama has continuously focused on domestic oil extraction, which

reinforces American Energy security, but it does not attribute to the sustainable energy solutions. It can be argued that, looking at Obama's stance towards the domestically increased oil and gas extraction, he might be more concerned with improving American energy security than with a swift transition to sustainable energy. Furthermore, the change associated with Obama may have raised the expectations to a level that was unreachable, leading to a certain amount of disappointment, when the change was not what it was hyped to be.

Considering the economical and political challenges that Obama faced when he took office, the results of his sustainable energy policies are convincing. The results might not be identical with the goals in the proposed policies, but it seems to be a good start, particularly in terms of future energy security improvement. As Obama won the 2012 election, he was granted another term in which to follow up on his plan and keep fuelling the projects and initiatives that were already in progress. Whether or not sustainable energy becomes more present in the US only time will show, however, technology and government policies have shown progress and provide a solid point of departure for further development.

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9. Appendix: 'New Energy for America' by Barack Obama

We meet at a moment when this country is facing a set of challenges greater than any we've seen in generations. Right now, our brave men and women in uniform are fighting two different wars while terrorists plot their next attack.

Our changing climate is placing our planet in peril. Our economy is in turmoil and our families are struggling with rising costs and falling incomes; with lost jobs and lost homes and lost faith in the American Dream. And for too long, our leaders in Washington have been unwilling or unable to do anything about it.

That is why this election could be the most important of our lifetime. When it comes to our economy, our security, and the very future of our planet, the choices we make in November and over the next few years will shape the next decade, if not the century. And central to all of these major challenges is the question of what we will do about our addiction to foreign oil.

Without a doubt, this addiction is one of the most dangerous and urgent threats this nation has ever faced -- from the gas prices that are wiping out your paychecks and straining businesses to the jobs that are disappearing from this state; from the instability and terror bred in the Middle East to the rising oceans and record drought and spreading famine that could engulf our planet.

It's also a threat that goes to the very heart of who we are as a nation, and who we will be. Will we be the generation that leaves our children a planet in decline, or a world that is clean, and safe, and thriving? Will we allow ourselves to be held hostage to the whims of tyrants and dictators who control the world's oil wells? Or will we control our own energy and our own destiny? Will America watch as the clean energy jobs and industries of the future flourish in countries like Spain, Japan, or Germany? Or will we create them here, in the greatest country on Earth, with the most talented, productive workers in the world?

As Americans, we know the answers to these questions. We know that we cannot sustain a future powered by a fuel that is rapidly disappearing. Not when we purchase \$700 million worth of oil every single day from some of the world's most unstable and hostile nations -- Middle Eastern regimes that will control nearly all of the world's oil by 2030. Not when the rapid growth of countries like China and India mean that we're consuming more of this dwindling resource faster than we ever imagined. We know that we can't sustain this kind of future.

But we also know that we've been talking about this issue for decades. We've heard promises about energy independence from every single President since Richard Nixon. We've heard talk about curbing the use of fossil fuels in State of the Union addresses since the oil embargo of 1973.

Back then, we imported about a third of our oil. Now, we import more than half. Back then, global warming was the theory of a few scientists. Now, it is a fact that is melting our glaciers and setting off dangerous weather patterns as we speak. Then, the technology and innovation to create new sources of clean, affordable,

renewable energy was a generation away. Today, you can find it in the research labs of this university and in the design centers of this state's legendary auto industry. It's in the chemistry labs that are laying the building blocks for cheaper, more efficient solar panels, and it's in the re-born factories that are churning out more wind turbines every day all across this country.

Despite all this, here we are, in another election, still talking about our oil addiction; still more dependent than ever. Why?

You won't hear me say this too often, but I couldn't agree more with the explanation that Senator McCain offered a few weeks ago. He said, "Our dangerous dependence on foreign oil has been thirty years in the making, and was caused by the failure of politicians in Washington to think long-term about the future of the country."

What Senator McCain neglected to mention was that during those thirty years, he was in Washington for twenty-six of them. And in all that time, he did little to reduce our dependence on foreign oil. He voted against increased fuel efficiency standards and opposed legislation that included tax credits for more efficient cars. He voted against renewable sources of energy. Against clean biofuels. Against solar power. Against wind power. Against an energy bill that -- while far from perfect -- represented the largest investment in renewable sources of energy in the history of this country. So when Senator McCain talks about the failure of politicians in Washington to do anything about our energy crisis, it's important to remember that he's been a part of that failure. Now, after years of inaction, and in the face of public frustration over rising gas prices, the only energy proposal he's really promoting is more offshore drilling -- a position he recently adopted that has become the centerpiece of his plan, and one that will not make a real dent in current gas prices or meet the long-term challenge of energy independence.

George Bush's own Energy Department has said that if we opened up new areas to drilling today, we wouldn't see a single drop of oil for seven years. Seven years. And Senator McCain knows that, which is why he admitted that his plan would only provide "psychological" relief to consumers. He also knows that if we opened up and drilled on every single square inch of our land and our shores, we would still find only three percent of the world's oil reserves. Three percent for a country that uses 25% of the world's oil. Even Texas oilman Boone Pickens, who's calling for major new investments in alternative energy, has said, "this is one emergency we can't drill our way out of."

Now, increased domestic oil exploration certainly has its place as we make our economy more fuel-efficient and transition to other, renewable, American-made sources of energy. But it is not the solution. It is a political answer of the sort Washington has given us for three decades.

There are genuine ways in which we can provide some short-term relief from high gas prices -- relief to the mother who's cutting down on groceries because of gas prices, or the man I met in Pennsylvania who lost his job and can't even afford to drive around and look for a new one. I believe we should immediately

give every working family in America a \$1,000 energy rebate, and we should pay for it with part of the record profits that the oil companies are making right now.

I also believe that in the short-term, as we transition to renewable energy, we can and should increase our domestic production of oil and natural gas. But we should start by telling the oil companies to drill on the 68 million acres they currently have access to but haven't touched. And if they don't, we should require them to give up their leases to someone who will. We should invest in the technology that can help us recover more from existing oil fields, and speed up the process of recovering oil and gas resources in shale formations in Montana and North Dakota; Texas and Arkansas and in parts of the West and Central Gulf of Mexico. We should sell 70 million barrels of oil from our Strategic Petroleum Reserve for less expensive crude, which in the past has lowered gas prices within two weeks. Over the next five years, we should also lease more of the National Petroleum Reserve in Alaska for oil and gas production. And we should also tap more of our substantial natural gas reserves and work with the Canadian government to finally build the Alaska Natural Gas Pipeline, delivering clean natural gas and creating good jobs in the process.

But the truth is, none of these steps will come close to seriously reducing our energy dependence in the long-term. We simply cannot pretend, as Senator McCain does, that we can drill our way out of this problem. We need a much bolder and much bigger set of solutions. We have to make a serious, nationwide commitment to developing new sources of energy and we have to do it right away.

Last week, Washington finally made some progress on this. A group of Democrat and Republican Senators sat down and came up with a compromise on energy that includes many of the proposals I've worked on as a Senator and many of the steps I've been calling for on this campaign. It's a plan that would invest in renewable fuels and batteries for fuel-efficient cars, help automakers re-tool, and make a real investment in renewable sources of energy.

Like all compromises, this one has its drawbacks. It includes a limited amount of new offshore drilling, and while I still don't believe that's a particularly meaningful short-term or long-term solution, I am willing to consider it if it's necessary to actually pass a comprehensive plan. I am not interested in making the perfect the enemy of the good -- particularly since there is so much good in this compromise that would actually reduce our dependence on foreign oil.

And yet, while the compromise is a good first step and a good faith effort, I believe that we must go even further, and here's why -- breaking our oil addiction is one of the greatest challenges our generation will ever face. It will take nothing less than a complete transformation of our economy. This transformation will be costly, and given the fiscal disaster we will inherit from the last Administration, it will likely require us to defer some other priorities.

It is also a transformation that will require more than just a few government programs. Energy independence will require an all-hands-on-deck effort from America -- effort from our scientists and entrepreneurs; from businesses and from every American citizen. Factories will have to re-tool and re-design.

Businesses will need to find ways to emit less carbon dioxide. All of us will need to buy more of the fuel-efficient cars built by this state, and find new ways to improve efficiency and save energy in our own homes and businesses.

This will not be easy. And it will not happen overnight. And if anyone tries to tell you otherwise, they are either fooling themselves or trying to fool you.

But I know we can do this. We can do this because we are Americans. We do the improbable. We beat great odds. We rally together to meet whatever challenge stands in our way. That's what we've always done -- and it's what we must do now. For the sake of our economy, our security, and the future of our planet, we must end the age of oil in our time.

Creating a new energy economy isn't just a challenge to meet, it's an opportunity to seize -- an opportunity that will create new businesses, new industries, and millions of new jobs. Jobs that pay well. Jobs that can't be outsourced. Good, union jobs. For a state that has lost so many and struggled so much in recent years, this is an opportunity to rebuild and revive your economy. As your wonderful Governor has said, "Any time you pick up a newspaper and see the terms 'climate change' or 'global warming,' just think: 'jobs for Michigan.'" You are seeing the potential already. Already, there are 50,000 jobs in your clean energy sector and 300 companies. But now is the time to accelerate that growth, both here and across the nation.

If I am President, I will immediately direct the full resources of the federal government and the full energy of the private sector to a single, overarching goal -- in ten years, we will eliminate the need for oil from the entire Middle East and Venezuela. To do this, we will invest \$150 billion over the next ten years and leverage billions more in private capital to build a new energy economy that harnesses American energy and creates five million new American jobs.

There are three major steps I will take to achieve this goal -- steps that will yield real results by the end of my first term in office.

First, we will help states like Michigan build the fuel-efficient cars we need, and we will get one million 150 mile-per-gallon plug-in hybrids on our roads within six years.

I know how much the auto industry and the auto workers of this state have struggled over the last decade or so. But I also know where I want the fuel-efficient cars of tomorrow to be built -- not in Japan, not in China, but right here in the United States of America. Right here in the state of Michigan.

We can do this. When I arrived in Washington, I reached across the aisle to come up with a plan to raise the mileage standards in our cars for the first time in thirty years -- a plan that won support from Democrats and Republicans who had never supported raising fuel standards before. I also led the bipartisan effort to invest in the technology necessary to build plug-in hybrid cars.

As President, I will accelerate those efforts to meet our urgent need. With technology we have on the shelf today, we will raise our fuel mileage standards

four percent every year. We'll invest more in the research and development of those plug-in hybrids, specifically focusing on the battery technology. We'll leverage private sector funding to bring these cars directly to American consumers, and we'll give consumers a \$7,000 tax credit to buy these vehicles. But most importantly, I'll provide \$4 billion in loans and tax credits to American auto plants and manufacturers so that they can re-tool their factories and build these cars. That's how we'll not only protect our auto industry and our auto workers, but help them thrive in a 21st century economy.

What's more, these efforts will lead to an explosion of innovation here in Michigan. At the turn of the 20th century, there were literally hundreds of car companies offering a wide choice of steam vehicles and gas engines. I believe we are entering a similar era of expanding consumer choices, from higher mileage cars, to new electric entrants like GM's Volt, to flex fuel cars and trucks powered by biofuels and driven by Michigan innovation.

The second step I'll take is to require that 10% of our energy comes from renewable sources by the end of my first term -- more than double what we have now. To meet these goals, we will invest more in the clean technology research and development that's occurring in labs and research facilities all across the country and right here at MSU, where you're working with farm owners to develop this state's wind potential and developing nanotechnology that will make solar cells cheaper.

I'll also extend the Production Tax Credit for five years to encourage the production of renewable energy like wind power, solar power, and geothermal energy. It was because of this credit that wind power grew 45% last year, the largest growth in history. Experts have said that Michigan has the second best potential for wind generation and production in the entire country. And as the world's largest producer of the material that makes solar panels work, this tax credit would also help states like Michigan grow solar industries that are already creating hundreds of new jobs.

We'll also invest federal resources, including tax incentives and government contracts, into developing next generation biofuels. By 2022, I will make it a goal to have 6 billion gallons of our fuel come from sustainable, affordable biofuels and we'll make sure that we have the infrastructure to deliver that fuel in place. Here in Michigan, you're actually a step ahead of the game with your first-ever commercial cellulosic ethanol plant, which will lead the way by turning wood into clean-burning fuel. It's estimated that each new advanced biofuels plant can add up to 120 jobs, expand a local town's tax base by \$70 million per year, and boost local household income by \$6.7 million annually.

In addition, we'll find safer ways to use nuclear power and store nuclear waste. And we'll invest in the technology that will allow us to use more coal, America's most abundant energy source, with the goal of creating five "first-of-a-kind" coal-fired demonstration plants with carbon capture and sequestration.

Of course, too often, the problem is that all of this new energy technology never makes it out of the lab and onto the market because there's too much risk and too much cost involved in starting commercial-scale clean energy businesses. So

we will remove some of this cost and this risk by directing billions in loans and capital to entrepreneurs who are willing to create clean energy businesses and clean energy jobs right here in America.

As we develop new sources of energy and electricity, we will also need to modernize our national utility grid so that it's accommodating to new sources of power, more efficient, and more reliable. That's an investment that will also create hundreds of thousands of jobs, and one that I will make as President.

Finally, the third step I will take is to call on businesses, government, and the American people to meet the goal of reducing our demand for electricity 15% by the end of the next decade. This is by far the fastest, easiest, and cheapest way to reduce our energy consumption -- and it will save us \$130 billion on our energy bills.

Since DuPont implemented an energy efficiency program in 1990, the company has significantly reduced its pollution and cut its energy bills by \$3 billion. The state of California has implemented such a successful efficiency strategy that while electricity consumption grew 60% in this country over the last three decades, it didn't grow at all in California.

There is no reason America can't do the same thing. We will set a goal of making our new buildings 50% more efficient over the next four years. And we'll follow the lead of California and change the way utilities make money so that their profits aren't tied to how much energy we use, but how much energy we save.

In just ten years, these steps will produce enough renewable energy to replace all the oil we import from the Middle East. Along with the cap-and-trade program I've proposed, we will reduce our dangerous carbon emissions 80% by 2050 and slow the warming of our planet. And we will create five million new jobs in the process.

If these sound like far-off goals, just think about what we can do in the next few years. One million plug-in hybrid cars on the road. Doubling our energy from clean, renewable sources like wind power or solar power and 2 billion gallons of affordable biofuels. New buildings that 50% more energy efficient.

So there is a real choice in this election -- a choice about what kind of future we want for this country and this planet.

Senator McCain would not take the steps or achieve the goals that I outlined today. His plan invests very little in renewable sources of energy and he's opposed helping the auto industry re-tool. Like George Bush and Dick Cheney before him, he sees more drilling as the answer to all of our energy problems, and like them, he's found a receptive audience in the very same oil companies that have blocked our progress for so long. In fact, he raised more than one million dollars from big oil just last month, most of which came after he announced his plan for offshore drilling in a room full of cheering oil executives. His initial reaction to the bipartisan energy compromise was to reject it because it took away tax breaks for oil companies. And even though he doesn't want to spend much on renewable energy, he's actually proposed giving \$4 billion more

in tax breaks to the biggest oil companies in America -- including \$1.2 billion to Exxon-Mobil.

This is a corporation that just recorded the largest profit in the history of the United States. . This is the company that, last quarter, made \$1,500 every second. That's more than \$300,000 in the time it takes you to fill up a tank with gas that's costing you more than \$4-a-gallon. And Senator McCain not only wants them to keep every dime of that money, he wants to give them more.

So make no mistake -- the oil companies have placed their bet on Senator McCain, and if he wins, they will continue to cash in while our families and our economy suffer and our future is put in jeopardy.

Well that's not the future I see for America. I will not pretend the goals I laid out today aren't ambitious. They are. I will not pretend we can achieve them without cost, or without sacrifice, or without the contribution of almost every American citizen.

But I will say that these goals are possible. And I will say that achieving them is absolutely necessary if we want to keep America safe and prosperous in the 21st century.

I want you all to think for a minute about the next four years, and even the next ten years. We can continue down the path we've been traveling. We can keep making small, piece-meal investments in renewable energy and keep sending billions of our hard-earned dollars to oil company executives and Middle Eastern dictators. We can watch helplessly as the price of gas rises and falls because of some foreign crisis we have no control over, and uncover every single barrel of oil buried beneath this country only to realize that we don't have enough for a few years, let alone a century. We can watch other countries create the industries and the jobs that will fuel our future, and leave our children a planet that grows more dangerous and unlivable by the day.

Or we can choose another future. We can decide that we will face the realities of the 21st century by building a 21st century economy. In just a few years, we can watch cars that run on a plug-in battery come off the same assembly lines that once produced the first Ford and the first Chrysler. We can see shuttered factories open their doors to manufacturers that sell wind turbines and solar panels that will power our homes and our businesses. We can watch as millions of new jobs with good pay and good benefits are created for American workers, and we can take pride as the technologies, and discoveries, and industries of the future flourish in the United States of America. We can lead the world, secure our nation, and meet our moral obligations to future generations.

This is the choice that we face in the months ahead. This is the challenge we must meet. This is the opportunity we must seize -- and this may be our last chance to seize it.

And if it seems too difficult or improbable, I ask you to think about the struggles and the challenges that past generations have overcome. Think about how World War II forced us to transform a peacetime economy still climbing out of

Depression into an Arsenal of Democracy that could wage war across three continents. And when President Roosevelt's advisors informed him that his goals for wartime production were impossible to meet, he waved them off and said "believe me, the production people can do it if they really try." And they did.

Think about when the scientists and engineers told John F. Kennedy that they had no idea how to put a man on the moon, he told them they would find a way. And we found one. Remember how we trained a generation for a new, industrial economy by building a nationwide system of public high schools; how we laid down railroad tracks and highways across an entire continent; how we pushed the boundaries of science and technology to unlock the very building blocks of human life.

I ask you to draw hope from the improbable progress this nation has made and look to the future with confidence that we too can meet the great test of our time. I ask you to join me, in November and in the years to come, to ensure that we will not only control our own energy, but once again control our own destiny, and forge a new and better future for the country that we love. Thank you.